

**U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS**

**SUPPLEMENT TO
NATIONAL DIRECTORY OF
COMMODITY SPECIFICATIONS**

**Supplement to
MISCELLANEOUS PUBLICATION M178**

SUPPLEMENT TO NATIONAL DIRECTORY OF COMMODITY SPECIFICATIONS

Classified and Alphabetical Lists and Brief
Descriptions of Specifications of National Recognition

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FOREWORD

The usefulness of the many commodity specifications in existence is greatly increased if there is a convenient means for locating and comparing them. Situations frequently arise in which a need develops for determining what specifications exist and how they apply.

The National Directory of Commodity Specifications provides a place for recording all specifications of national significance. The latest revised edition of the Directory, issued in 1945, is being widely used by governmental agencies and by private organizations. In response to the demands from various governmental agencies and other organizations, this Supplement has been issued in order to bring the material in the National Directory of Commodity Specifications up to date. Although every effort has been made to assure completeness and accuracy, all recommendations that are received will be given very careful consideration in an effort to present the information in a more nearly universally satisfactory manner in future editions or supplements.

E. U. CONDON, *Director.*

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INTRODUCTION

This publication is a Supplement to the revised and enlarged edition of the National Directory of Commodity Specifications issued in 1945. It includes all new and revised standards and specifications issued subsequent to the date that the manuscript for the Directory was submitted for publication. The two volumes, which should be used in conjunction with each other, provide a complete compilation of current nationally recognized specifications.

The purpose of the National Directory of Commodity Specifications is to list and briefly describe the standards, specifications, and codes that are formulated by all nationally known and recognized trade associations or technical societies that represent industry or some branch of industry, as well as all standards and specifications of governmental agencies that represent the Federal Government as a whole. Listed also are the purchase specifications of several departments and agencies of the Federal Government. Some of the items included, especially those listed under "General Items," are not for commodity specifications but closely related materials essential to most users and considered necessary to complete the intent of the Directory.

The same decimal system of classification of commodities has been used in this Supplement as was used in the Directory, with some additions to take care of new material. This classification system tends to group items relating to the same subjects together which increases the value of the Directory to the purchaser who desires to employ nationally recognized specifications, and so that specification-formulating bodies may be forewarned concerning previous standards and avoid unnecessary duplication of material. For example, if the use of a commodity is not self-evident from the title of the specification, a brief explanation has been given covering technical characteristics, scope, and application so that the reader may judge for himself whether or not the specification fits his particular needs.

An alphabetical index on pages 309 to 322 lists individual items under their various trade and technical names, giving their decimal classification numbers used in the body of the Supplement, in order to facilitate the easy location of any item. Directions for obtaining copies of any of the specifications will be found on page 300.

Notwithstanding the fact that some of the specifications listed will become obsolete in a relatively short time because revised specifications have superseded them, the Directory and Supplement will lead to up-to-date information if properly used. When an issuing agency receives an order for a specification, it will supply its latest specification unless specifically requested to deliver the one that has been superseded.

CLASSIFIED LIST OF SPECIFICATIONS

000-099

ANIMALS AND ANIMAL PRODUCTS

(Except Wool and Hair)

010-019

MEATS

010. GENERAL ITEMS

Chicago Board of Trade. Rules and Regulations, 1942. Provisions. Covers application of rules, deliveries, warehouses, standards, buyers' demand, delivery, cured meats, tare of lard, storage, weight, delivery requirements, dry salted meats, re-inspection, tares, and price basis.

Chicago Board of Trade. Rules and Regulations, 1942. Regulations Relating to Provisions. Covers warehousing, standardization, barreled pork, green or sweet pickled meats, and dry salt meats.

New York Produce Exchange. Rules Regulating the Provision Trade, 1922. Gives rules in effect among members of the Exchange. Covers uniformity of boxed meats, export packing, branding, sizing of pickled meats, green meats, cured meats, inspection for soundness, saltage, frozen joints, barreled pork and beef, green or sweet pickled meats, and dry salt meats.

011. BEEF AND VEAL

011.1 BEEF CARCASSES

Chicago Board of Trade. Rules and Regulations, 1942. Carcass Beef. Gives requirements for canners, cutters, bologna bulls, and ribbing.

011.9 MISCELLANEOUS SPECIFICATION FOR BEEF AND VEAL

011.99 Miscellaneous Beef and Veal

Chicago Board of Trade. Rules and Regulations, 1942. Boneless Sausage Meat. Gives requirements for bull meat, boneless chucks, shank meat, regular beef trimmings, canning trimmings, packing, shrinkage, and general rules and regulations.

015. POULTRY AND GAME

015.1 CHICKENS

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Classes and Grades for Eviscerated, Federally Inspected Chickens, 1944. Covers young birds (broilers, fryers, roasters, stags, and capons); old birds (fowls or stewing chickens and cocks); and three grades—U. S. Grade A, U. S. Grade B, and U. S. Grade C. Gives description of terms used, general requirements, and table showing summary of minimum requirements.

015.5 TURKEYS

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Classes and Grades for Eviscerated, Federally Inspected Turkeys, 1944. Covers young hens and young toms and old hens and old toms; and four grades—U. S. Grade AA, U. S. Grade A, U. S. Grade B, and U. S. Grade C. Gives specifications for each grade, weight classes, description of terms used, general requirements, and table showing summary of minimum requirements.

020-029

DAIRY PRODUCTS

021. MILK AND CREAM

021.0 GENERAL ITEMS

American Butter Institute. Standard Cream Sediment Chart, undated. An exact photographic reproduction of the standard sediment chart for cream. This standard is proposed as an educational medium to encourage "clean-up" programs in the production of cream for butter making.

021.1 FRESH MILK, INCLUDING PASTEURIZED

U. S. Gov., Federal Specification C-M-381c; 1942. Amend. 1; 1946. Milk; Fresh. Covers two types—

(I) certified (a—raw and b—pasteurized) and (II) pasteurized (Nos. 1, 2, and 3). Gives requirements for material and source, general requirements, and details for each type; methods of inspection and tests; and packaging, labeling, and packing for shipment.

021.2 FRESH CREAM

U. S. Gov., Navy Dept. Specification 56C23; 1945. Cream, Stabilized.

021.3 BUTTERMILK

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Milk Products.

Defines dried buttermilk, evaporated buttermilk, concentrated or condensed buttermilk, dried skimmed milk, condensed skimmed milk, dried soured skimmed milk, evaporated soured skimmed milk, concentrated soured skimmed milk or condensed soured skimmed milk, condensed whey, condensed whey solubles, dried whey solubles, dried whey, and cheese rind.

021.7 MALTED MILK, MILK POWDER

American Dry Milk Institute, Inc. Half/Half+, Bulletin 905, 1944. Discusses the food value of the nonfat dry milk solids and gives tables showing data. Covers uniformity of composition, concentration enhances utility value, food evaluation by calories outmoded, an economical protein source, milk calcium highly utilized, an excellent food source of riboflavin, and food essentials in human nutrition.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes milk products (dried), buttermilk, skimmed milk, and whey. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

021.9 MISCELLANEOUS SPECIFICATIONS FOR MILK AND CREAM

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Milk Products.

Defines dried buttermilk, evaporated buttermilk, concentrated or condensed buttermilk, dried skimmed milk, condensed skimmed milk, dried soured skimmed milk, evaporated soured skimmed milk, concentrated soured skimmed milk or condensed soured skimmed milk, condensed whey, condensed whey solubles, dried whey solubles, dried whey, and cheese rind.

022. BUTTER, CHEESE, AND THEIR SUBSTITUTES

022.4 CHEESE

022.49 Miscellaneous Specifications for Cheese

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Swiss Cheese, 1944. Covers six U. S. Grades—AA or U. S. fancy, A or U. S. No. 1, B or U. S. No. 2, C or U. S. No. 3, D or U. S. grinders, and E or U. S. undergrade. Gives definition, basis of determination for U. S. grade, explanation of terms used to describe flavor, explanation of terms used to describe body, and explanation of terms used to describe eyes and texture.

030-039

FISH

036. FRESH SHELLFISH

036.1 OYSTERS

U. S. Gov., Federal Specification PP-O-956a; 1932. Amend. 2; 1946. Oysters; Fresh. Covers three grades—(A) averaging 150-200 oysters per gal., (B) averaging 200-250 oysters per gal., and (C) averaging 250-300 oysters per gal. Gives material, general and detail requirements; methods of inspection and test; and packaging, packing, and marking.

037. CANNED SHELLFISH

037.4 CANNED OYSTERS

U. S. Gov., Federal Security Agency, Food and Drug Administration. Title 21, Part 36; 1944. Shellfish. Standards of Fill of Container for Canned Oysters. Gives findings of fact including diameter of can, height of can, and weight of drained oysters; and conclusions.

039. MISCELLANEOUS FISH PRODUCTS

039.4 FEEDS OF FISH MEAL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Marine Products. Defines fish meal, fish residue meal, fish liver and glandular meal, crab meal, and shrimp meal.

040-049

ANIMAL AND FISH OILS, FATS, AND GREASES

040. GENERAL ITEMS

American Society for Testing Materials, D94-45; 1945. American Petroleum Institute Standard, 547-45. American Standards Assn., Z11.20-1945. Standard Method of Test for Saponification Number of Petroleum Products by Color-Indicator Titration. The method is applicable to new and used petroleum oils including electrical insulating oils and to mixtures of fats and mineral oils. Gives definition, outline of method, apparatus, reagents, blank determinations, sample, procedure, calculation, identification of fat, and reproducibility of results.

American Society for Testing Materials, D600-45; 1945. Standard Methods of Chemical Analysis of

Sulfonated and Sulfated Oils. Gives analytical procedures for determining moisture, organically combined sulfuric anhydride, total desulfated fatty matter, total active ingredients, unsaponifiable nonvolatile matter, inorganic salts, total alkalinity, total ammonia, acidity as free fatty acids or acid number, and water-immiscible organic solvents volatile with steam.

041. ANIMAL OILS

041.3 LARD OIL

U. S. Gov., Federal Specification C-O-376a; 1946. Oil; Lard. Covers one grade suitable for the lubrication of tools for pipe cutting and threading. Gives requirements for material and workmanship,

viscosity, pour point, flash point, specific gravity, water content, saponification number, neutralization number, and sediment; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

042. FISH OIL

042.2 COD LIVER OIL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Cod Liver Oil. Defines species that oil may be obtained from, number of U.S.P. vitamin A units per pound, and of A.O.A.C. chick units of vitamin D per pound.

042.3 HERRING AND MENHADEN OIL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Herring Oil and Menhaden Oil. Definitions of source of extract.

042.4 SARDINE OIL, PILCHARD OIL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Sardine Oil or Pilchard Oil. Definitions of source of extract.

042.5 SALMON OIL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Salmon Oil and Salmon Liver Oil. Definitions of source of extract.

042.6 TUNA OIL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Tuna Oil. Definitions of source of extract.

042.9 MISCELLANEOUS FISH OIL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Fish or Fish Liver Oil. Covers vitamin A and D feeding oil, vitamin D feeding oil, and vitamin A feeding oil. Composed of either fish or fish liver oil or a blend of two or more of the following: synthetic vitamin, fish

liver oil, fish oil, marine animal oil, or edible vegetable oil.

043. ANIMAL FATS AND GREASES

043.2 LARD

Chicago Board of Trade. Rules and Regulations, 1942. Regular Lard. Covers standard lard, dating, tare of lard, and shortage and excess.

045. STEARINE AND STEARIC ACIDS

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Stearine, D Activated Animal Sterol, and D Activated Plant Sterol. Stearine is the solid material obtained by filtration from animal or vegetable oil after chilling or freezing in the process of refining. D activated animal and vegetable sterol is a product which is obtained by activation of a sterol fraction of animal origin with ultra-violet light or other means.

U. S. Gov., Treasury Dept., Procurement Div., 714; 1945. Acid, Stearic; Technical Grade. Covers one type and one grade in the form of either cake or flakes intended for general use. Gives requirements for titer, color, iodine value, undecomposed fat and unsaponifiable matter, ether insoluble material, and free mineral acid; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

046. ANIMAL WAXES

U. S. Gov., Dept. of Agriculture. E-495; 1940. Brief Presentation of the Characteristics, Contaminants, Processing, and Uses of Beeswax. Covers composition of beeswax, chemical and physical properties of beeswax, propolis contamination, coloration, rendering of crude beeswax, clarification of crude beeswax, wax-processing equipment, uses of beeswax, candle making, bloom on beeswax, cleaning of clothes spotted with wax or propolis, and figures.

060-069

LEATHER AND LEATHER MANUFACTURES

060. GENERAL ITEMS

U. S. Gov., Federal Specification KK-L-311; 1945 and Amend. 1; 1945. Leather and Leather Products; General Specifications (Methods of Sampling, Inspection, and Tests). This specification establishes methods for testing leather and leather products for compliance with the requirements of Federal specifications and other governmental specifications and was prepared in order to eliminate unnecessary and undesirable variation in testing procedure.

061. UPPER LEATHER, EXCEPT PATENT

061.9 MISCELLANEOUS LEATHER

U. S. Gov., U. S. Army, Ordnance Dept. Specification 9-97; 1944. Leather, Calfskin (Vegetable Tanned).

063. SOLE LEATHER

063.6 SOLE LEATHER, OAK AND VEGETABLE TANNED

U. S. Gov., Federal Specification KK-L-281b; 1941. Amend. 1; 1945. Leather; Sole (Cut, Outer, and Top-Lift), Vegetable-Tanned, Factory. Recognizes one grade of leather in backs and bends, and one grade in cut soles and shoe lifts. Grade is determined by visual observation of number, kind, and location of defects. Gives material and workmanship, general requirements, finish, crackiness, piping, and chemical requirements; method of sampling, inspection, and tests; and packing and marking for shipment.

066. HARNESS, BELTING, AND MISCELLANEOUS LEATHER

066.1 HARNESS LEATHER

U. S. Gov., Federal Specification KK-L-171b; 1946. Leather; Harness, Vegetable-Tanned. Covers three

grades—A, B, and C; two classes—(1) sides and (2) backs; and five weights—(a) extra light, (b) light, (c) medium, (d) heavy, and (e) extra heavy. Gives requirements for color, material, workmanship, tannage, finish, resistance to cracking, crackiness, tensile strength and stretch, chemical requirements, comparison sample, and details for each grade; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

066.2 HYDRAULIC LEATHER

U. S. Gov., Federal Specification KK-L-177a; 1946. Leather; Hydraulic-Packing, Mineral-Tanned. Covers one class; two types—(I) regular and (II) non-corrosive; two grades—(A) and (B); and three weights—medium, heavy, and extra heavy. Gives requirements for material, workmanship, tannage, finish, trim, crackiness, tensile strength, shrinkage, curling temperature, and details for each grade; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

066.3 LEATHER BELTING

U. S. Gov., Federal Specification KK-B-211b; 1946. Belting; Round, Leather. Covers one grade and two types—(I) smooth and (II) hair-on. Gives requirements for material, workmanship, trim, number of pieces per spool, tannage, finish, width and thickness, physical requirements, chemical requirements, and total ash; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

066.4 LEATHER LACING

U. S. Gov., Federal Specification KK-L-201b; 1946. Leather; Lace. Covers three grades—A, B, and C, two classes—(1) sides and (2) cut laces; and four types—(I) alum-tanned, (II) alum- and vegetable-tanned, (III) alum- and vegetable-tanned, and (IV) chrome-tanned. Gives material, workmanship, finish, and details for each grade and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

066.7 UPHOLSTERY AND ARTIFICIAL LEATHER

U. S. Gov., Federal Specification KK-L-136b; 1945. Amend. 1; 1946. Leather; Artificial (Upholstery). Covers three types—(I) pyroxylin, cellulose ether or cellulose ester coated (class A—heavy coated, B—medium coated, and C—light coated); (II) rubber and/or synthetic rubber coated, and (III) synthetic resin coated. Gives requirements for material, color, finish, width, length of rolls, water permeability, flexibility, colorfastness to crocking, resistance to heat, resistance to cold, weight tolerance, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

066.9 MISCELLANEOUS SPECIFICATIONS FOR HARNESS BELTING, AND OTHER LEATHERS

U. S. Gov., Navy Dept. Specification 34L12; 1945. Leather, Mineral-Tanned (for Gunport Bucklers).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 9-100; 1945. Straps, Pads, Reinforcements: Leather for Automotive-Vehicle Equipment.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 9-24A; 1945. Leather, Latigo.

067. LEATHER FOOTWEAR

067.0 GENERAL ITEMS

Textile Color Card Assn. of the U. S., Inc. Men's Shoe and Leather Colors for Fall, 1946. The 1946 fall shoe and leather colors (men's)—two new and four repeat colors for men's shoes. Adopted by Tanner's Council of America, National Shoe Mfrs. Assn., and National Shoe Retailers Assn.

Textile Color Card Assn. of the U. S., Inc. Women's Shoe and Leather Colors for Fall, 1946. The 1946 fall shoe and leather colors (women's)—two new and four repeat colors for women's shoes. Adopted by Tanner's Council of America, National Shoe Mfrs. Assn., and National Shoe Retailers Assn.

067.1 SHOES

U. S. Gov., Army Air Forces Specification 3255-1; 1945. Shoe; Flying, Light, Type L-1 (Boot Style).

U. S. Gov., Marine Corps Specification, adopted 1944. Shoes, Leather, Low Quarter.

067.8 SPECIAL SHOES, ATHLETIC, ETC.

U. S. Gov., Army Air Forces Specification 3226A; 1945. Shoe; Flying, Intermediate, Women's, Type A-16.

U. S. Gov., Marine Corps Specification, revised 1945. Shoes, Football.

068. LEATHER GLOVES

068.2 LEATHER WORK GLOVES

American Standards Assn., J6.3-1945. Specifications for Linemen's Protective Equipment—Leather Protector Gloves (American War Standard). Provides specifications for leather protector gloves to be worn over electrical workers' rubber gloves. Gives manufacture, physical properties, dimensions, workmanship, marking, sampling, and methods of testing.

U. S. Gov., Army Air Forces Specification 3143-4; 1945. Glove; Winter Flying, Type A-11A.

U. S. Gov., Army Air Forces Specification 3176C; 1945. Glove; Unlined Leather Flying, Type B-3A.

U. S. Gov., Navy Dept. Specification 37G1d; 1946. Gloves, Gauntlet, Leather (Welders').

068.6 MITTENS, LEATHER

American Standards Assn., L18.18-1945. Specifications for Protective Occupational (Safety) Clothing—Leather One-Finger Mittens (American War Standard). It is intended that the mittens specified shall afford protection against sparks, molten metal, infrared and ultraviolet rays, and direct contact with hot materials encountered. Gives types and sizes, pattern and design, construction, material, methods of test, and identification.

American Standards Assn., L18.19-1945. Specifications for Protective Occupational (Safety) Clothing—Leather Mittens—(American War Standard). It is intended that the mittens specified shall afford

protection against sparks, molten metal, infrared and ultraviolet rays, and direct contact with hot materials encountered. Gives types and sizes, pattern and design, construction, material, methods of test, and identification.

069. MISCELLANEOUS MANUFACTURES OF LEATHER

069.2 HARNESS AND SADDLERY

U. S. Gov., Treasury Dept., Procurement Div., 744; 1945. Collars, Horse; Canvas. Covers one type and one grade. Gives requirements for duck, ticking, leather, plastic, steel, thread, filling, rivets, hardware, workmanship, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 754; 1946. Harness; Treated Cotton Webbing, Northern and Southern Styles. Covers one grade and two types—(I) northern style and (II) southern style. Gives requirements for construction, component parts, protective coatings, rivets, hardware, webbing ends, rope ends, eyelets, loops and keepers, stitching, martingale, back pad, joints, color, webbing treatment, resistance to mildew, resistance to water, elongation, shrinkage, resistance to weathering, breaking strength, flexibility, bending test, substitutions, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 92-20; 1937. Bridle, Field Artillery, M-1914.

069.3 CLOTHING BELTS, SAFETY BELTS, ETC.

U. S. Gov., Army Air Forces Specification 3252-2; 1945. Belt; Troop Safety, Type C-2.

U. S. Gov., Marine Corps Specification, 1945. Belt, Baseball.

U. S. Gov., Navy Dept. Specification 5B5b; 1945. Belts, Battalion-Flagstaff.

U. S. Gov., U. S. Army, Army Air Forces Specification 94-3201; 1945. Belt; Aircraft Safety, Type B-14.

U. S. Gov., U. S. Army, Army Air Forces Specification 94-3202; 1945. Belt; Safety, Type B-15 (Shoulder Harness).

U. S. Gov., U. S. Maritime Commission. Specification 37-MC-1 (Tentative) 1942. Belts, Safety. Covers one type and grade. Gives requirements for materials, workmanship, tolerances, constituents, construction and assembly, body strap, body pad, reinforcing safety liner, webbing, buckles, dee rings, steel band, sleeve or thimble, rawhide cover, loop, rivets and burrs, nameplate, and breaking strength;

sampling, inspection, and methods of test; and packaging, packing, and marking.

069.4 LEATHER CLOTHING

American Standards Assn., L18.27-1945. Specifications for Protective Occupational (Safety) Clothing—Leather Spats (American War Standard). It is intended that the spats specified shall afford limited protection from sparks, molten metal, infrared and ultraviolet rays, and limited impact forces. Gives types and sizes, pattern and design, construction, materials, methods of test, and identification.

U. S. Gov., Navy Dept. Specification 37C6c; 1945. Clothing, Protective, Leather, for Welders (Men).

U. S. Gov., Navy Dept. Specification 37-O-2; 1945. Overalls, Leather.

069.7 LEATHER CASES

U. S. Gov., Federal Specification KK-S-151; 1945. Satchels; Leather, Physicians'. Covers one grade; two types—(I) Boston style (size 1—14 inches and 2—17 inches) and (II) cabin style 18 inches. Gives requirements for material, workmanship, branding, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 763; 1946. Cases, Identification; Leather. Covers one type and one grade. Gives requirements for material, workmanship, design, leather, window, construction, stitching, thread, color, insignia and lettering, dimensions, and bid sample; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

069.9 MISCELLANEOUS SPECIFICATIONS FOR LEATHER MANUFACTURES

U. S. Gov., Federal Specification KK-S-756; 1946. Strops, Razor; Leather. Covers one grade; two types—(I) all-leather and (II) leather with canvas honing strap (class A—square edge and B—double-sewed handles). Gives requirements for material, workmanship, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 34B4a; 1945. Bags, Money, Leather.

U. S. Gov., Navy Dept. Specification 34B5; 1945. Bags, Money, Leather (Suitcase Type).

U. S. Gov., Navy Dept. Specification 55B19; 1946. Bands, Sweat, Cap, Leather.

U. S. Gov., U. S. Army Signal Corps Specification 72-102; 1945. Pigeon Vest PG-106/CB.

090-099

MISCELLANEOUS ANIMAL PRODUCTS

093. GLUE STOCK, GLUE, AND GELATIN

093.0 GENERAL ITEMS

U. S. Gov., Army Air Forces Specification 14149; 1945. Glue; Application of Water and Mold Resistant Casein.

093.3 FLAKE GLUE

U. S. Gov., Federal Specification C-G-451; 1931. Amendment 1; 1945. Glue; Animal (for) Woodworking. Covers six grades—V1, V2, J1, J2, S1, and S2 in flake, ground, or other form. Gives requirements for material and workmanship, moisture content,

jelly strength, viscosity, reaction, foam, and odor and keeping quality; methods of sampling, inspection, and tests; and packaging, packing, and marking.

093.7 GELATIN

U. S. Gov., Federal Specification C-G-191b; 1945. Gelatin, Plain; Gelatin-Dessert-Powder; and Starch-Dessert-Powder. Covers three types—(I) gelatin, plain (unflavored); (II) dessert powder (flavored), prepared with gelatin; and (III) dessert powder (flavored), prepared with starch. Gives material and workmanship, general requirements and details for each type; methods of inspection and tests; and packaging, labeling, packing, and marking for shipment.

098. ANIMAL PRODUCTS, UNMANUFACTURED, NOT ELSEWHERE CLASSIFIED

098.1 MEAT MEAL, MEAT SCRAPS, BONE MEAL, BLOOD MEAL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Animal Products.

Defines blood meal, blood flour, meat, meat by-products, meat meal or meat scraps, digester tankage, meat meal tankage, feeding tankage, whale meal, animal liver meal, animal liver and glandular meal, extracted animal liver meal, raw bone meal, steamed bone meal, special steamed bone meal, bone charcoal or bone black, and spent bone black.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes animal protein products (blood meal, blood flour, meat scrap, and fish meal); vitamin products (animal liver meal, animal liver and glandular meal, oil-feeding, and fermentation solubles—dried); and mineral products (steamed bone meal, oyster shell meal, and ground limestone). Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

100-199

VEGETABLE FOOD PRODUCTS

100-109

GRAINS AND PREPARATIONS

100. GENERAL ITEMS

New York Produce Exchange. Rules Regulating Transactions in Grain, 1936. Gives rules in effect among members of the Exchange. Covers grades of grain, inspection, registrar, warehouses, deliveries, calls, transferable orders, buyer's option, appeals, regular trade, identical parcels or ungraded grain, track grain, payments, weighers' returns, margins, maturity of contracts, defaults, brokers' liability, final appeals, and adjustment of balances on settlements.

103. CORN AND GRAIN SORGHUMS AND PREPARATIONS

103.4 CORN MEAL, CORN GLUTEN FEED AND MEAL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1948. Corn Products. Defines corn meal, corn feed meal, corn gluten feed, corn gluten meal, maltose process corn gluten feed, corn germ cake, corn germ meal, and corn screenings.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1948. Feedstuff; Concentrated. Includes corn gluten feed, corn gluten meal, and corn feed meal. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

103.9 MISCELLANEOUS SPECIFICATIONS FOR CORN

U. S. Gov., Joint Army-Navy Specification JAN-D-232; 1945. Dextrin (for Use in Ammunition).

104. OATS AND OAT PRODUCTS

104.9 MISCELLANEOUS SPECIFICATIONS FOR OATS

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1948. Feedstuff; Concentrated. Includes oat grouts (feeding) and steel cut grouts (feeding). Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

105. RICE AND RICE PRODUCTS

105.1 RICE

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Milled Rice, 1945. Covers fourteen classes—(I) Edith, (II) Fortuna, (III) Lady Wright, (IV) Rexoro, (V) Nira, (VI) blue rose, (VII) early prolific, (VIII) American pearl, (IX) Calady, (X) miscellaneous classes, (XI) mixed, (XII) second head, (XIII) screenings, and (XIV) brewers. Gives requirements for various classes, subclasses, grades, unpolished milled rice, parboiled milled rice, coated milled rice, weevily milled rice, and definitions.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Rough Rice, 1945. Covers eleven classes—(I) Edith, (II)

Fortuna, (III) Lady Wright, (IV) Rexoro, (V) Nira, (VI) blue rose, (VII) early prolific, (VIII) American pearl, (IX) Calady, (X) miscellaneous classes, and (XI) mixed. Gives requirements for various classes, subclasses, grades, special grades for rough rice, milling quality, and definitions.

107. WHEAT AND PREPARATIONS FROM WHEAT

107.0 GENERAL ITEMS

New York Produce Exchange. Rules Regulating the Flour Trade, 1932. Gives twenty-one rules in effect among member of the Exchange.

107.3 WHEAT FLOUR

U. S. Gov., Federal Specification N-F-481b; 1948. Amend. 2; 1948. Flour; Wheat. Covers two types—(I) hard-wheat flour and (II) softwheat flour; and unbleached and bleached in two classes—(A) plain and (B) enriched. Gives material and workmanship, general requirements, and details for each type and class; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

108. BREAD AND BAKING PRODUCTS

108.3 CRACKERS

U. S. Gov., Federal Specification EE-C-651b; 1945. Amend. 1; 1948. Crackers and Cookies. Covers three types—(I) crackers, sponge (five classes—(A) plain soda, (B) salted soda, (C) plain oyster, (D) salted oyster, and (E) graham); (II) crackers, sweet (two classes—(A) raisin-filled and (B) fig bars); and (III) cookies (two classes—(A) vanilla wafers and (B) ginger snaps). Gives material and workmanship, general requirements, and details for each type and class; methods of sampling, inspection, and tests; and packaging, labeling, packing, and marking for shipment.

108.4 MACARONI, NOODLES, SPAGHETTI, AND VERMICELLI

108.41 Macaroni

U. S. Gov., Federal Security Agency, Food and Drug Administration. Title 21, Part 16; 1944. Alimentary Pastes. Macaroni and Noodle Products. Gives findings of fact and conclusions; and identity and label statement of optional ingredients for macaroni products, milk macaroni products, whole wheat macaroni products, wheat and soy macaroni products, vegetable macaroni products, noodle products, wheat and soy noodle products, and vegetable noodle products.

108.42 Noodles

U. S. Gov., Federal Security Agency, Food and Drug Administration. Title 21, Part 16; 1944. Alimentary Pastes. Macaroni and Noodle Products. Gives

findings of fact and conclusions; and identity and label statement of optional ingredients for macaroni products, milk macaroni products, whole wheat macaroni products, wheat and soy macaroni products, vegetable macaroni products, noodle products, wheat and soy noodle products, and vegetable noodle products.

108.9 MISCELLANEOUS SPECIFICATIONS FOR BAKING PRODUCTS

U. S. Gov., Federal Specification N-B-371; 1937. Amend. 1; 1945. Biscuit and Short-Bread Mixtures; Prepared. Covers one type and grade of a powdered product prepared from wheat flour; with suitable shortening, dried milk (whole or skimmed), sugar or other fermentable carbohydrate substance, salt, and baking powder or other suitable leavening agent. Gives material and workmanship, general requirements, and details; method of inspection and test; and packaging, packing, and marking.

109. MISCELLANEOUS GRAIN PREPARATIONS

109.3 CORNFLAKES, CORN BREAKFAST FOODS

U. S. Gov., Federal Specification N-C-196a; 1945. Amendment 1; 1945. Cereals, Breakfast; Prepared (Ready-to-Eat). Includes corn flakes. Gives requirements for corn kernels used and for the completed product; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

109.4 OATMEAL AND ROLLED OATS

U. S. Gov., Federal Specification N-C-196a; 1945. Amendment 1; 1945. Cereals, Breakfast; Prepared (Ready-to-Eat). Includes oat dough, puffed. Gives requirements for oat flour used and for completed

product; methods of inspection and test; and packaging, labeling, packing, and marking for shipment. U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes fine ground oat meal (feeding) and rolled oats (feeding). Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

109.5 PUFFED RICE

U. S. Gov., Federal Specification N-C-196a; 1945. Amendment 1; 1945. Cereals, Breakfast; Prepared (Ready-to-Eat). Includes puffed rice (gun-puffed), rice cereal (oven-puffed), and rice flakes. Gives requirements for rice grains used and for the completed products; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

109.6 WHEAT BREAKFAST FOOD

U. S. Gov., Federal Specification N-C-196a; 1945. Amendment 1; 1945. Cereals, Breakfast; Prepared (Ready-to-Eat). Includes whole-wheat biscuit, wheat flakes, forty percent bran flakes, wheat bran (prepared), puffed wheat (gun-puffed), and malted-cereal granules. Gives requirements for wheat used and for completed product; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

109.9 MISCELLANEOUS SPECIFICATIONS FOR GRAIN PREPARATIONS

Soy Flour Assn. Soy Flour Standards, 1946. Gives requirements for protein (Nx6.25), protein (Nx5.7), fat (ether extract), fibre, moisture, and ash for low-fat soy flour, defatted soy flour, and full-fat soy flour; screen test; and definition.

110-119

FODDERS AND FEEDS

111. HAY

111.0 GENERAL ITEMS

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Definitions. The following definitions are applicable to all groups of hay. Covers basis for grade determinations, percentages, percentages of diameter sizes, percentages of moisture, alfalfa, timothy, clover, upland grasses, midland grasses, grasses, Johnson grass, oat hay, red oat hay, wheat hay, wild oat hay, barley hay, grain hay, vetch hay, lespedeza, soybean hay, cowpea hay, peanut hay, legumes, foreign material, injurious foreign material, filled grain, and color.

111.1 ALFALFA HAY

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Alfalfa and Alfalfa Mixed Hay. Covers ten classes—alfalfa, alfalfa light grass mixed, alfalfa heavy grass mixed, alfalfa light timothy mixed, alfalfa heavy timothy mixed, alfalfa clover mixed, alfalfa light Johnson

mixed, alfalfa heavy Johnson mixed, alfalfa light grain mixed, and alfalfa heavy grain mixed; and four U. S. grades—No. 1, No. 2, No. 3, and sample. Gives definition and grades for extra leafy hay, extra green hay, green hay, and coarse hay.

111.4 CLOVER HAY

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Timothy and Clover Hay. Covers seven classes—timothy, timothy clover mixed, timothy light grass mixed, timothy heavy grass mixed, timothy light alfalfa mixed, clover, and clover timothy mixed; and four U. S. grades—No. 1, No. 2, No. 3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, and green hay.

111.5 MIXED HAY

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Alfalfa and Alfalfa Mixed Hay. Covers ten classes—alfalfa, alfalfa light grass mixed, alfalfa heavy grass mixed, alfalfa light timothy mixed, alfalfa heavy timothy

- mixed, alfalfa clover mixed, alfalfa light Johnson mixed, alfalfa heavy Johnson mixed, alfalfa light grain mixed, and alfalfa heavy grain mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, extra green hay, green hay, and coarse hay.
- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Cowpea and Cowpea Mixed Hay. Covers five classes—cowpea, cowpea light grass mixed, cowpea heavy grass mixed, cowpea light Johnson mixed, and cowpea heavy Johnson mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, and green hay.
- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Grain, Wild Oat, Vetch, and Grain Mixed Hay. Covers eleven classes—oat; red oat; wheat; barley; wild oat; red oat and wild oat mixed, wheat and wild oat mixed; wild oat and grain mixed; oat light alfalfa mixed, wheat light alfalfa mixed, barley light alfalfa mixed; oat light vetch mixed, wheat light vetch mixed; oat and vetch mixed, wheat and vetch mixed; and vetch; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for coarse hay.
- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Johnson and Johnson Mixed Hay. Covers five classes—Johnson, Johnson light grass mixed, Johnson heavy grass mixed, Johnson light alfalfa mixed, and Johnson light lespedeza mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra green hay, green hay, fine hay, and coarse hay.
- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Lespedeza and Lespedeza Mixed Hay. Covers five classes—lespedeza, lespedeza light grass mixed, lespedeza heavy grass mixed, lespedeza light Johnson mixed, and lespedeza heavy Johnson mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, and green hay.
- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Mixed Hay. Covers definitions of class, grade requirements, and grade designations.
- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Peanut and Peanut Mixed Hay. Covers three classes—peanut, peanut light grass mixed, and peanut heavy grass mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, and green hay.
- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Soybean and Soybean Mixed Hay. Covers five classes—soybean, soybean light grass mixed, soybean heavy grass mixed, soybean light Johnson mixed, and soybean heavy Johnson

mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, green hay, and coarse hay.

- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Timothy and Clover Hay. Covers seven classes—timothy, timothy clover mixed, timothy light grass mixed, timothy heavy grass mixed, timothy light alfalfa mixed, clover, and clover timothy mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, and green hay.

111.6 TIMOTHY HAY

- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Timothy and Clover Hay. Covers seven classes—timothy, timothy clover mixed, timothy light grass mixed, timothy heavy grass mixed, timothy light alfalfa mixed, clover, and clover timothy mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, and green hay.

111.9 MISCELLANEOUS SPECIFICATIONS FOR HAY

111.91 Johnson Hay

- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Johnson and Johnson Mixed Hay. Covers five classes—Johnson, Johnson light grass mixed, Johnson heavy grass mixed, Johnson light alfalfa mixed, and Johnson light lespedeza mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra green hay, green hay, fine hay, and coarse hay.

111.92 Lespedeza Hay

- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Lespedeza and Lespedeza Mixed Hay. Covers five classes—lespedeza, lespedeza light grass mixed, lespedeza heavy grass mixed, lespedeza light Johnson mixed, and lespedeza heavy Johnson mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, and green hay.

111.93 Prairie Hay

- U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Prairie Hay. Covers three classes—upland, midland, and upland-midland mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra green hay and green hay.

111.94 Peanut Hay

- Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Peanut Products. Defines ground peanut vine hay and ground peanut vine stem hay.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Peanut and Peanut Mixed Hay. Covers three classes—peanut, peanut light grass mixed, and peanut heavy grass mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, and green hay.

111.95 Peavine

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Cowpea and Cowpea Mixed Hay. Covers five classes—cowpea, cowpea light grass mixed, cowpea heavy grass mixed, cowpea light Johnson mixed, and cowpea heavy Johnson mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, and green hay.

111.99 Specifications For Hay Not Elsewhere Classified

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Grain, wild Oat, Vetch, and Grain Mixed Hay. Covers eleven classes—oat; red oat; wheat; barley; wild oat; red oat and wild oat mixed, wheat and wild oat mixed; wild oat and grain mixed; oat light alfalfa mixed, wheat light alfalfa mixed, barley light alfalfa mixed; oat light vetch mixed, wheat light vetch mixed; oat and vetch mixed, wheat and vetch mixed; and vetch; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for coarse hay.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Grass Hay. Covers four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra green hay and green hay.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Soybean and Soybean Mixed Hay. Covers five classes—soybean, soybean light grass mixed, soybean heavy grass mixed, soybean light Johnson mixed, and soybean heavy Johnson mixed; and four U. S. grades—No.1, No.2, No.3, and sample. Gives definition and grades for extra leafy hay, leafy hay, extra green hay, green hay, and coarse hay.

112. OIL SEED CAKES AND OIL CAKE MEAL

112.1 FLAXSEED (LINSEED) OIL CAKE AND MEAL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Linseed and Flax Products. Defines ground flaxseed or flaxseed meal, protein linseed oil cake or chips, protein linseed oil meal, protein linseed cubes or pellets, flaxseed screenings oil feed, protein linseed feed, and flax plant by-product.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes flaxseed meal and linseed meal. Gives general requirements and detail requirements; methods of

inspection and tests; and packaging, packing, and marking for shipments.

112.2 PEANUT OIL CAKE AND MEAL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Peanut Products. Defines protein peanut oil cake and meal, and unhulled peanut oil feed.

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 11. Peanut Cake. Rules 89 and 90. Covers peanut cake and peanut cake prime quality.

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 15. Peanut Meal. Rules 115 and 116. Covers peanut meal and peanut meal prime quality.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuffs; Concentrated. Includes peanut oil meal. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

112.3 COTTONSEED OIL CAKE AND MEAL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Cottonseed Products. Defines cottonseed meal, two grades of protein cottonseed meal, protein cottonseed feed, two grades of whole pressed cottonseed, cottonseed cake, six grades of protein cottonseed cake, protein cottonseed cubes or pellets, and Munsell color standard for cottonseed cake and meal.

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 10. Cottonseed Cake. Rules 85 to 87. Covers cottonseed cake, cottonseed cake prime quality, and cottonseed cake off quality.

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 12. Sized Cottonseed Cake. Rules 91 to 95. Covers nut-size cake, sheep-size cake, pea-size cake, pebble-size cake, and cottonseed cake screenings.

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 13. Cottonseed Meal. Rules 100 to 103. Covers cottonseed meal, cottonseed meal prime quality, type of label for 38 percent cottonseed meal prime quality, type of label for 41 percent cottonseed meal prime quality, type of label for 43 percent cottonseed meal prime quality, Munsell color standards for prime cottonseed cake and meal, and cottonseed meal off quality.

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 14. Whole Pressed Cottonseed. Rules 106, 107, and 109. Covers whole pressed cottonseed, whole pressed cottonseed prime quality, and ground whole pressed cottonseed prime quality.

National Cottonseed Products Assn., Inc. Rules, 1946. Sampling and Methods of Chemical Analysis. Cake, Meal, and Meats. Rules 244, 245, and 273. Covers methods of sampling, preparation of sample, moisture, oil, fat, nitrogen, ammonia, protein, color of cottonseed cake and cottonseed meal, and odor of cottonseed cake and meal.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes cotton seed meal. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

112.4 COCOANUT OIL CAKE AND MEAL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Definitions for protein cocoanut oil meal or protein copra oil meal.

112.5 ALFALFA MEAL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Alfalfa Products. Defines chopped alfalfa or cut alfalfa, alfalfa meal, alfalfa leaf meal, and alfalfa stem meal.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuffs; Concentrated. Includes alfalfa meal and alfalfa leaf meal. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipment.

112.6 SOYBEAN OIL CAKE AND MEAL

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Soybean Products. Defines ground soybeans, protein soybean oil cake or oil chips, protein soybean oil meal, soybean mill feed, and soybean hay meal.

National Soybean Processors Assn. Year Book and Trading Rules, 1945-1946. Soybean Oil Meal, Official Methods of Analysis. Testing methods as adopted by the Assn. of Official Agricultural Chemists shall be used as the official methods of analysis, except as otherwise specified. Covers moisture, protein, oil, crude rubber, reagents, apparatus, and determination.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes soybean oil meal. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

112.9 MISCELLANEOUS SPECIFICATIONS FOR OIL MEAL AND OIL CAKE

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Corn Products. Defines corn oil cake and corn oil meal.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes sesame oil meal. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

113. STRAW

113.1 RYE STRAW

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Rye Straw. Covers five U. S. grades—No.1, No.1 chaffy, No.2, No.2 chaffy, and sample. Gives definition and grades for

straight rye straw and long rye straw, color, and maximum percent of chaff.

113.2 OAT STRAW

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Oat Straw. Covers five U. S. grades—No.1, No.1 chaffy, No.2, No.2 chaffy, and sample. Gives definition, color, and maximum percent of chaff.

113.3 WHEAT STRAW

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Wheat Straw. Covers five U. S. grades—No.1, No.1 chaffy, No.2, No.2 chaffy, and sample. Gives definition, color, and maximum percent of chaff.

113.4 RICE STRAW

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Rice Straw. Covers five U. S. grades—No.1, No.1 chaffy, No.2, No.2 chaffy, and sample. Gives definition, color, and maximum percent of chaff.

113.5 BARLEY STRAW

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Handbook of Official Hay and Straw Standards, 1944. Barley Straw. Covers five U. S. grades—No.1, No.1 chaffy, No.2, No.2 chaffy, and sample. Gives definition, color, and maximum percent of chaff.

117. FODDERS AND POULTRY FEEDS

117.2 HOMINY FEED

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Corn Products. Defines hominy feed.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes hominy feed. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

117.9 MISCELLANEOUS FEED

U. S. Gov., U. S. Army, Signal Corps Specification 24-17C; 1945. Pigeon Feed.

118. MILL FEEDS

118.1 WHEAT FEED

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Wheat Products. Defines wheat bran, standard middlings, flour middlings, red dog, lowgrade feed flour, bran and standard middlings, hard wheat mixed feed, brown shorts, gray shorts, white shorts, mixed feed, commercial wheat germ meal, wheat germ oil cake, and wheat germ oil meal.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes wheat flour middlings, wheat brown shorts, wheat

gray shorts, wheat white shorts, wheat (red dog), and wheat mixed feed. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

118.2 BRAN

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Bran. Defines bran for rice, rye, corn, and wheat.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes bran (wheat) and bran and screenings (wheat). Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

118.3 MIDDINGS

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Middlings. Defines oat middlings, rye middlings, rye flour middlings, wheat standard middlings, and wheat flour middlings.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes standard middlings. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipment.

118.9 MISCELLANEOUS SPECIFICATIONS FOR MILL FEEDS

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Buckwheat Products. Defines buckwheat feed and buckwheat middlings.

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Oat Products. Defines oat hulls, oat middlings, oat shorts, oat chop, ground oats, pulverized oats, crushed or crimped oats, oat groats, hulled oats or undried oat groats, feeding oat meal, cut oat groats, cracked oat groats, ground oat groats, clipped oat by-product, and oat mill feed.

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Rye Products. Defines rye bran, rye feed, rye red dog, rye low-grade feed flour, rye middlings, and rye flour middlings.

119. MISCELLANEOUS FODDERS AND FEEDS

119.1 BEET PULP FEED

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Definition for dried beet pulp.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes beet pulp (dried). Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

119.2 CORN CHOPS AND GRITS

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Corn Products. Defines corn chop, ground corn or cracked corn;

screened corn chop, screened ground corn, or screened cracked corn; corn grits or hominy grits; ear corn chops and corn screenings.

119.4 BREWERS' AND DISTILLERS' DRIED GRAINS

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Brewers' and Distillers' Products. Defines brewers' dried grains, malt sprouts, percent protein malt cleanings, malt hulls, dried spent hops, corn distillers' dried grains, rye distillers' dried grains, wheat distillers' dried grains, corn distillers' dried grains with solubles, rye distillers' dried grains with solubles, wheat distillers' dried grains with solubles, semi-solid corn distillers' grains with solubles, semi-solid rye distillers' grains with solubles, semi-solid wheat distillers' grains with solubles, semi-solid corn distillers' solubles, semi-solid rye distillers' solubles, semi-solid wheat distillers' solubles, dried corn distillers' solubles, dried rye distillers' solubles, dried wheat distillers' solubles, dried molasses distillers' solubles, and yeast dried grains or vinegar dried grains.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes distillers grain (dried). Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

119.5 RICE FEED

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Rice Products. Defines rice bran, rice hulls, rice polishings, rice meal, ground rough rice, rice stone bran, and rice huller bran.

119.6 DIGESTER TANKAGE

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Digester Tankage. Defines digester tankage, meat meal tankage, or feeding tankage.

119.9 MISCELLANEOUS SPECIFICATIONS FOR FODDERS AND FEED

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Screenings. Defines screenings, grain screenings, screenings waste or screenings refuse, and scourings.

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Lespedeza Products. Defines lespedeza meal, lespedeza stem meal, and lespedeza straw meal.

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Miscellaneous Products. Defines dried apple pomace, dried apple pectin pulp, dried beet pulp, buckwheat feed, buckwheat middlings, chop, dried citrus pulp, protein babassu oil meal, protein coconut oil meal or protein copra oil meal, palm kernel oil meal, ivory nut meal, grain sorghum head chop, grain sorghum head stems, processed garbage, protein sesame oil meal, dried sweet potato pulp, dried tomato pomace, velvet bean meal, ground velvet bean and pod, and iodized salt.

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Barley Products. Defines barley hulls, barley feed, barley mixed feed, ground barley, and mixed feed barley.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes citrus pulp (dried) and distillers solubles. Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

120-129

VEGETABLES

121. FOLIAGE TYPE VEGETABLES, FRESH

121.1 CABBAGES AND CAULIFLOWER

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Cauliflower, 1945. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Extra Standard, and U. S. Grade D or Substandard; and two styles—clusters and quarters. Gives definition, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color and absence of defects.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Cabbage for Processing, 1944. Covers three grades—U. S. No.1, U. S. No.2, and culls. Gives introduction, requirements for each grade, tolerances, and definitions of terms.

121.3 ENDIVE, ESCAROLE, AND CHICORY

U. S. Gov., Federal Specification HHH-E-518a; 1946. Endive, Escarole, and Chicory; Fresh. Covers U. S. No. 1 Grade. Gives general requirements and detail requirements; methods of inspection and test; and packing, labeling, and marking for shipment.

121.9 MISCELLANEOUS FOLIAGE TYPE VEGETABLES

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Brussels Sprouts, 1945. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Extra Standard, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard. Gives definition, count and size, tolerance for certification of officially drawn sample, and factors used in ascertaining the grade rating including color, absence of defects, and character.

122. FRUIT TYPE VEGETABLES, FRESH

122.1 BEANS, PEAS, OKRA

122.11 Beans

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Lima Beans, 1945. Covers four Grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Extra Standard, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; and two types—thin-seeded and thick-seeded. Gives definition, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color and absence of defects.

122.13 Peas

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards

for Grades of Frozen Peas, 1945. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Extra Standard, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard. Gives definition, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, absence of defects, and tenderness and maturity.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Fresh Shelled Peas for Canning or Freezing, 1948. Covers five grades—U. S. Fancy, U. S. No.1, U. S. No.2, U. S. No.3, and culls. Gives introduction, requirements for each grade, foreign material, and definitions of terms.

122.2 GREEN CORN

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Sweet Corn for Canning, 1945. Covers two grades—U. S. No.1 and U. S. No. 2; and three classes—A, B, and C. Gives introduction, requirements for each grade, maturity classification, and definitions of terms.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Green Corn, 1945. Covers three grades—U. S. No.1, U. S. fancy, and unclassified. Gives introduction, requirements for each grade, and definitions of terms.

122.6 PUMPKINS AND SQUASH

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Fall and Winter Type Squash, 1944. Covers two grades—U. S. No.1 and U. S. No.2. Gives introduction, requirements for each grade, tolerances, size explanation, and definitions of terms.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Summer Squash, 1945. Covers three grades—U. S. No.1, U. S. No.2, and unclassified. Gives introduction, requirements for each grade, size explanation, application of tolerances, and definitions of terms.

123. ROOT TYPE VEGETABLES, FRESH

123.1 BEETS

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Beets for Processing, 1945. Covers three grades—U. S. No.1, U. S. No.2, and culls. Gives introduction, requirements for each grade, topping requirements, tolerances, and definitions of terms.

123.2 CARROTS

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Bunched Carrots, 1945. Covers two grades—U. S. No.1 and unclassified. Gives requirements for each grade, application of tolerances, size terms, length of tops, standard bunches, and definitions of terms.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Carrots for Processing, 1944. Covers three grades—U. S. No.1, U. S. No.2, and culls. Gives introduction, requirements for each grade, topping requirements, size, tolerances, and definitions of terms.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Carrots With Short Trimmed Tops, 1945. Covers two grades—U. S. No.1, and unclassified. Gives requirements for each grade, application of tolerances, size terms, and definitions of terms.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Topped Carrots, 1945. Covers three grades—U. S. No.1, U. S. No.2, and unclassified. Gives requirements for each grade, application of tolerances, and definitions of terms.

123.3 ONIONS AND SCALLIONS

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Northern Grown Onions, 1944. Covers six grades—U. S. No.1, U. S. commercial, U. S. No.1 boilers, U. S. No. 1 picklers, U. S. No. 2, and unclassified. Gives introduction, requirements for each grade and definitions of terms.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Onions for Processing, 1944. Covers three grades—U. S. No.1, U. S. No.2, and culls. Gives introduction, requirements for each grade, topping requirements, tolerances, and definitions of terms.

123.4 PARSNIPS AND TURNIPS

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Parsnips, 1945. Covers three grades—U. S. No.1, U. S. No.2, and unclassified. Gives requirements for each grade, application of tolerances, and definitions of terms.

U. S. Gov., Federal Specification HHH-P-103a; 1946. Parsnips; Fresh. Covers two grades—No. 1 and No. 2. Gives sizes, general requirements, and detail requirements for each grade; methods of inspection and test; and packing, labeling, and marking for shipment.

123.5 POTATOES

123.52 Sweet Potatoes

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Sweet Potatoes, 1944. Covers five grades—U. S. fancy, U. S. extra No.1, U. S. No.1, U. S. No.2, and unclassified. Gives introduction, requirements for each grade, tolerances, and definitions of terms.

123.8 SHALLOTS AND GARLIC

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Garlic, 1944. Covers two grades—U. S. No.1 and unclassified. Gives introduction, requirements for each grade, and definitions of terms.

124. STEM TYPE VEGETABLES, FRESH

124.4 RHUBARB

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Rhubarb, 1945. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, and U. S. Grade D or Substandard; two types—crimson and green; and two styles—cut and split. Gives definition, sugar or sirup pack, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, absence of defects, and tenderness and texture.

125. FOLIAGE TYPE VEGETABLES, CANNED OR PRESERVED

125.0 GENERAL ITEMS

National Canners Assn. Supplement Manual for Canned Food Labels, 1946. Revised Definitions and Standards Voluntary Label Statements. Vegetables. Covers artichokes.

126. FRUIT TYPE VEGETABLES, CANNED OR PRESERVED

126.0 GENERAL ITEMS

National Canners Assn. Supplement Manual for Canned Food Labels, 1946. Revised Definitions and Standards Voluntary Label Statements. Vegetables. Covers beans, green and wax; beans, lima or butter; corn, sweet; peas; pumpkin; squash; and tomatoes.

126.1 BEANS AND PEAS

126.11 Canned Beans and Dry Beans

National Cottonseed Products Assn., Inc. Rules, 1946. Methods of Chemical Analysis. Soybeans. Rule 270B. Covers original moisture, pre-drying, grinding, second moisture, oil, ammonia, free fatty acid, and calculation of results.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Fresh Shelled Lima Beans for Processing, 1945. Covers three grades—U. S. No.1, U. S. No.2, and culls. Gives introduction, requirements for each grade, foreign material, and definitions of terms.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Green or Wax Beans, 1945. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Extra Standard, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; two types—round and flat; two varieties—green and wax; and three styles—whole, cut, and shoestring. Gives definition, recommended fill of container and drained weight, container size, container dimensions, recommended minimum drained weights, sizes, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including clearness of liquor, uniformity of color, absence of defects, and maturity.

U. S. Gov., Federal Specification JJJ-B-151a; 1941. Amend. 1; 1946. Beans, Snap; Canned. Covers two

- types—(I) round and (II) flat; two varieties—(a) green or (b) wax; and three styles—(I) cut, (II) whole, and (III) shoestring (French or Julienne); seven sizes—0, 1, 2, 3, 4, 5, and 6; and three grades—(A) fancy, (B) extra standard, and (C) standard. Gives material and workmanship, general requirements, drained weights and head space, and details for each grade; methods of inspection and tests; and packaging, labeling, packing, and marking for shipment.

126.13 Canned Peas and Dry Peas

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Peas, 1942, amended 1945. Covers four grades—U. S. grade A or U. S. fancy, U. S. grade B or U. S. extra standard, U. S. grade C or U. S. standard, and off-grade; and two types—early peas and sweet peas (or sugar peas). Gives fill of container requirements for canned peas, definition of sizes (seven sizes), tolerance, and factors used in ascertaining the grade rating including clearness of liquor, uniformity of color, absence of defects, and maturity.

126.2 CANNED CORN AND SUCCOTASH

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Corn—Cream Style, 1945. Covers four grades—U. S. grade A (fancy), U. S. grade B (extra standard or choice), U. S. Grade C (standard), and off-grade (substandard). Gives definition, styles of canned corn, requirements for each grade, condition of container, condition of package and label, fill of container, slack fill, can size, can dimensions, maximum capacity, maximum head space, and factors used in ascertaining the grade rating including color, consistency, absence of defects, cut, maturity, and flavor.

126.7 CANNED TOMATOES AND TOMATO JUICE

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Tomatoes, 1946. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Extra Standard, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard. Gives definition, standard of fill of container for canned tomatoes, can size, can dimensions, tolerances, and factors used in ascertaining the grade rating including drained weight, wholeness, color, and absence of defects.

127. ROOT TYPE VEGETABLES, CANNED OR PRESERVED

127.0 GENERAL ITEMS

National Canners Assn. Supplement Manual for Canned Food Labels, 1946. Revised Definitions and Standards Voluntary Label Statements. Vegetables. Covers beets, carrots, onions, potatoes, and turnips.

128. STEM TYPE VEGETABLES, CANNED OR PRESERVED

128.0 GENERAL ITEMS

National Canners Assn. Supplement Manual for Canned Food Labels, 1946. Revised Definitions and

Standards Voluntary Label Statements. Vegetables. Covers asparagus and mushrooms.

128.1 CANNED ASPARAGUS

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Asparagus, 1945. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; two types—culturally bleached and green or all green; and five styles of peeled or unpeeled—stalks or spears, tips, points, cut stalks or cut spears, and bottom cuts or cuts. Gives definitions, recommended fill of container and drained weight, can size, can dimensions, minimum drained weight, count and size, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including clearness of color, color, absence of defects, and tenderness.

U. S. Gov., Federal Security Agency, Food and Drug Administration. Title 21, Part 52; 1945. Canned Vegetables. Canned Asparagus. Gives findings of fact and conclusions.

U. S. Gov., Federal Specification JJJ-A-711b; 1942 Amend. 1; 1945. Asparagus; Canned. Covers two types—(I) culturally bleached and (II) all green; five styles—(1) spears or stalks, (2) tips, (3) points, (4) cut spears, and (5) bottom cuts; and two grades—(A) fancy and (B) standard. Gives material and workmanship, general requirements, count, drained weights and head space, and details for each grade; methods of inspection and tests; and packaging, labeling, packing, and marking for shipment.

129. MISCELLANEOUS VEGETABLE FOOD PRODUCTS

129.1 PICKLES AND SAUCES

129.12 Catsup, Tomato Puree, Tomato Paste

U. S. Gov., Federal Specification JJJ-T-579; 1945. Tomato-Paste; Canned. Covers three types—(I) the liquid obtained from mature tomatoes of red or reddish varieties, (II) the liquid obtained from the residue from preparing such tomatoes for canning, and (III) the liquid obtained from the residue from partial extraction of juice from such tomatoes; three concentrations—(a) heavy, 33 percent or more solids; (b) medium, 29 to 33 percent solids; and (c) light, 25 to 29 percent solids; and two grades—(A) fancy and (C) standard. Gives requirements for material and workmanship, fill of container, fancy, and standard; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

U. S. Gov., Federal Specification JJJ-T-581a; 1945. Tomato-Puree (Tomato Pulp); Canned. Covers three types—(I) the liquid obtained from mature tomatoes of red or reddish varieties, (II) the liquid obtained from the residue from preparing such tomatoes for canning, and (III) the liquid obtained from the residue from partial extraction of juice from such tomatoes; three concentrations—(a) heavy, 12 to 25 percent solids; (b) medium, 10.7 to 12 percent solids; and (c) light, 8.37 to 10.7 percent solids; and two grades—(A) fancy and (C) standard. Gives

requirements for material and workmanship, fill of container, fancy, and standard; methods of

inspection and test; and packaging, labeling, packing, and marking for shipment.

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FRUITS AND NUTS

131. SUBTROPICAL FRUITS, FRESH AND PRESERVED

131.2 CITRUS FRUITS

131.22 Grapefruit

California Fruit Growers Exchange. Rules and Regulations Governing Fruit Packed Under the Sunkist and Red Ball Trade-Marks, 1944. Grade Specifications—Grapefruit. Gives detailed requirements for grapefruit complying with sunkist and red ball trade-marks; special rules relating to grapefruit maturity, thickness of rind, inspection, grading, packing, frosted and dry fruit, bulge and diameter measurements; and wrapper and box regulations.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Citrus Fruits, 1943. Does not apply to tangerines or to California and Arizona citrus fruits. Covers four grades—U. S. Fancy, U. S. No.1 (bright, golden, bronze, and russet), U. S. No.2 (combination, combination russet, bright, and russet), and U. S. No.3. Gives introduction, requirements for each grade, tolerances, standard pack, and definitions of terms.

131.23 Lemons

California Fruit Growers Exchange. Rules and Regulations Governing Fruit Packed Under the Sunkist and Red Ball Trade-Marks, 1944. Grade Specifications—Lemons. Gives detailed requirements for lemons complying with sunkist and red ball trade-marks; special rules relating to lemons in storage, indications of alternaria development in lemons, juice content, inspection, grading, packing, frosted and dry fruit, bulge and diameter measurements; and wrapper and box regulations.

131.25 Oranges

California Fruit Growers Exchange. Rules and Regulations Governing Fruit Packed Under the Sunkist and Red Ball Trade-Marks, 1944. Grade Specifications—Oranges. Gives detailed requirements for oranges complying with sunkist and red ball trade-marks; special rules relating to oranges that have been held in storage, maturity of oranges, inspection, grading, packing, frosted and dry fruit, bulge and diameter measurements; and wrapper and box regulations.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Citrus Fruits, 1943. Does not apply to tangerines or to California and Arizona citrus fruits. Covers four grades—U. S. fancy, U. S. No.1 (bright, golden, bronze, and russet), U. S. No.2 (combination, combination russet, bright, and russet), and U. S. No. 3. Gives introduction, requirements for each grade, tolerances, standard pack, and definitions of terms.

131.26 Tangerines

U. S. Gov., Federal Specification Y-T-96a; 1945. Tangerines; Fresh. Covers four grades—(a) No.1, (b) No.1 bronze, (c) combination, and (d) No.2. Gives requirements for varieties, sizes, and details for each grade; methods of inspection and test; and packaging, labeling, and marking for shipment.

131.3 FIGS

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Dried Figs, 1945. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; four varieties—Adriatic, Calimyrna, Mission, and Kadota; three styles—whole, split, and sliced; and six sizes—No.1 (jumbo), No. 2 (extra fancy), No.3 (fancy), No.4 (extra choice), No.5 (choice), and No.6 (standard). Gives definition, and explanation of terms.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Kadota Figs, 1945. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard. Gives definition, sirup density, recommended fill of container and recommended drained weight, container size, minimum drained weight, count, explanation of terms, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, uniformity of size and symmetry, absence of defects, and character of fruit.

U. S. Gov., Federal Specification Z-F-356; 1945. Figs; Evaporated (or Dried). Covers four varieties—(a) Adriatic, (b) Calimyrna, (c) Mission, and (d) Kadota; three styles—I whole, II split, and III sliced; six sizes—No.1 (jumbo), No.2 (extra fancy), No.3 (fancy), No.4 (extra choice), No.5 (choice), and No.6 (standard); and three grades—(A) fancy, (B) choice, and (C) standard. Gives requirements for material and workmanship and details for each grade; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

131.4 OLIVES

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Green Olives, 1946. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; two styles—plain and stuffed; and two types of packs—thrown and placed. Gives definition, requirements for each grade, sizes, recommended fill of container and recommended drained weight, explanation of terms, tolerance, and factors used in determining the

grade rating including color, uniformity of size, absence of defects, and character.

131.5 PINEAPPLES

U. S. Gov., Federal Specification Y-P-381a; 1946. Pineapples; Fresh. Covers three grades—fancy, No. 1, and No. 2. Gives general requirements and detail requirements for each grade; methods of inspection and test; and packing, labeling, and marking for shipment.

132. FRESH FRUITS, EXCEPT SUBTROPICAL

132.1 BERRIES, CURRANTS, AND GRAPES

132.11 Berries

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Berries, 1946. Covers two grades of frozen berries—U. S. Grade A or U. S. Fancy and U. S. Grade B or U. S. Choice; three grades of frozen berries for manufacturing—U. S. Grade A for manufacturing or U. S. Fancy grade for manufacturing, U. S. Grade B for manufacturing or U. S. Choice grade for manufacturing, and U. S. Grade D or Substandard; and six types—blackberries, boysenberries, dewberries, loganberries, youngberries, and others such as nectarberries. Gives definitions, tolerances, and factors used in ascertaining the grade rating including color, absence of defects, and character.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Blueberries or Frozen Huckleberries, 1946. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, and U. S. Grade C or U. S. Standard; and three grades for manufacturing—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, and U. S. Grade D or Substandard. Gives definition, tolerance, and factors used in ascertaining the grade rating including color, absence of defects, and character.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Raspberries, 1945. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, and U. S. Grade D or Substandard; and three types—red, black, and purple. Gives definition, sugar or sirup pack, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, absence of defects, and character of fruit.

U. S. Gov., Federal Specification Y-C-651a; 1946. Cranberries; Fresh. Covers two grades—No. 1 and No. 1 light. Gives sizes, general requirements, and detail requirements for each grade; methods of inspection and test; and packing, labeling, and marking for shipment.

U. S. Gov., Federal Specification Y-S-726a; 1946. Strawberries; Fresh. Covers three grades—No. 1, combination, and No. 2. Gives sizes, general requirements, and detail requirements for each grade; methods of inspection and test; and packing, labeling, and marking for shipment.

132.2 FLESHY FRUITS

132.21 Apples

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Apples, 1945. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, and Substandard; and two styles—slices and rings. Gives definition, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, uniformity of size, absence of defects, and character of fruit.

132.4 STONE FRUITS

132.41 Apricots

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Apricots, 1945. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; and two styles—halved and whole. Covers definition, sugar or sirup pack, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, uniformity of size and symmetry, absence of defects, and character of fruits.

132.42 Cherries

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Sweet Cherries, 1946. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, and U. S. Grade C or Substandard; two types—light sweet and dark sweet; and three styles—pitted, unpitted, and unpitted and unstemmed. Gives definition, requirements for each grade, types of pack, tolerance, and factors used in ascertaining the grade rating including color, uniformity of size and symmetry, absence of defects, and character.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Sweet Cherries for Canning or Freezing, 1946. Covers three grades—U. S. No. 1, U. S. No. 2, and unclassified. Gives requirements for each grade, size, and definitions of terms.

132.44 Peaches

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Frozen Peaches, 1945. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; two types—clingstone and freestone; and four styles—halved, quartered, sliced, and mixed pieces. Gives definition, sugar or sirup pack, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, uniformity of size or symmetry, absence of defects, and character of fruit.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Fresh Freestone Peaches for Canning, 1946. Covers three grades—U. S. No.1, U. S. No.2, and culls. Gives introduction, requirements for each grade, minimum size, tolerances, and definitions of terms.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Fresh Freestone Peaches for Freezing or Pulping, 1946. Covers four grades—U. S. No.1, U. S. No.2, U. S. No.3, and culls. Gives introduction, requirements for each grade, minimum size, tolerances, and definitions of terms.

132.45 Plums and Prunes

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Plums and Prunes (Fresh), 1945. Covers five grades—U. S. fancy, U. S. No.1, U. S. No.2, U. S. combination, and unclassified. Gives requirements for each grade, application of tolerances, standard pack, and definitions of terms.

133. DRIED AND EVAPORATED FRUITS

133.1 DRIED BERRIES, CURRANTS, AND GRAPES

133.13 Raisins

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Processed Raisins, 1946. Covers four grades—U. S. grade A or U. S. fancy, U. S. grade B or U. S. choice, U. S. grade C or U. S. standard, and U. S. grade D or substandard; and three types—(I) Thompson seedless (sultanina), (II) muscat, and (III) sultana. Gives definition, moisture, sugar content, sizes, colors, explanation of terms, and details covering each grade for each type.

133.2 FLESHY FRUITS, DRIED

133.2i Dried Apples

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Definitions for dried apple pomace and dried apple pectin pulp.

133.22 Dried Pears

U. S. Gov., Federal Specification Z-P-206a; 1946. Pears; Evaporated (or Dried). Covers six sizes—No. 1 jumbo, No. 2 extra large, No. 3 large, No. 4 medium, No. 5 small, and No. 6 extra small; and three grades—(A) fancy, (B) choice, and (C) standard. Gives material and workmanship, general requirements, and details for each grade; methods of inspection and tests; and packaging, labeling, packing, and marking for shipment.

133.4 DRIED STONE FRUITS

133.4i Dried Apricots

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Dried Apricots, 1945. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; and six sizes—No.1 (jumbo).

No.2 (extra fancy), No.3 (fancy), No.4 (extra choice), No.5 (choice), and No.6 (standard). Gives definition, moisture, grades of dried apricot slabs, and explanation of terms.

U. S. Gov., Federal Specification Z-A-636b; 1946. Apricots; Evaporated (or Dried). Covers five varieties—(a) Blenheim, (b) Moorpark, (c) Royal, (d) Tilton, and (e) other varieties; style shall be halves unless otherwise specified; six sizes—No. 1 (jumbo), No. 2 (extra fancy), No. 3 (fancy), No. 4 (extra choice), No. 5 (choice), No. 6 (standard); and six grades—(A) fancy, (B) choice, (C) standard, (A) fancy slabs, (B) choice slabs, and (C) standard slabs. Gives requirements for material and workmanship and details for each grade; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

133.44 Dried Peaches

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Dried Peaches, 1945. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; six sizes—No.1 (jumbo), No.2 (extra fancy), No.3 (fancy), No.4 (extra choice), No.5 (choice), and No.6 (standard); and two types—freestone (Muir, Lovell, Elberta, other freestone or mixed freestone varieties; and clingstone (Midsummer and Phillips variety). Gives definition and explanation of terms.

U. S. Gov., Federal Specification Z-P-193b; 1946. Peaches; Evaporated (or Dried). Covers two types—(I) Freestone (Muir, Lovell, Elberta, and other freestone varieties), and (II) Clingstone (midsummer and Phillips); six sizes—No. 1 jumbo, No. 2 extra fancy, No. 3 fancy, No. 4 extra choice, No. 5 choice, and No. 6 standard; and three grades—(A) fancy, (B) choice, and (C) standard. Gives material and workmanship, general requirements, and details for each grade; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

133.45 Dried Plums and Prunes

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Dried Prunes, 1945. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; three types—(I) French, (II) Italian, and (III) imperials, sugars, or a mixture of the two; and designation for sizes of each type. Gives definition, defects, and explanation of terms.

U. S. Gov., Federal Specification Z-P-681d; 1946. Prunes; Evaporated (or Dried). Covers three types—(I) French, (II) Italian, and (III) imperials, sugars, or a mixture of the two; sizes for each type; and three grades—(A) fancy, (B) choice, and (C) standard. Gives material and workmanship, general requirements, and details for each grade; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

134. CANNED AND PRESERVED FRUITS, JAMS, AND JELLIES

134.0 GENERAL ITEMS

National Canners Assn. Supplement Manual for Canned Food Labels, 1946. Revised Definitions and Standards Voluntary Label Statements. Fruits. Covers apple sauce, apricots, blackberries, boysenberries, gooseberries, loganberries, black raspberries, red raspberries, strawberries, youngberries, cherries, figs, fruits for salads, grapefruit, grapes, olives (ripe), peaches, pears, and plums (green gage and egg).

134.1 CANNED BERRIES, CURRANTS, AND GRAPES

134.11 Canned Berries

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Canned Blueberries or Canned Huckleberries, 1946. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard. Gives definition, sirup density, recommended fill of container and drained weight, explanation of terms, tolerance, and factors used in ascertaining the grade rating including color, absence of defects, and character.

134.4 CANNED STONE FRUITS

134.41 Canned Apricots

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Apricots, 1945. Covers five grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, U. S. Grade D, and U. S. Grade E; and two styles—halved and whole. Gives definition, U. S. standards for grades of solid-pack apricots, sirup density, fill of container and recommended drained weight, container size, minimum drained weight, count, explanation of terms, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, uniformity of size and symmetry, absence of defects, and character of fruit.

U. S. Gov., Federal Specification Z-A-631a; 1941. Amend. 1; 1946. Apricots; Canned. Covers two styles (either unpeeled or peeled)—(I) halved and (II) whole; in eight grades—fancy (grade A), choice (grade B), standard (grade C), seconds (grade D), water grade (grade E), solid-pack (grade C), solid-pack (grade D), and solid-pack (grade E). Gives material and workmanship, general requirements, sirup, count, can size, fill of container, and details for each grade; methods of inspection and tests; and packaging, labeling, packing, and marking for shipment.

134.44 Canned Peaches

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Freestone Peaches, 1942. Covers five grades—U. S. grade A or U. S. fancy, U. S. grade B or U. S. choice, U. S. grade C or U. S. standard,

U. S. grade D, and offgrade; two types—clingstone and freestone; and five styles—halved, quartered, sliced, diced, and whole. Gives requirements for each grade, sirup density, fill of container, recommended drained weight for solid pack peaches, count, explanation of terms, tolerance, and factors used in ascertaining the grade rating including color, uniformity of size, absence of defects, and character of fruit.

U. S. Gov., Federal Specification Z-P-191a; 1941. Amend. 1; 1946. Peaches; Canned. Covers two types—(I) yellow clingstone and (II) freestone—(a) yellow and (b) white; four styles—(I) halved, (II) quartered, (III) sliced and (IV) whole; and seven grades—fancy (grade A), choice (grade B), standard (grade C), seconds (grade D), water grade (grade D), solid-pack (grade C), and solid-pack (grade D). Gives material and workmanship, general requirements, sirup, count, can size, drained weights and head space, and details for each grade; methods of inspection and tests; and packaging, packing, and marking for shipment.

134.45 Canned Plums and Prunes

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Canned Dried Prunes, 1946. Covers four grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard; and two types, sweet and tart. Gives definition, sirup density, recommended fill of container and recommended drained weight, count, explanation of terms, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, uniformity of size, absence of defects, and character of fruit.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Plums, 1946. Covers five grades—U. S. Grade A or U. S. Fancy, U. S. Grade B or U. S. Choice, U. S. Grade C or U. S. Standard, U. S. Grade D, and U. S. Grade E; three varieties—purple plums, green gage plums, and yellow egg plums; and two styles—halves and whole. Gives definition, sirup density, recommended fill of container and recommended drained weight, can size, minimum drained weight, count, explanation of terms, tolerance, and factors used in ascertaining the grade rating including color, uniformity of size, absence of defects, and character of fruit.

134.5 JAMS, FRUIT BUTTERS, ETC.

134.51 Fruit Butter

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Apple Butter, 1945. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard. Gives definition, recommended fill of container, pertinent definitions from the standard of identity for fruit butters, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, absence of defects, consistency, finish, and flavor.

135. NUTS**135.5 PEANUTS AND PEANUT BUTTER**

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 2. Peanuts. Rules 45 to 47. Covers choice unshelled peanuts, prime unshelled peanuts, and off unshelled peanuts.

National Cottonseed Products Assn., Inc. Rules, 1946. Sampling and Methods of Chemical Analysis. Peanuts.

Rules 241 and 270C. Covers methods of sampling, analysis of whole peanuts and shelled stock, operation, oil, nitrogen, second moisture, calculation, free fatty acids in oil in peanuts, calculation of crushing yields from analytical data on whole peanuts. U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Shelled Runner Peanuts, 1945. Covers two grades—U. S. No.1 and U. S. No.2. Gives requirements for each grade and definitions of terms.

140-149**OIL SEEDS AND VEGETABLE OILS AND FATS****141. OILSEEDS**

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 1. Cottonseed. Rule 40. Covers basis cottonseed quantity index and grade, basis description, quantity index formulae, quality index and grades, basis quotation, basis settlement, cottonseed purchased on standard grades, and report forms.

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 17. Cottonseed Hulls. Rules 125 to 127. Covers prime cottonseed hulls, off hulls, and special contracts.

National Cottonseed Products Assn., Inc. Rules, 1946. Methods of Chemical Analysis. Cottonseed Hulls. Rule 271. Covers whole seed and uncut meats, oil, apparatus, procedure, and form of report.

National Cottonseed Products Assn., Inc. Rules, 1946. Methods of Chemical Analysis. Pot Cook Method for Determination of Cellulose Yields of Lint and Hull Fibre. Rule 272. Covers apparatus, reagents, laboratory preparation of sample, moisture determination, mixing lint and caustic solutions, digesting, washing, and drying.

National Cottonseed Products Assn., Inc. Rules, 1946. Sampling and Methods of Chemical Analysis. Rules 240 and 270A. Covers methods of sampling, sampling equipment, handling sample, preparing sample, methods of analysis, original moisture, fuming and grinding, second moisture, oil, nitrogen, free fatty acid, and calculation of analysis.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Standards for Grades of Cottonseed Sold or Offered for Sale for Crushing Purposes Within the United States, 1945. Gives determination of grade, determination of quality index for cottonseed (prime quality, below prime quality, off quality, and below grade), sampling, analysis, and certification of samples and grades.

142. VEGETABLE OILS**142.0 GENERAL ITEMS**

American Society for Testing Materials, D94-45; 1945. American Petroleum Institute Standard, 547-45. American Standards Assn., Z11.20-1945. Standard Method of Test for Saponification Number of Petroleum Products by Color-Indicator Titration. The method is applicable to new and used petroleum oils including electrical insulating oils and to mixtures of fats and mineral oils. Gives definition, outline of method, apparatus, reagents, blank

determinations, sample, procedure, calculation, identification of fat, and reproducibility of results.

National Cottonseed Products Assn., Inc. Rules, 1946. Sampling and Methods of Chemical Analysis. Crude Vegetable Oils. Rules 242 and 274. Covers methods of sampling from barrels and tank cars, mixing sample, moisture or volatile matter, meal or impurities, free fatty acids, refining crude oils, strength and amount of sodium hydroxide solutions, and details concerning crude cottonseed oil, crude peanut oil, crude soybean oil, crude coconut oil, and crude corn oil.

National Cottonseed Products Assn., Inc. Rules, 1946. Sampling and Methods of Chemical Analysis. Refined Vegetable Oils. Rules 242 and 275. Covers methods of sampling from barrels and tank cars, color, flavor and odor, bleaching, cold test, free fatty acids, and moisture or volatile matter.

142.2 CASTOR OIL

U. S. Gov., Navy Dept. Specification 52-0-18; 1945. Oil, Castor, Dehydrated.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-8D; 1945. Oil, Castor; Technical Grade.

142.4 COTTONSEED OIL

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 3. Cottonseed Oil—Crude. Rules 50 to 57. Covers prime crude cottonseed oil, basis prime crude cottonseed oil, off crude cottonseed oil, reddish off crude cottonseed oil, low grade cottonseed oil, cold pressed or expeller process oil, slow breaking oil, and extracted oil.

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 4. Cottonseed Oil—Refined. Rules 60 to 68. Covers choice summer yellow cottonseed oil, prime summer yellow cottonseed oil, prime winter yellow cottonseed oil, good off summer yellow cottonseed oil, off summer yellow cottonseed oil, reddish off summer yellow cottonseed oil, bleachable prime summer yellow cottonseed oil, prime summer white cottonseed oil, and prime winter white cottonseed oil.

New York Produce Exchange. Cottonseed Oil Futures Contracts, 1945. Prime Summer Yellow Cottonseed Oil. Shall be of American origin. Gives requirements for clear, water and settlings, flavor and odor, bleaching, color, and free fatty acids.

142.6 PEANUT OIL

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 5. Peanut Oil—Crude. Rules 70 to 72. Covers prime crude peanut oil, basis prime peanut crude oil, and off crude peanut oil.

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 6. Peanut Oil—Refined. Rules 73 to 75. Covers choice peanut oil, prime yellow peanut oil, and good off yellow peanut oil.

143. LINSEED AND SOYBEAN OILS**143.2 SOYBEAN OIL**

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 7.

Soybean Oil—Crude. Rules 76 and 77. Covers prime crude soybean oil and crude soybean oil.

National Soybean Processors Assn. Year Book and Trading Rules, 1945-1946. Standard Specifications for Crude Soybean Oil for Technical Uses. Testing methods follow handbook of Official and Tentative Methods of the American Oil Chemists' Society. Covers iodine value, unsaponifiable matter, free fatty acids, moisture and volatile matter, and break (modified Gardner method).

New York Produce Exchange. Bleachable Refined Soy Bean Oil Rules Governing Futures Contracts, 1945. Bleachable refined soybean oil shall be of American origin. Gives requirements for clear, water and settlings, flavor and odor, color, and free fatty acids.

150-159 COCOA, COFFEE, TEA, SPICES, AND LEAVENING AGENTS**151. COCOA****151.1 COCOA OR CACAO BEANS**

U. S. Gov., Federal Security Agency, Food and Drug Administration. Title 21, Part 14; 1944. Cacao Products. Gives identity and label statement of optional ingredients for cacao nibs, cocoa nibs, and cracked cocoa; chocolate liquor, chocolate, baking chocolate, bitter chocolate, cooking chocolate, chocolate coating, and bitter chocolate coating; breakfast cocoa and high fat cocoa; cocoa and medium fat cocoa; low-fat cocoa; sweet chocolate and sweet chocolate coating; milk chocolate, sweet milk chocolate, milk chocolate coating, and sweet milk chocolate coating; skim milk chocolate, sweet skim milk chocolate, skim milk chocolate coating, and sweet skim milk chocolate coating; buttermilk chocolate and buttermilk chocolate coating; mixed dairy product chocolates and mixed dairy product chocolate coatings; sweet chocolate and vegetable fat (other than cacao fat) coating; and sweet cocoa and vegetable fat (other than cacao fat) coating.

151.2 COCOA, POWDERED OR PREPARED

U. S. Gov., Federal Security Agency, Food and Drug Administration. Title 21, Part 14; 1944. Cacao Products. Gives identity and label statement of optional ingredients for cacao nibs, cocoa nibs, and cracked cocoa; chocolate liquor, chocolate, baking chocolate, bitter chocolate, cooking chocolate, chocolate coating, and bitter chocolate coating; breakfast cocoa and high fat cocoa; cocoa and medium fat cocoa; low-fat cocoa; sweet chocolate and sweet chocolate coating; milk chocolate, sweet milk chocolate, milk chocolate coating, and sweet milk chocolate coating; skim milk chocolate, sweet skim milk chocolate, skim milk chocolate coating, and sweet skim milk chocolate coating; buttermilk chocolate and buttermilk chocolate coating; mixed dairy product chocolates and mixed dairy product

chocolate coatings; sweet chocolate and vegetable fat (other than cacao fat) coating; and sweet cocoa and vegetable fat (other than cacao fat) coating.

151.3 CHOCOLATE, POWDERED OR PREPARED

U. S. Gov., Federal Security Agency, Food and Drug Administration. Title 21, Part 14; 1944. Cacao Products. Gives identity and label statement of optional ingredients for cacao nibs, cocoa nibs, and cracked cocoa; chocolate liquor, chocolate, baking chocolate, bitter chocolate, cooking chocolate, chocolate coating, and bitter chocolate coating; breakfast cocoa and high fat cocoa; cocoa and medium fat cocoa; low-fat cocoa; sweet chocolate and sweet chocolate coating; milk chocolate, sweet milk chocolate, milk chocolate coating, and sweet milk chocolate coating; skim milk chocolate, sweet skim milk chocolate, skim milk chocolate coating, and sweet skim milk chocolate coating; buttermilk chocolate and buttermilk chocolate coating; mixed dairy product chocolates and mixed dairy product chocolate coatings; sweet chocolate and vegetable fat (other than cacao fat) coating; and sweet cocoa and vegetable fat (other than cacao fat) coating.

155. LEAVENING AGENTS**155.4 HOPS**

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Instructions and Procedure for the Inspection of Hops, 1944. Covers the procedure for the sampling, inspection, and certification of hops for quality. Gives definition, sampling, inspection, and fees and charges.

155.5 YEAST

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Yeast. Defines yeast, irradiated yeast, brewers' dried yeast, grain distillers' dried yeast, and molasses distillers' dried yeast.

160-169 SUGAR, MOLASSES, SIRUP, HONEY, AND CONFECTIONERY**162. HONEY**

U. S. Gov., Dept. of Agriculture. Circular 24; 1933. United States Grades, Color Standards, and Packing

Requirements for Honey. Standards for the guidance of beekeepers in preparing honey for market and for convenience in buying and selling honey, and their general use should make it possible to put on the

market, from different honey-producing regions, a product practically uniform in color, finish, weight, and quality. Gives U. S. standards for extracted honey, U. S. standards for comb honey, definitions of terms, the grading of extracted honey, color determination of extracted honey, the grading of comb-section honey, packing and shipping comb-section honey, definition of honey, Federal pure-food law requirements for honey, and special information.

163. MOLASSES AND REFINERS SIRUP

170-179

BEVERAGES

178. FRUIT JUICE BEVERAGES

178.3 ORANGE JUICE

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Blended Grapefruit Juice and Orange Juice, 1945. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard. Gives definition, recommended fill of container, explanation of terms, equipment, procedure, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, absence of defects, and flavor.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Concentrated Orange Juice, 1943, amended 1944. Covers three grades—U. S. grade A or U. S. fancy, U. S. grade C or U. S. standard, and off-grade. Gives definition, fill of container, explanation of terms, determination of ascorbic acid (vitamin C), percentage of free and suspended pulp, acid, recoverable oil, and factors used in ascertaining the grade rating including color, absence of defects, and flavor.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Orange Juice, 1946. Covers three grades—U. S. grade A or U. S. fancy, U. S. grade C or U. S. standard, and U. S. grade D or substandard. Gives definition, fill of container, explanation of terms, tolerance, and factors used in ascertaining the grade rating including color, absence of defects, and flavor.

U. S. Gov., Federal Specification Z-0-666; 1945. Orange-Juice; Canned. Covers two types—(I) unsweetened and sweetened and (II) concentrated, unsweetened; and two grades—(A) fancy and (C) standard. Gives requirements for material and workmanship and details for each type and grade; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

178.4 GRAPE JUICE

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Canned (or Bottled) Grape Juice, 1945. Covers four grades—U. S. grade A or U. S. fancy, U. S. grade B or U. S. choice, U. S. grade C or U. S. standard, and U. S. grade D or substandard;

163.9 MISCELLANEOUS MOLASSES

Assn. of American Feed Control Officials, Inc. Definitions of Feedingstuffs, 1946. Molasses. Defines feeding cane molasses, feeding beet molasses, and feeding corn sugar molasses.

U. S. Gov., Federal Specification N-F-211b; 1944. Amend. 1; 1946. Feedstuff; Concentrated. Includes cane molasses (feeding) and beet molasses (feeding). Gives general requirements and detail requirements; methods of inspection and tests; and packaging, packing, and marking for shipments.

and two types—unsweetened and sweetened. Gives definition, requirements for each grade, recommended fill of container, explanation of terms, tolerances for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, absence of defects, and flavor.

U. S. Gov., Federal Specification Z-G-661a; 1946. Grape Juice; Canned (or Bottled). Covers two types—(I) unsweetened and (II) sweetened; and two grades—(A) fancy (grade A) and (B) choice (grade B). Gives material and workmanship, general requirements, Brix requirements, fill of container, and details for fancy and choice; methods of inspection and test; and packaging, labeling, packing, and marking for shipment.

178.6 GRAPEFRUIT JUICE

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Tentative U. S. Standards for Grades of Canned Concentrated Grapefruit Juice, 1945. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard. Gives definition, recommended fill of container, explanation of terms, equipment, procedure, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, absence of defects, and flavor.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Blended Grapefruit Juice and Orange Juice, 1945. Covers three grades—U. S. Grade A or U. S. Fancy, U. S. Grade C or U. S. Standard, and U. S. Grade D or Substandard. Gives definition, recommended fill of container, explanation of terms, equipment, procedure, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, absence of defects, and flavor.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. U. S. Standards for Grades of Canned Grapefruit Juice, 1946. Covers three grades—U. S. grade A or U. S. fancy, U. S. grade C or U. S. standard, and U. S. grade D or substandard. Gives definition, recommended fill of container, explanation of terms, tolerance for certification of officially drawn samples, and factors used in ascertaining the grade rating including color, absence of defects, and flavor.

(Except Food, Fiber, and Wood)

RUBBER AND SIMILAR GUMS AND
MANUFACTURES THEREOF

200. GENERAL ITEMS

American Society for Testing Materials, D471-46T; 1946. Tentative Methods of Test for Changes in Properties of Rubber and Rubber-Like Materials in Liquids. Intended for use in estimating the comparative ability of rubber and rubber-like compositions to withstand the effects of liquids. For intercomparisons between compounds rather than for an estimation of service performance of manufactured products. Gives types of test, test conditions, standard test liquids, preparation of sample, and details for method A (general procedures) and method B (linear measurement method for increase in volume).

American Society for Testing Materials, D552-46T; 1946. Tentative Methods of Testing Cellular Rubber Products. Cover procedures for testing cellular rubber products in which the base material used in manufacture may be natural rubber, reclaimed rubber, synthetic rubber or rubber-like materials, alone or in combination. Cellular rubbers may be vulcanized either to soft or to hard (ebonite) rubber. Gives general methods, sampling, standard test specimens, standard test slabs, measurements of finished products, chemical analysis, apparent density, accelerated aging tests, compression-deflection tests, compression set under constant deflection, indentation test, flexing test, oil immersion test, low-temperature test, and water absorption test.

American Society for Testing Materials, D573-45; 1945. American Standards Assn., J5.1-1945. Standard Method of Test for Accelerated Aging of Vulcanized Rubber by the Oven Method. Intended for use in estimating the relative resistance of vulcanized rubber to age deterioration. Covers nature of test, general methods, apparatus, test specimens, number of test specimens, tests of unaged specimens, procedure for accelerated aging, physical tests of aged specimens, and calculations and report.

American Society for Testing Materials, D798-46T; 1946. Tentative Specifications for Cellular Rubber Products. Include sponge rubbers, latex foam rubbers, and expanded rubbers and may be natural rubber, reclaimed rubber, synthetic rubber, or rubber-like materials, alone or in combination. Gives description of terms, manufacture, types of cellular rubbers, classes and grades of cellular rubbers, material and workmanship, color, physical properties, sampling, methods of testing, tolerances on dimensions, packaging and marking, and inspection and rejection.

American Society for Testing Materials, D832-45T; 1945. Tentative Recommended Practice for Conditioning of Rubber and Plastic Materials for

Low-Temperature Testing. This recommended practice covers the general theory underlying all low-temperature testing of rubber and plastic materials. Gives general considerations, simple temperature effects, second-order transitions (vitrification), crystallization (first-order transitions), effects associated with plasticizers, tests for effects of second-order transition (vitrification) only, tests for effects of crystallization (first-order transition) only, and tests for the effects associated with plasticizers.

American Society for Testing Materials, D833-45T; 1945. Tentative Method of Identification and Quantitative Analysis of Synthetic Elastomers. Gives scope, definitions, reagents, application, apparatus, identification by pyrolysis products, confirmatory tests, quantitative analysis of elastomers, and determination of compounding ingredients.

American Society for Testing Materials, D865-46T; 1946. Sponsored by Society of Automotive Engineers. Tentative Method of Heat Aging of Vulcanized Natural or Synthetic Rubber by Test Tube Method. Intended for use in estimating the relative resistance of vulcanized rubber to high-temperature aging in a controlled and limited quantity of air. No direct correlation between this accelerated test and natural life of rubber is given or implied. Gives nature of test, general methods, apparatus, test specimens, number of test specimens, tests of unaged specimens, procedure, physical tests of the aged specimens, and calculations and report.

American Society for Testing Materials, D866-46T; 1946. Tentative Specifications for GR-S Synthetic Rubber Sheath Compound for Electrical Insulated Cords and Cables. Cover a durable, vulcanized synthetic rubber compound, type GR-S, suitable for use as the outside covering or sheath on insulated electrical cords and cables. Gives character of sheath, methods of testing, physical requirements, sampling for original physical tests, sampling for accelerated aging tests, test specimens, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2810A; 1946. Identification of Natural and Synthetic Rubber Materials. For the identification of sheets, extrusions and moldings made of synthetic rubber, natural rubber, and reclaimed rubber stock. Gives detail requirements.

201. RUBBER, UNMANUFACTURED

201.0 GENERAL ITEMS

Rubber Manufacturers Assn., Inc. Buyers' Specifications—"Latex Foam," 1944. Gives scope, description

of terms, manufacture, tests applicable, methods of test, and test requirements.

Rubber Manufacturers Assn., Inc. Original Equipment Automotive Buyers' Specifications—"Latex Foam," 1945. Gives scope, description of terms, manufacture, tests applicable, methods of test, and test requirements.

201.1 CRUDE RUBBER

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3211A, 1945. Rubber or Synthetic Rubber Compounds—Coolant Resistant (55-65). For sheet, strip, tubing, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

201.2 SCRAP AND RECLAIMED RUBBER

Rubber Reclaimers Assn., Inc. Specifications for Scrap Rubber, 1945. Gives general specifications including origin of scrap, net weight, ton weight, foreign scrap, bales, separation of grades, moisture and foreign material, mixture of natural and synthetic rubber, embargo, failure to deliver, claims, and rejections; and standard grades including passenger tires, truck tires, tire parts, passenger tubes, truck tubes, solid tires, bicycle tires, shoes, hose, and special classifications.

201.3 SPONGE RUBBER

U.S. Gov., Army-Navy Aeronautical Specification AN-R-21-1; 1945. Rubber; Chemically Blown Sponge.

U.S. Gov., Army-Navy Aeronautical Specification AN-R-23a; 1946. Rubber; Foamed Sponge.

U.S. Gov., Navy Dept. Specification 33R10; 1946. Rubber (Synthetic), Sponge (Foamed Latex).

201.9 RUBBER SYNTHETIC

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3197C; 1946. Synthetic Rubber Sponge (Soft). For sheet, strip, molded shapes, or as ordered. Gives requirements, quality, tolerances, sampling, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3198C; 1946. Synthetic Rubber Sponge (Medium). For sheet, strip, molded shapes, or as ordered. Gives application, requirements, quality, tolerances; sampling, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3199C; 1946. Synthetic Rubber Sponge (Firm). For sheet, strip, molded shapes, or as ordered. Gives application, requirements, quality, tolerances, sampling, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3200B, 1945. Synthetic Rubber—Hydraulic Fluid (Petroleum Base) Resistant (55-65). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3201B, 1945. Synthetic

Rubber—Dry Heat Resistant (35-45). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3202B, 1945. Synthetic Rubber—Dry Heat Resistant (55-65). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3204E, 1945. Synthetic Rubber—Low Temperature Resistant (25-35). For sheet, strip, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3205B, 1945. Synthetic Rubber—Low Temperature Resistant (45-55). For sheet, strip, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3211A, 1945. Rubber or Synthetic Rubber Compounds—Coolant Resistant (55-65). For sheet, strip, tubing, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3212C, 1945. Synthetic Rubber—Aromatic Fuel Resistant (55-65). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3213B, 1945. Synthetic Rubber—Aromatic Fuel Resistant (75-85). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3214B, 1945. Synthetic Rubber—Aromatic Fuel Resistant (35-45). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3215B, 1945. Synthetic Rubber—Aromatic Fuel Resistant (65-75). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3221B, 1945. Synthetic Rubber—Rapid Fuel Swelling (45-55). For sheet,

strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3222B, 1945. Synthetic Rubber—Hot Oil Resistant, High Swell (45-55). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3223F, 1945. Synthetic Rubber—Hot Oil Resistant, High Swell (55-65). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3226B, 1945. Synthetic Rubber—Hot Oil and Coolant Resistant, Low Swell (45-55). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3227B, 1945. Synthetic Rubber—Hot Oil and Coolant Resistant, Low Swell (55-65). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3228B, 1945. Synthetic Rubber—Hot Oil and Coolant Resistant, Low Swell (65-75). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3229B, 1945. Synthetic Rubber—Hot Oil Resistant, Low Swell (75-85). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3245; 1945. Synthetic Rubber—Buna S Type (35-45). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3246; 1945. Synthetic Rubber—Buna S Type (45-55). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3247; 1945. Synthetic Rubber—Buna S Type (55-65). For sheet, strip, tubing, extrusions, molded shapes, or as ordered. Gives application, quality, requirements, sampling, tolerances,

reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Specification 3250A; 1946. Synthetic Rubber and Cork Composition, General Purpose (35-45). For sheet, strip, molded shapes, or as ordered. Gives application, material and fabrication, requirements, quality, tolerances, sampling, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3251A; 1946. Synthetic Rubber and Cork Composition, General Purpose (45-55). For sheet, strip, molded shapes, or as ordered. Gives application, material and fabrication, requirements, quality, tolerances, sampling, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3252A; 1946. Synthetic Rubber and Cork Composition, General Purpose (55-65). For sheet, strip, molded shapes, or as ordered. Gives application, material and fabrication, requirements, quality, tolerances, sampling, reports, identification, packaging, approval, and rejections.

U.S. Gov., Navy Dept. Specification 33R7; 1945. Rubber (Synthetic), Composition (for Covering Hollow Shafts).

U.S. Gov., Navy Dept. Specification 33R9; 1946. Rubber, Synthetic, Medium-Soft; Molded, Sheet, and Strip (for Airport, Hatch, and Watertight-and-Airtight-Door Gaskets).

U.S. Gov., Navy Dept. Specification 33R10; 1946. Rubber (Synthetic), Sponge (Foamed Latex).

202. HOSE (RUBBER, COTTON, AND LINEN)

202.0 GENERAL ITEMS

U.S. Gov., Army-Navy Aeronautical Specification AN-M-35; 1945. Marking; Standard Hose.

202.1 AIR HOSE

202.10 General Items

U.S. Gov., Army Air Forces Specification 26576D; 1945. Hose Assembly; High Pressure, for Breathing Oxygen.

U.S. Gov., Army-Navy Aeronautical Specification AN-H-33; 1945. Hose Assemblies; Low Pressure (for Breathing Oxygen).

202.11 Air Brake and Signal Hose

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Emergency Specification E-M-801-45; 1945. Hose, Air Brake, and Train Air-Signal. These emergency specifications are in accordance with the requirements of Supplementary Order R-1, latest revision, of the War Production Board. Gives manufacture, physical properties and tests, dimensions and tolerances, workmanship and finish, marking, and inspection and rejection.

U.S. Gov., Navy Dept. Specification 33C4f; 1946. Couplings and Fittings, Air-Hose.

202.12 Pneumatic Tool Hose

U.S. Gov., Army-Navy Aeronautical Specification AN-H-29a-2; 1946. Hose; Low Pressure Flexible.

- U.S. Gov., Federal Specification ZZ-H-499a; 1944. Amend. 1; 1945. Hose; Pneumatic, Wrapped. Covers a single grade of the type known as "wrapped." Gives requirements for material and workmanship, construction, tube and cover, fabric, couplings, physical requirements, tensile strength, and brands; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U.S. Gov., Navy Dept. Specification 33H7d; 1946. Hose, Cutting and Welding (Acetylene-hydrogen, Oxygen-Air).
- U.S. Gov., Navy Dept. Specification 33H24, 1945. Hose, Synthetic-Rubber, Sandblast.
- U.S. Gov., Navy Dept. Specification 33H25a; 1946. Hose, Pneumatic (Braided or Wrapped).

202.2 CHEMICAL AND OIL HOSE

202.21 Chemical Hose

Underwriters' Laboratories, Inc. Emergency Alternate Specification for Chemical Engine Hose, Subject S2 (EAS); 1944. Applies to chemical engine hose for use with chemical fire extinguishers and chemical fire engines. Gives general requirements, types and grades, material and workmanship, construction, length, couplings, attachment of couplings, tests, physical requirements, color, methods of sampling, marking, inspection label, examination, inspection, and test methods.

202.22 Oil Hose

- U.S. Gov., Army Air Forces Specification 26597A-1; 1945. Hose; Aircraft Flame-Resistant.
- U.S. Gov., Army-Navy Aeronautical Specification AN-H-26-3; 1945. Hose; Oil and Coolant Aircraft.
- U.S. Gov., Navy Dept. Specification 33H4h; 1946. Hose, Oil-and-Gasoline-Suction-and-Discharge, Synthetic-Rubber, Wire-Stiffened.
- U.S. Gov., Navy Dept. Specification 33H17, 1945. Hose, Oil-and-Gasoline-Suction-and-Discharge, Smooth-Bore.
- U.S. Gov., Navy Dept. Specification 33H18c; 1946. Hose, Floater, Nonmetallic.
- U.S. Gov., Navy Dept. Specification 33H23c; 1946. Hose, Oil-and-Gasoline-Suction-and-Discharge, Smooth-Bore, Light-Weight (Circular Woven Fabric, Wire-Inserted).
- U.S. Gov., Navy Dept. Specification 33H2b; 1945. Hose, Fuel, Buoyant, Unarmored.

202.3 GAS AND GASOLINE HOSE

202.31 Gas Hose

- U.S. Gov., Navy Dept. Specification 33H7d; 1946. Hose, Cutting and Welding (Acetylene-Hydrogen, Oxygen-Air).

202.32 Gasoline Hose

- U.S. Gov., Army Air Forces Specification 26551H, 1945. Hose, Gasoline; Non-Metallic (with Couplings).
- U.S. Gov., Army Air Forces Specification 26597A-1; 1945. Hose; Aircraft Flame-Resistant.
- U.S. Gov., Army-Navy Aeronautical Specification AN-H-27-1; 1946. Hose; Self-Sealing, Fuel (Aromatic Resistant).

- U.S. Gov., Joint Army-Navy Specification JAN-H-369; 1946. Hose, Gasoline, Synthetic-Rubber, Wire-Stiffened (for Suction and Discharge).
- U.S. Gov., Joint Army-Navy Specification JAN-H-370; 1946. Hose, Gasoline, Synthetic-Rubber (Discharge Type).
- U.S. Gov., Navy Dept. Specification 33H4h; 1946. Hose, Oil-and-Gasoline-Suction-and-Discharge, Synthetic-Rubber, Wire-Stiffened.
- U.S. Gov., Navy Dept. Specification 33H17, 1945. Hose, Oil-and-Gasoline-Suction-and-Discharge, Smooth-Bore.
- U.S. Gov., Navy Dept. Specification 33H23c; 1946. Hose, Oil-and-Gasoline-Suction-and-Discharge, Smooth-Bore, Light-Weight (Circular Woven Fabric, Wire-Inserted).

202.4 WATER HOSE, STEAM HOSE

202.40 General Items

- U.S. Gov., Army-Navy Aeronautical Specification AN-H-26-1; 1945. Hose Assemblies; High Pressure.
- U.S. Gov., Army-Navy Aeronautical Specification AN-H-30; 1945. Hose Assemblies; Low Pressure.

202.41 Fire Hose

- U.S. Gov., Federal Specification ZZ-H-451a; 1941. Amend. 3; 1945. Hose, Fire; Cotton, Rubber and Synthetic, Rubber-lined. Lining may be natural rubber, synthetic rubber, or a mixture. Gives requirements for material and workmanship, construction, rubber lining, rubber backing, cotton jacket couplings, finished hose, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

202.42 Garden and Ordinary Cold Water Hose

- U.S. Gov., Federal Specification ZZ-H-601; 1931. Amend. 1; 1945. Hose; Water, Braided. Covers the "braided" type and a single grade. Shall be natural rubber, synthetic rubber, or a mixture. Gives requirements for construction, tube and cover, cotton reinforcement, length, couplings, physical requirements, and branding; methods of sampling, inspection, and tests; and packaging, packing, and marking.
- U.S. Gov., Federal Specification ZZ-H-611; 1930. Amend. 4; 1946. Hose; Water, Wrapped. Covers one grade. Shall be natural rubber, synthetic rubber, or suitable mixtures. Gives requirements for construction, tube and cover, cotton duck, couplings, brands, and physical test requirements; methods of sampling, inspection, and tests; and packaging, packing, and marking.

202.43 Radiator Hose

- U.S. Gov., Army-Navy Aeronautical Specification AN-H-28-3; 1945. Hose; Oil and Coolant Aircraft.
- U.S. Gov., U.S. Army, Ordnance Dept. Specification 20-118A; 1945. Hose, Coolant System, Reclaimed and Synthetic Rubber.

202.44 Steam and Hot Water Hose

- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Emergency Specification E-M-805-44; 1944. Hose, Steam and Hot Water.

These emergency specifications are in accordance with the requirements of Supplementary Order R-1, latest revision, of the War Production Board, to restrict the use of rubber. Changed manufacture, physical properties and tests, dimensions and tolerances, workmanship and finish, marking, and inspection and rejection.

U. S. Gov., Federal Specification ZZ-H-541; 1931. Amend. 4; 1946. Hose; Steam. Covers the "wrapped" type and a single grade. Shall be natural rubber, synthetic rubber, or a mixture. Gives requirements for construction, tube and cover, cotton duck, couplings, physical requirements, and brands; methods of sampling, inspection, and tests; and packaging, packing, and marking.

202.46 Suction Hose

U. S. Gov., Federal Specification ZZ-H-561c; 1946. Hose; Suction, Water, Smooth-Bore. Covers one grade and two types—(I) wrapped fabric construction and (II) woven-wire filler construction. Gives requirements for lengths, sizes, material, workmanship, tube and cover, cotton duck, wire reinforcement, couplings, strainers, vacuum test, brands, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 33H5e; 1946. Hose, Suction, Water, Smooth-Bore.

U. S. Gov., Navy Dept. Specification 33H23c; 1946. Hose, Oil-and-Gasoline-Suction-and-Discharge, Smooth-Bore, Light-Weight (Circular Woven Fabric, Wire-Inserted).

202.9 MISCELLANEOUS SPECIFICATIONS FOR HOSE

American Standards Assn., J6.1-1945. Specifications for Lineman's Protective Equipment—Rubber Insulating Line Hose—Voltage Rating of Line Hose, 5,000 Volts (American War Standard). Covers rubber insulating line hose, with voltage rating of 5,000 v for use as a portable protective device for protection of electrical workers from accidental contact with live electrical conductors. Gives manufacture, electrical properties, physical properties, dimensions, workmanship and finish, marking, packing, inspection, sampling, rejection, marking rejected material, and methods of testing.

U. S. Gov., Army Air Forces Specification 26601-1; 1945. Hose; Inflatable Shoe Ice-Elimination System.

U. S. Gov., Army Air Forces Specification 41015; 1945. Connector; Quick Acting Hose.

U. S. Gov., Army-Navy Aeronautical Specification AN-H-6b-2; 1945. Hose; 3 Braided Hydraulic.

U. S. Gov., Army-Navy Aeronautical Specification AN-H-24a-1; 1945. Hose; Medium High Pressure Hydraulic.

U. S. Gov., Navy Dept. Specification 33H11c; 1946. Hose, Ships'-Sewage-Disposal, Synthetic-Rubber.

U. S. Gov., Navy Dept. Specification 33H14a, 1945. Hose, Rubber (Synthetic), Wire-Reinforced (for Submarine Rescue Chamber).

U. S. Gov., Navy Dept. Specification 33H19c, 1945. Hose, Paint-or-Dope-Spray.

U. S. Gov., Navy Dept. Specification 33H26a, 1945. Hose, Smooth-Bore (Electrically Heated) (for Plastic Paint).

U. S. Gov., Navy Dept. Specification 33H30, 1945. Hose, Ship-Salvage, Suction-and-Discharge, Synthetic-Rubber, Wire-Stiffened.

203. RUBBER FOOTWEAR, GLOVES, AND CLOTHING

203.1 RUBBER BOOTS, SHOES, AND HEELS

203.13 Rubber Heels

U. S. Gov., Federal Specification ZZ-H-141a; 1946. Heels; Rubber. Covers one grade and two types—(I) half heels and (II) whole heels. Gives requirements for material, workmanship, bid samples, color, shape and size, thickness, nail holes, hardness, resistance to abrasion, accelerated aging test, and non-marking heels; methods of sampling and testing; and packaging, packing, and marking for shipment.

203.2 RUBBER GLOVES

American Standards Assn., M18.29-1945. Specifications for Protective Occupational (Safety) Clothing—Chemical-Resistant Gloves (American War Standard). Provides specifications for rubber, synthetic rubber, or plastic gloves for men and women. Gives applicable specifications, classes of gloves, material and workmanship, general requirements, general physical requirements, detailed tests for chemical resistance, special test for low temperature, and identification.

U. S. Gov., Army Air Forces Specification 3019-G-5; 1941. Gloves; Rubber and Synthetic Rubber.

U. S. Gov., Navy Dept. Specification 37G2d; 1946. Gloves, Synthetic-Rubber.

U. S. Gov., Navy Dept. Specification 37G3b; 1946. Gloves, Rubber, for Electrical Workers (for Use in Connection With Apparatus or Circuits Not Exceeding 3,000 Volts to Ground).

U. S. Gov., Treasury Dept., Procurement Div., 323F; 1945. Gloves, Rubber and Synthetic Rubber; Acid. Shall be of one type and grade, seamless, and with long gauntlets; shaped to conform to hand, with fingers properly proportioned and flexible. Gives requirements for material, length, width, method of measuring sizes, chemical requirements, acid test, physical requirements, aging, and low temperature impact; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 20-130; 1946. Gloves, Synthetic-Rubber.

203.5 RUBBER APRON

U. S. Gov., U. S. Army, Signal Corps Specification 20-94E; 1945. Apron MC-111 (for Battery Room).

203.9 MISCELLANEOUS RUBBER WEARING APPAREL

American Standards Assn., J6.5-1945. Specifications for Lineman's Rubber Protective Equipment—Linemen's Rubber Sleeves—Voltage Rating of Sleeves, 3,000 Volts (American War Standard). Covers linemen's rubber sleeves with voltage rating of 3,000 v for use in conjunction with linemen's rubber gloves for protection from contact with live electrical conductors or apparatus or circuits. Gives manufacture, electrical properties, physical properties, workmanship, marking, guarantee, inspection, sampling,

rejection, marking rejected material, and methods of testing.

U. S. Gov., Federal Specification ZZ-P-41; 1937. Amend. 1; 1945. Pads; Finger, Rubber and Synthetic Rubber, (for) Office Use. Covers a single grade and two types—(I) perforated and (II) without perforations. Gives requirements for material, bid samples, design, dimensions, tensile strength, ultimate elongation, and accelerated aging test; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification BBB-C-606; 1941. Amend. 1; 1946. Coats and Trousers; Rubber-, Synthetic Rubber-, and Synthetic Resin-Coated (Foul-Weather Clothing). Covers two types—(I) coats, in four classes—(A) short (jackets), (B) three-quarter length, (C) workman's, and (D) police, standard weight and (II) trousers, overalls. Gives material and workmanship, composition of coating, color, vulcanizing or curing, odor, cement for hems, tolerances, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

204. DRUGGISTS' RUBBER SUNDRIES

204.1 BANDAGES AND PLASTERS

204.12 Plasters

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 6-50C; 1945. Fabric, Adhesive.

204.2 BAGS, BOTTLES, AND CUSHIONS OF RUBBER

204.24 Rubber Basin

U. S. Gov., Federal Specification ZZ-B-151; 1946. Basins, Hand; Rubber (Natural and Synthetic). Covers one type, grade, and class. Gives requirements for materials, workmanship, description, dimensions, metal, upper edge, joints, heat resistance, and bursting strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

204.25 Rubber Cushions and Pillows

U. S. Gov., Federal Specification ZZ-C-758; 1946. Cushions, Arm; Sponge-Rubber, for Crutches. Covers one type. Gives requirements for material, workmanship, description, dimensions, and construction; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification ZZ-C-786; 1940. Amend. 1; 1945. Cushions, Chair; Sponge-Rubber and Synthetic Rubber. Covers three types—(I) molded form, with molded angular or cylindrical cavities, covered with fabric, (II) covered with fabric (without cavities), and (III) covered by felt or rattan on one side; and two classes—(A) interconnecting cells and (B) closed cells. Natural rubber or synthetic rubber or a suitable mixture shall be used. Gives workmanship, shape and size, bid samples, structure, surfaces, colors, dimensions, shape of cushions, fabric covers, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification ZZ-C-611; 1938. Amend. 1; 1945. Cushion (Underlay); Carpet and Rug, Sponge-Rubber and Synthetic Rubber. Covers one grade, in either strip form or of definite dimensions; in two types—(I) without woven fabric cover or insert and (II) with woven fabric cover or insert. Shall be made of a sponge compound of natural rubber, or synthetic rubber, or of suitable mixtures. Gives requirements for workmanship, dimensions, weight, compressibility, and accelerated aging; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

204.29 Miscellaneous Bags

U. S. Gov., Federal Specification ZZ-B-63; 1946. Bags; Kidney-Compression, Rubber. Covers one type. Gives requirements for material, workmanship, construction, wall thickness, diameter, length of inflation tube, resistance to aging, and inflation; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

204.4 DENTAL RUBBER GOODS

U. S. Gov., Federal Specification ZZ-D-51a; 1946. Dams; Rubber, Dental. Covers one grade. Gives requirements for natural rubber and synthetic rubber, workmanship, thickness, width, length, tensile strength, ultimate elongation, accelerated aging test, and sterilization test; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

204.5 SURGEONS' GOODS

204.54 Stomach and Colon Tubes

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2793A, 1945. Tube, Stomach, Veterinary.

204.59 Miscellaneous Surgeons' Goods

U. S. Gov., Federal Specification ZZ-L-151; 1946. Leaded-Rubber (Roentgen Opaque). Covers two classes—(A) 1/16 in. thickness and (B) 1/8 in. thickness. Gives requirements for lengths, material, synthetic rubber, workmanship, tensile strength, and details for each class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

204.6 RUBBER TUBING

U. S. Gov., Army Air Forces Specification 26806; 1945. Tubing; Buna S (Synthetic Rubber).

204.9 MISCELLANEOUS RUBBER SUNDRIES

204.92 Rubber Cement

U. S. Gov., Army-Navy Aeronautical Specification AN-C-54a; 1946. Cement; Natural Rubber.

U. S. Gov., Federal Specification ZZ-C-191a; 1938. Amend. 2; 1946. Cement; Rubber (Artists' and Photographers') and Cold-Patching. Covers one grade and two types—(I) photographers' and artists' and (II) cold-patching. Gives requirements for materials, composition, color, adhesion, wrinkling, curling, shrinking, staining, and consistency; methods of

sampling, inspection, and tests; and packaging, packing, and marking for shipment.

204.93 Erasers

U. S. Gov., Federal Specification ZZ-E-861a; 1936. Amend. 3; 1945. Erasers; Rubber and Rubber-Substitute. Covers one grade and four types—(A) pencil (eraser), (B) ink (eraser), (C) typewriter, and (D) pencil (rubber-substitute). Gives requirements for material, workmanship, shape, color, size, bid samples, dimensions, hardness, accelerated aging test, and typewriter erasers; methods of sampling, inspection, and tests; and packaging, packing, and marking.

204.95 Rubber Stoppers

U. S. Gov., Federal Specification ZZ-S-751; 1932. Amend. 1; 1945. Stoppers; Rubber and Synthetic Rubber. Covers two types—(A) solid and (B) perforated; and two grades—(I) laboratory and (II) common. Gives requirements for material, workmanship, dimensions of stoppers, perforations, identification, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking.

204.96 Rubber Tips for Crutches and Furniture

U. S. Gov., Federal Specification ZZ-T-351; 1935. Amend. 1; 1945. Tips; Rubber and Synthetic Rubber, (for) Crutches, Furniture, etc. Covers a single grade. Gives requirements for material, workmanship, bid sample, design, dimensions, resistance to abrasion, and accelerated aging; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Navy Dept. Specification 33T3a; 1946. Tips, Rubber (Reclaimed) (for Tables and Benches).

205. HARD-RUBBER GOODS

205.4 TOILET ARTICLES OF HARD RUBBER

U. S. Gov., Federal Specification ZZ-C-551a; 1946. Combs; Rubber (Hard). Covers one grade and two sizes—(A) 7 to 8 in. (dressing) and (B) 4 3/4 to 5 1/4 in. (pocket). Gives requirements for material, workmanship, design, bid samples, color, and dimensions; methods of sampling and inspection; and packaging, packing, and marking for shipment.

206. RUBBER TIRES, CASINGS, AND TUBES

206.0 GENERAL ITEMS

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Agricultural Implement Tires. Standard for Rib Tread, Moderate Traction Tread, Traction Implement, Plow Tail Wheel, Hillside Combine, and Rice Binder, AI-1; 1946. Maximum speed—20 miles per hour. Gives tables showing tire size, ply rating, tire loads at various inflation pressures, recommended load and inflation, recommended rim, maximum tire section, tube group number or size, and valve.

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Agricultural Implement Tires. Standard for heavy Duty Traction, AI-2A; 1946. Maximum speed—10 miles per hour. Gives tables showing tire size, ply rating, tire loads at various inflation pressures, recommended load and inflation, recommended rim, maximum tire section, tube group number or size, and valve.

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Agricultural Tractor Tires. Standard for Front Wheel, AT-1; 1945. Maximum speed—20 miles per hour. Gives tables showing tire size, ply rating, tire loads at various inflation pressures, recommended load and inflation, recommended rim, maximum tire section, tube size or group number, and valve.

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Agricultural Tractor Tires. Standard for Rear Wheel (Cane and Rice), AT-2E; 1946. Maximum speed—20 miles per hour. Gives tables showing tire size, ply rating, tire loads at various inflation pressures, recommended load and inflation, recommended rim, maximum tire section, tire group number or size, and valve.

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Garden Tractor Tires. Standard, AT-3A; 1944. Gives tables showing tire size, ply rating, tire loads at various inflation pressures, recommended load and inflation, recommended rim, maximum tire section, tube size, and valve.

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Industrial Tractor Tires. Standard for Front Wheel (Using Drop Center Rims), ATI-2A; 1945. Maximum speed—20 miles per hour. Gives tables showing tire size, ply rating, tire loads at various inflation pressures, recommended load and inflation, recommended rim, maximum tire section, tube group number or size, valve, and flap.

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Industrial Tractor Tires. Standard for Rear Wheel, ATI-3; 1945. Maximum speed—20 miles per hour. Gives tables showing tire size, ply rating, tire loads at various inflation pressures, recommended load and inflation, recommended rim, maximum tire section, tube group number or size, valve, and flap.

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Industrial Tractor Tires. Standard for Front Wheel (Using Flat Base Rims), RG-3A; 1945. Maximum speed—20 miles per hour. Gives tables showing tire size, ply rating, tire loads at various inflation pressures, recommended load and inflation, recommended rim, maximum tire section, tube group number or size, valve, and flap.

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Agricultural Tractor Tires. Standard for Rear Wheel, WT-2E; 1946. Maximum speed—20 miles per hour. Gives tables showing tire size, ply rating, tire loads at various inflation pressures, recommended load and inflation, recommended rim, maximum tire section, tube size, and valve.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Tires for Motorcycles and Side Cars, Standard. Table MC-1A gives tire loads at various inflation pressures for various tire sizes.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Tires for Passenger Cars and House Trailers, Standard PC-1. Tire loads at various inflation pressures for various sizes of tires together with ply rating, maximum tire rating, recommended rim, maximum tire section, tube size, valve, and permissible rim and tire sections.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Tires for Slow Speed Industrial Vehicles Under 10 Miles Per Hour for Use on Factory Floors and Smooth

- Surfaces, Standard. Table PI-1A gives maximum load and inflation pressures for 2, 4, 6, 8, and 10 ply tires of various sizes, recommended rim, maximum tire section, tube size, and valves.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Earth Moving Vehicles. Assn. Standard, Table EM-2B. For maximum speed of 10 miles per hour. Gives tire size, ply rating, and tire loads at various inflation pressures for tires from 6.50-20 to 30.00-40.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Earth Moving Vehicles. Assn. Standard, Table EM-3C. For maximum speed of 25 miles per hour. Gives tire size, ply rating, and tire loads at various inflation pressures from 6.50-20 to 30.00-40.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Earth Moving Vehicles, General Data. Assn. Standard. Gives tire size, ply rating, recommended and permissible rim, maximum tire section, minimum dual spacing, tube size, valve, and flap for tire sizes from 6.50-20 to 30.00-40.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Light Trucks and House Trailers, General Data for Tires Mounted on Tapered Bead Seat Rims, Experimental Practice. Gives table showing tire size, ply rating, recommended and permissible rims, maximum tire section, minimum dual spacing, tube size, and valve.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Light Trucks and House Trailers, Load and Inflation Table for Tires Mounted on Tapered Bead Seat Rims. Assn. Standard, Table LT-1A. Gives tire size, number of plies, and tire loads at various inflation pressures for tire sizes 6.00-16 to 9.00-16.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Low Platform Trailers. Assn. Standard, Table LP-2. For maximum speed of 20 miles per hour on improved roads. Gives tire size, ply rating, load, inflation, recommended and permissible rim, maximum tire section, tube size, valve, and flap for tires from 6.50-20 to 14.00-24.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Mining and Logging Service on Improved or Maintained Unpaved Roads. Assn. Standard, Table MI-1. For maximum speed of 30 miles per hour. Gives tire size, ply rating, load, inflation, recommended and permissible rim, maximum tire section, minimum dual spacing, tube size, valves, and flap for tires from 7.00-20 to 24.00-32.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Mobile Cranes, Shovels, and Mining Cars. Assn. Standard, Table MP-1F. For maximum speed of 10 miles per hour on improved roads. Gives tire size, ply rating, load, inflation, recommended and permissible rim, maximum tire section, tube size, valve, and flap for tires from 6.50-20 to 14.00-24.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Road Graders, General Data. Assn. Standard. For maximum speed of 25 miles per hour. Gives tire size, ply rating, rim, maximum tire section, tube size, valve, and flap for sizes from 6.00-20 to 10.00-24 using flat base rims, and for tires from 7.50-24 to 14.00-24 using semi-drop center rims.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Road Graders, Load and Inflation. Assn. Standard, Table RG-3A. For maximum speed of 25 miles per hour. Gives tire size, ply rating, and tire loads at various inflation pressures for tires from 6.00-20 to 10.00-24 using flat base rims, and for tires from 7.50-24 to 14.00-24 using semi-drop center rims.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Trucks and Busses in Highway Service, General Data for Tires Mounted on Present Rims. Assn. Standard. Gives table showing tire size, ply rating, recommended and permissible rim, tire width, minimum dual spacing, tube size, valve, and flap for tires from 6.50-17 to 14.00-24.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Trucks and Busses in Highway Service, General Data for Tires Mounted on Rims of Advanced Design, Experimental Practice. Gives table showing tire size, ply rating, recommended and permissible rim, tire width, minimum dual spacing, tube size, valve, and flap for tires from 6.50-17 to 14.00-24.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Tires for Trucks and Busses in Highway Service, Load and Inflation. Assn. Standard, Table TB-2B. Gives tire sizes, ply rating, and tire loads at various inflation pressures.
- U. S. Gov., Joint Army-Navy Specification JAN-P-4A; 1945. Packing for Overseas Shipment; Tires, Tubes, and Flaps for Vehicles.

206.1 PNEUMATIC TIRE CASINGS FOR AUTOMOBILES

- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-120; 1944. Tire Materials and Equipment (for) Repair and Retreading.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-125; 1945. Tires, Military, Pneumatic: Natural and Synthetic Rubber (Except Combat Tires).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-126; 1945. Tires, Pneumatic, Vehicle: Retreading and Repairing Requirements.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-126; 1945. Tires and Accessory Equipment, Combat.

206.2 PNEUMATIC TIRE CASINGS FOR MOTORCYCLES, BICYCLES, AND AIRPLANES

- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type I Airplane Tires, Recommended Practice, Table AP-1. Gives table of rim and tire dimensions, load ratings, and types of valves for various sizes of main wheel tires and tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type I Airplane Tires Service Load and Inflation Tables, Recommended Practice, Table AP-1A. Gives table showing various loads and inflation for various sizes of main wheel tires and tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type I Channel Tread Tail Wheel Tires, Recommended Practice, Table AP-1B. Gives table showing tire and rim sizes, rating, and inflated dimensions for various sizes of tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type I Channel Tread Tail Wheel Tires Service Load and Inflation Tables, Recommended Practice, Table

- AP-1C. Gives table showing load and inflation for type I channel tread tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type II Airplane Tires, Recommended Practice, Table AP-2. Gives table of rim and tire dimensions, load ratings, and types of valves for various sizes of main wheel tires, and tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type II Airplane Tires Service Load and Inflation Tables, Recommended Practice, Table AP-2A. Gives table showing load and inflation for various sizes of type II airplane tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type III Airplane Tires, Recommended Practice, Table AP-3. Gives table of tire and rim dimensions, load ratings, and types of valves for various sizes of main wheel tires and tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type III Airplane Tires Service Load and Inflation Tables, Recommended Practice, Table AP-3A. Gives table showing load and inflation for main wheel tires and tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Beaching Gear Tires, Recommended Practice, Table AP-4. Gives table of tire and rim dimensions, load ratings, and types of valves for various sizes of main wheel tires and tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type VIIA Airplane Tires, Recommended Practice, Table AP-5. Gives table of tire and rim dimensions, load ratings, and types of valves for various sizes of channel tread tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type VIIA Airplane Tires Service Load and Inflation Tables, Recommended Practice, Table AP-5A. Gives table showing load and inflation for various sizes of channel tread tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type VIIB Airplane Tires, Experimental Practice, Table AP-6. Gives table of tire and rim dimensions, load ratings, and types of valves for various sizes of main wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type VIIB Airplane Tires Service Load and Inflation Tables, Experimental Practice, Table AP-6A. Gives table showing load and inflation for various sizes of type VIIB airplane tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Airplane Nose Wheel Tires, Recommended Practice, Table AP-7. Gives table of tire and rim dimensions, load rating, and types of valves for various sizes of type I, type II, type III, and type VI tires.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-82b-2; 1945. Casings; Repair and Treading of Used Aircraft Landing, Nose, Tail, and Beaching Tire.
- U. S. Gov., Army-Navy Aeronautical Specification AN-R-18-1; 1946. Repair and Treading Materials; Aircraft Tire and Inner Tube.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-117; 1944. Tires and Tubes (Inner): Military Bicycle.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-120; 1944. Tire Materials and Equipment (for) Repair and Retreading.

206.3 INNER TUBES FOR PNEUMATIC TIRES FOR AUTOMOBILES

- Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Valves for Tires Shown in This Handbook. Gives drawings with dimensions for seven types, and valve manufacturers' numbers for TR valves.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-121; 1944. Patch, Tube; Self-Vulcanizing.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-127; 1945. Tubes, Pneumatic Military Tire, Vehicle: Inner (Synthetic).

206.4 INNER TUBES FOR PNEUMATIC TIRES OTHER THAN AUTOMOBILES

- Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Valves Used With Tractor and Implement Tires, Standard. Dimensional drawings of various types and table showing valve manufacturers' numbers.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Airplane Valves in Finished Form as Installed on Wheels. Gives drawings with dimensions for various sizes of rubber covered type, rubber base (non-convertible type), and rubber base (convertible type), also valve fittings including bridge washers, ring washers, rim washers, hex nuts, lock nuts, wing nuts, rim slot lugs, and valve caps.
- Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Cushion Tires Cured in Single Tube Pneumatic Industrial Tire Molds, Experimental Practice. For slow speed industrial service under ten miles per hour. Table CI-1 shows maximum load for solid and hollow tires of various sizes.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Convertible Valve Dimension Chart. Assn. Standard. For use in converting single bend valves into other shapes. Gives drawing with tables showing tool setting and dimensions.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Convertible Valves. Assn. Standard. Gives drawings with dimensions for six types.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Dimensions of Convertible Valves Before Bending. Assn. Standard. Gives drawing with table showing dimensions and table showing valve manufacturers' numbers for TR valves.
- Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Straight Valves. Assn. Standard. Gives drawings with dimensions for six types.
- U. S. Gov., Army-Navy Aeronautical Specification AN-R-18-1; 1946. Repair and Treading Materials; Aircraft Tire and Inner Tube.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-78; 1945. Tubes; Aircraft Landing, Nose, Tail, and Beaching Tire, Inner.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-117; 1944. Tires and Tubes (Inner): Military Bicycle.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-121; 1944. Patch, Tube; Self-Vulcanizing.

206.5 SOLID TIRES FOR AUTOMOBILES AND TRUCKS

- Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Industrial Truck and Trailer Solid Tires (Pressed-On

and Cured-On Types). Gives table of maximum loads of various diameters of tires at maximum speed of eight miles per hour.

- Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Standard Industrial Truck and Trailer Solid Tire Sizes for Original Equipment. Gives sizes of tires for pressed-on and cured-on types. These sizes conform to Simplified Practice Recommendation R103-33, U. S. Dept. of Commerce, National Bureau of Standards.
- U. S. Gov., Federal Specification ZZ-T-391a; 1946. Tires; Solid, Industrial, Rubber. Covers one grade and two types—(I) cured on and (II) pressed on. Gives requirements for size, rubber compound, wheels and rims, workmanship, construction, dimensions, hardness, resistance to abrasion, adhesion, marking for identification, age, and rust prevention; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

207. RUBBER AND BALATA BELTING, PACKING, AND GASKETS

207.3 TRANSMISSION BELTING

- U. S. Gov., Treasury Dept., Procurement Div., 578a; 1946. Belting; Power Transmission, Rubber and Fabric, "V" Type (Industrial, Multiple Drive). Shall be made from cleaned cotton or synthetic fabric and rubber compounds. By rubber is meant natural rubber, synthetic rubber, or mixtures thereof. Gives requirements for workmanship, construction, exterior surfaces, included angle, special service, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

208. MISCELLANEOUS RUBBER PRODUCTS

208.1 RUBBER FLOOR COVERINGS

- U. S. Gov., Federal Specification ZZ-C-611; 1938. Amend. 1; 1945. Cushion (Underlay); Carpet and Rug, Sponge-Rubber and Synthetic Rubber. Covers one grade, in either strip form or of definite dimensions; and two types—(I) without woven fabric cover or insert and (II) with woven fabric cover or insert. Shall be made of a sponge compound of natural rubber, or synthetic rubber, or of suitable mixtures. Gives requirements for workmanship, dimensions, weight, compressibility, and accelerated aging; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification ZZ-F-461; 1936. Amend. 2; 1946. Floor-Covering; Rubber, Sheet. Covers one grade, made of a compound of natural rubber, synthetic rubber, or reclaimed rubber, alone or in combination, and cotton sheeting. Gives requirements for workmanship, design, surface, width and thickness, length of roll, rubber compound, hardness, cotton sheeting, flexibility, friction, color and pattern, and fastness to light; methods of sampling, inspection, and tests; and packaging, packing, and marking.
- U. S. Gov., Federal Specification ZZ-T-301; 1938. Amend. 1; 1945. Tile; Floor, Rubber and Synthetic Rubber. Covers a single grade of a compound of vulcanized natural rubber or synthetic rubber or a suitable mixture, with or without fabric. Gives

requirements for workmanship, design, color and pattern, thickness, size of tile, modulus at 10 percent elongation, hardness, fabric, and friction; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification ZZ-M-46; 1940. Amend. 2; 1945. Mats, Floor; Rubber and Synthetic Rubber, Link-Type. Covers one grade and two classes—(A) made of rubber compound and (B) made of a rubberized fabric. Gives requirements for material, workmanship, odor, staining, weight, links, design of mats, dimensions, color, and accelerated aging; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification ZZ-M-71; 1933. Amend. 3; 1945. Matting; Rubber and Synthetic Rubber. Covers one grade and two types—(A) longitudinal corrugations and (B) diamond-shaped, pyramid-shaped, or knob-shaped corrugations. Gives requirements for material, workmanship, design, surface, width and thickness, length of roll, rubber compound, cotton sheeting, flexibility, and friction; methods of sampling, inspection, and tests; and packaging, packing, and marking.
- U. S. Gov., Navy Dept. Specification 27M17a; 1945. Matting, Rubber (Synthetic and/or Reclaimed) (for Use Around Electrical Apparatus or Circuits Not Exceeding 3,000 Volts to Ground).

208.2 RUBBER BANDS

- U. S. Gov., Federal Specification ZZ-B-111; 1931. Amend. 3; 1946. Bands; Rubber. Covers two grades—A and B, made of natural rubber, synthetic rubber, or a mixture of the two. Gives requirements for dimensions and weight, physical requirements, and chemical requirements; methods of sampling, inspection, and tests; and packaging, packing, and marking.

208.4 RUBBER INSULATIONS

- American Standards Assn., J6.1-1945. Specifications for Linemen's Protective Equipment—Rubber Insulating Line Hose—Voltage Rating of Line Hose, 5,000 Volts (American War Standard). Covers rubber insulating line hose, with voltage rating of 5,000 v. for use as a portable protective device for protection of electrical workers from accidental contact with live electrical conductors. Gives manufacture, electrical properties, physical properties, dimensions, workmanship and finish, marking, packing, inspection, sampling, rejection, marking rejected material, and methods of testing.
- American Standards Assn., J6.2-1945. Specifications for Linemen's Protective Equipment—Rubber Insulator Hoods—Voltage Rating of Hoods, 5,000 Volts (American War Standard). Covers rubber insulator hoods with voltage rating of 5,000 v. for use as a portable protective device for protection of electrical workers from accidental contact with live electrical conductors. Gives manufacture, electrical properties, physical properties, dimensions, workmanship and finish, marking, packing, inspection, sampling, rejection, marking rejected insulator hoods, and methods of testing.

American Standards Assn., J6.4-1945. Specifications for Linemen's Rubber Protective Equipment—Rubber Insulating Blankets—Voltage Rating of Blankets, 5,000 Volts (American War Standard). Covers rubber insulating blankets with voltage rating of 5,000 v. for protection of electrical workers from accidental contact with live electrical conductors or apparatus or circuits. Gives manufacture, electrical properties, physical properties, dimensions, workmanship and finish, marking, packing, inspection, rejection, marking rejected material, and methods of testing.

American Standards Assn., J6.5-1945. Specifications for Linemen's Rubber Protective Equipment—Linemen's Rubber Sleeves—Voltage Rating of Sleeves, 3,000 Volts (American War Standard). Covers linemen's rubber sleeves with voltage rating of 3,000 v. for use in conjunction with linemen's rubber gloves for protection from contact with live electrical conductors or apparatus or circuits. Gives manufacture, electrical properties, physical properties, workmanship, marking, guarantee, inspection, sampling, rejection, marking rejected material, and methods of testing.

208.6 RUBBER JAR RINGS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Miscellaneous Publication M181; 1945. Jar Rings for Use in Home Canning, Their Testing, and a Proposed Specification. Gives introduction, variations in jars and tops, laboratory processing of jar rings, methods of measuring physical properties of jar rings, chemical analysis of jar rings, taste imparted to canned food by jar rings, aging of jar rings, canning tests as a basis for development of a jar-ring specification, correlation of properties and composition of jar rings with results of canning tests, and proposed specification for jar rings.

U. S. Gov., Federal Specification ZZ-R-351; 1934. Amend. 1; 1945. Rings; Jar, Rubber and Synthetic Rubber. Covers the "lipped" type of a single grade. Gives requirements for material, dimensions, strength and elongation, accelerated aging test, steam-pressure test, and labels; methods of sampling, inspection, and tests; and packaging, packing, and marking.

208.8 RUBBER MATS

U. S. Gov., Navy Dept. Specification 27M13; 1945. Matting, Synthetic-Rubber (for Attachment to Metal).

208.9 MISCELLANEOUS MECHANICAL RUBBER GOODS

208.92 Ear Cushions

U. S. Gov., Joint Army-Navy Specification JAN-P-356; 1946. Protectors (Plugs), Ear, Synthetic-Rubber; and containers.

208.93 Expansion Joints, Machinery Mountings

American Public Works Assn. Specifications for Portland Cement Concrete Pavement, F1-44; 1944. Includes rubber joint filler. Gives requirements for preformed sponge rubber joint filler and preformed cork-rubber joint filler.

209. MISCELLANEOUS RUBBER MANUFACTURES

209.1 DREDGING SLEEVES

U. S. Gov., Federal Specification ZZ-S-451a; 1946. Sleeves; Dredging. Covers the "wrapped" type and a single grade. Gives requirements for material, workmanship, construction, rubber tube and cover, rubber layer, rubber end caps, cotton duck, reinforcement plies, end covers, branding of sleeves, size and length, and physical test requirements; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

209.5 SQUILGEES

U. S. Gov., Navy Dept. Specification 38S2b, 1945. Squilgees.

209.7 GROMMETS OR BUSHINGS

U. S. Gov., Army-Navy Aeronautical Specification AN-G-21-2; 1944. Grommets; Elastic.

209.9 MISCELLANEOUS RUBBER GOODS

209.91 Rubber Balls

U. S. Golf Assn. Rules for Golf, 1946. Includes requirements for form and make of golf clubs and balls.

209.99 Rubber Goods Not Elsewhere Classified

American Society for Testing Materials, D818-45T; 1945. Approved as SAE Standard by Society of Automotive Engineers. Tentative Specifications for Natural Rubber Cups for Use in Hydraulic Actuating Cylinders. These specifications cover molded cups compounded from natural rubber for use in hydraulic actuating cylinders employing hydraulic brake fluid of nonmineral oil type. Gives resistance to fluids at elevating temperature, effect of fluid pressure at elevated temperature (heat pressure test), stroking test, low-temperature test, aging, workmanship and finish, marking, packaging, inspection and rejection, methods of testing, resistance to fluids at elevated temperature, heat pressure test, stroking test, low-temperature test, aging test, and durometer hardness.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Specifications for Containers for Motor Vehicle Transportation. MC200, Containers for Liquid Nitroglycerin or Diethylene Glycol dinitrate. Covers motor vehicle body and inside containers and boots. Published by American Trucking Assns., Inc., Tariff Bureau.

U. S. Gov., Navy Dept. Specification 33B5a; 1946. Bearing-Strips, Synthetic-Rubber (Water-Lubrication).

U. S. Gov., Navy Dept. Specification 33L2c, 1945. Lining, Rubber (Synthetic), for Salt-Water Lines.

U. S. Gov., Navy Dept. Specification 33L4c, 1945. Lining, Synthetic-Rubber, Oil-Resistant (for Battery Compartments of Submarines).

210-219**GUMS, RESINS, AND BALSAMS****211. TURPENTINE TAR AND PITCH****211.0 GENERAL ITEMS**

American Society for Testing Materials, D804-45T; 1945. Tentative Definitions of Terms Relating to Naval Stores and Related Products. Defines approximately forty terms.

211.2 PINE-TAR OIL

American Society for Testing Materials, D856-45T; 1945. Tentative Methods of Sampling and Testing Pine Tars and Pine-Tar Oils. Covers procedures for sampling and testing pine tars, both kiln and retort, and pine-tar oils, together with compounded tar products of naval stores origin. Gives sampling and preparation of sample; physical tests including condition and appearance, color, specific gravity, viscosity, distillation, moisture, and ash; and chemical analysis including acid number, volatile acids, and copper.

211.3 PINE OIL

U. S. Gov., Federal Specification LLL-O-358; 1945. Oil; Pine. Covers two classes—(A) commercial and (B) steam-distilled or synthetic. Gives requirements for odor, color, water content, specific gravity, polymerization, acid value, and distillation range; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

211.4 TAR (NOT INCLUDING COAL TAR)

American Society for Testing Materials, D856-45T; 1945. Tentative Methods of Sampling and Testing Pine Tars and Pine-Tar Oils. Covers procedures for sampling and testing pine tars, both kiln and retort, and

pine-tar oils, together with compounded tar products of naval stores origin. Gives sampling and preparation of sample; physical tests including condition and appearance, color, specific gravity, viscosity, distillation, moisture, and ash; and chemical analysis including acid number, volatile acids, and copper.

211.5 TALL OIL

U. S. Gov., Navy Dept. Specification 51-0-5; 1945. Oil, Tall.

216. ROSIN

American Society for Testing Materials, D465-45T; 1945. Tentative Method of Test for Acid Number of Dark Rosin. Gives scope, reagents, procedure, and calculation.

American Society for Testing Materials, D509-45; 1945. Standard Methods of Sampling and Grading Rosin. For sampling and determining the grade of rosin delivered in commercial bags, barrels, or drums. Gives apparatus, sampling, grading, and tolerance.

Technical Assn. of the Pulp and Paper Industry. Analysis of Rosin Size, Tentative Standard T 628 m-43; 1943. Deals with the analysis of those rosin sizes made ordinarily by reacting rosin with an alkali. Covers apparatus, reagents, paste size, dry size, and size emulsions.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-73A; 1944. Pitch, Burgundy.

217. MISCELLANEOUS GUMS, BALSAMS, AND RESINS

U. S. Gov., Joint Army-Navy Specification JAN-A-158; 1944. Acacia (Gum Arabic) (Technical Grade).

U. S. Gov., Joint Army-Navy Specification JAN-G-96; 1944. Gum Tragacanth (for Use in Ammunition).

260-269**TOBACCO****260. GENERAL ITEMS**

New York Produce Exchange. Rules Regulating Transactions in Tobacco for Future Delivery, 1936. Gives sixty-four rules in effect among members of the Exchange.

261. TOBACCO, UNMANUFACTURED

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Official Standard Grades

For Dark Air-Cured Tobacco (U. S. Types 35, 36, and 37), 1945. Covers wrapper grades (A-group), heavy leaf grades (B-group), thin leaf grades (C-group), short leaf and tips (T-group), lug grades (X-group), and nondescript and scrap (N- and S-group). Gives general specifications and grade description and specifications for each grade, defines terms, and gives grading rules.

280-289**STARCH AND VEGETABLE GLUE****282. VEGETABLE GLUE**

U. S. Gov., Army Air Forces Specification 14124A, 1945. Glue; Low-Temperature-Setting Resin (Phenol, Melamine, and Resorcinol Base).

U. S. Gov., Army Air Forces Specification 14139; 1945. Glue; High-Temperature-Setting Resin (Phenol, Melamine, and Resorcinol Base).

U. S. Gov., Army Air Forces Specification 14140-1; 1945. Glue; Application of Low-Temperature-Setting Resin (Phenol, Melamine, and Resorcinol).

U. S. Gov., Army Air Forces Specification 14150; 1945. Glue; Application of High-Temperature-Setting Resin (Phenol, Melamine, and Resorcinol).

U. S. Gov., Army Air Forces Specification 20041-2; 1945. Glue; Curing Process, High-Frequency Dielectric Heating.

- U. S. Gov., Army-Navy Aeronautical Specification AN-G-20a, 1945. Glue; Application of Cold-Setting Resin (Urea Type).
- U. S. Gov., Army-Navy Aeronautical Specification AN-TT-G-486-2; 1946. Glue; Aviation-Marine, Waterproof.
- U. S. Gov., Federal Specification C-G-496; 1944. Amend. 2; 1946. Glue; Resin-Type (Liquid and Powder). Covers one grade and three types—(I) powder, with separate catalyst; (II) powder, with incorporated

catalyst; and (III) liquid, with separate catalyst. Gives requirements for mixing, caking of powder glue, mixing properties, pH value of set film, filler, catalyst, working life, block shear strength, and plywood shear strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Navy Dept. Specification 52G11; 1945. Glue, Resin (Urea Formaldehyde) (Room-Temperature-Setting).

290-299

MISCELLANEOUS VEGETABLE PRODUCTS

295. WAX

- U. S. Gov., Joint Army-Navy Specification JAN-W-181; 1945. Wax (Candelilla).

296. INSULATING MATERIALS—ELECTRICAL THERMAL

296.0 GENERAL ITEMS

American Society for Testing Materials, C177-45; 1945. Standard Method of Test for Thermal Conductivity of Materials by Means of the Guarded Hot Plate. Describes procedures to be used in the determination of the thermal conductivity of insulating, building, and other materials. Gives scope, symbols and definitions, apparatus, sampling and preparation of specimens, procedure, calculations, and report.

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS131-46; 1946. Industrial Mineral Wool Products, All Types—Testing and Reporting. Provides uniform methods for testing and reporting the physical and chemical properties of mineral wool products made of rock, slag, or glass and describes equipment to produce standard results. Gives definitions; sampling; methods of testing and reporting adhesive strength, compressive strength, corrosion resistance, coverage, density and thickness, fire resistance, moisture adsorption, odor emission, shot content, temperature resistance, and thermal conductivity; warranty; and notes. Initiated by the Industrial Mineral Wool Institute.

296.2 THERMAL INSULATING MATERIALS

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 197; 1945. Insulation—Space and Air Duct Thermal. Gives grade and type, materials and workmanship, general requirements, detail requirements, and test methods. Developed by National Aircraft Standards Committee.

American Society for Testing Materials, C165-45; 1945. Standard Method of Test for Compressive Strength of Preformed Block Type Thermal Insulation. Gives scope, apparatus, test specimens, procedure, calculations, and report.

American Society for Testing Materials, C166-45; 1945. Standard Methods of Test for Covering Capacity and Volume Change Upon Drying of Thermal Insulating Cement. Gives scope, definitions, apparatus, sampling and mixing, procedure, and calculations.

American Society for Testing Materials, C195-45T; 1945. Tentative Specifications for Mineral Wool Thermal Insulating Cement. Covers thermal insulating material

composed predominantly of mineral wool, in the form of dry cement or plaster. Gives physical properties, sampling and mixing, methods of testing, and rejection.

American Society for Testing Materials, C203-45T; 1945. Tentative Method of Test for Flexural Strength of Preformed Block Type Thermal Insulation. Covers the procedure for determining the flexural strength of preformed block type thermal insulation. Gives apparatus, test specimens, procedure, calculation, and report.

U. S. Gov., Federal Specification HH-C-168; 1946. Cement, Insulation; Thermal, Mineral-Wool. Covers one grade and type. Gives requirements for material, physical properties, temperature resistance, density, covering capacity, shrinkage, thermal conductivity, adhesion to steel, and loss in weight; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification HH-I-578a; 1945. Insulation, Vermiculite; Block and Pipe Covering (Molded). Covers four types—(I) standard thickness, pipe-covering; (II) double standard thickness, pipe-covering; (III) solid thickness, pipe-covering; and (IV) block. Shall be made of expanded or exfoliated mica, long fiber asbestos, and a suitable binder. Gives general requirements and detail requirements for each type; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification HH-M-61a; 1945 and Amend. 1; 1945. Magnesite; Block, Cement, and Pipe-covering (Molded). Covers one grade and four types—(I) standard thickness, (II) double standard thickness, (III) blocks, and (IV) cement or plaster. Shall contain not less than 85 percent of pure hydrated magnesium carbonate and not less than 10 percent long-fiber asbestos. Gives general requirements and detail requirements for each type; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification HH-M-371a; 1945. Mineral-Wool, Impregnated; Blanket, Block, and Pipe Covering (Molded) (for Low Temperatures). Includes five types—(I) molded block; (II) molded sectional pipe covering, ice water thickness; (III) molded sectional pipe covering, brine thickness; (IV) molded sectional pipe covering, heavy brine thickness; and (V) felted blanket. Gives requirements for material, workmanship, sulphur, heat and cold test; moisture absorption, modulus of rupture, thermal conductivity, density, accessories, and details for each type;

methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 32C14h; 1946. Cement, Insulation, High-Temperature.

U. S. Gov., Navy Dept. Specification 32F4a; 1946. Felt, Insulating, Mineral.

U. S. Gov., Navy Dept. Specification 32G2d, 1945. Glass, Fibrous, Insulating.

U. S. Gov., Navy Dept. Specification 32G4b; 1945. Grog, Insulating, Granular, Calcined.

U. S. Gov., Navy Dept. Specification 32G9; 1946. Glass Fibrous: Cloth, Tape, and Thread (for Lagging Insulation).

U. S. Gov., Navy Dept. Specification 32-I-3c, 1946. Insulation, Thermal, Block.

296.4 ACOUSTICAL INSULATING MATERIALS

U. S. Gov., Army-Navy Aeronautical Specification AN-S-32a-2; 1945. Soundproofing and Insulating Materials.

296.9 MISCELLANEOUS INSULATING MATERIALS

U. S. Gov., Navy Dept. Specification 52C23a, 1945. Cement, Adhesive (for Fibrous Glass Insulation and Corkboard).

300-309

COTTON, COTTON FABRICS, AND KNIT GOODS

300. GRADES, DEFINITIONS, AND TESTS
OF COTTON

300.0 GENERAL ITEMS

American Society for Testing Materials, D861-45T; 1945. Tentative Recommended Practice for a Universal System of Yarn Numbering. Intended to provide a universal method for designating the number of yarn made from any type of fiber and is based on the grex system of designating the number of yarn. Gives definitions, and recommended applications, and appendix.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Circular C455; 1946. Flameproofing of Textiles. Textile flameproofing is applied chiefly to cotton, rayon, and other fibers of vegetable origin. Covers principles of flameproofing, historical notes, types of treatments, processes and formulas, tests and testing methods, and references.

U. S. Gov., Navy Dept. Specification 51T13; 1946. Treatment; Fire-, Laundry-, Dry-Cleaning-, and Mildew-Resistant (for Cotton Fabrics).

300.4 GENERAL METHOD OF TESTING COTTON
FABRICS

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Accelerated Ageing Test. For textiles dyed with sulfur colors (tentative method). Covers scope, apparatus, test specimens, procedure, and evaluation of results.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Determination of Water Resistance of Fabrics. Standard method of test of textile fabrics—(1) hydrostatic pressure resistance; (2) resistance to water spray; (3) absorption of water during immersion; and (4) resistance to penetration of water by impact. Covers scope, apparatus, materials, test specimens, procedure, and evaluation.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Evaluation of Compounds Designed to Increase the Resistance of Fabrics and Yarns to Insect Pests (Tentative Method). It comprehends not only the initial protection furnished by the treatment in question, but also the permanency of this protection during conditions of ordinary use. Covers scope, test specimens, procedure, classification, and report.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Group C—Colorfastness Tests for Cotton and Linen Textiles. C-1—Official standard method of test for colorfastness to commercial laundering and to domestic washing of cotton and linen textiles; and C-2—Tentative standard method of test for colorfastness to chlorine (sodium hypochlorite) of cotton and linen textiles. Covers scope, apparatus, materials, test specimens, procedure, evaluation and classification, and standards for comparison.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Group M—Colorfastness Tests for Textiles Made of Manufactured Organic Fibers. M-1—Tentative standard method of test for colorfastness to commercial laundering and to domestic washing of textiles composed of manufactured organic fibers. Covers scope, apparatus, materials, test specimens, tests, procedure for all tests, evaluation, colorfastness classification and report, and standards for comparison.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Group S—Colorfastness of Silk Textiles. S-1-M—Official standard method of test for colorfastness to mill washing of silk and of dyestuffs on silk; S-2—official standard method of test for colorfastness to degumming of silk; and S-3—official standard method of test for colorfastness to peroxide bleaching of dyed silk. Covers scope, apparatus, materials, test specimens, procedure, and evaluation.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Group W—Colorfastness of Wool Textiles. W-1—Tentative standard method of test for colorfastness to laundering and domestic washing of wool textiles; W-2—official standard method of test for colorfastness to mill washing and scouring; W-3—official standard method of test for colorfastness to fulling of textiles. Covers scope, apparatus, materials, test specimens, procedure, and evaluation and classification.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Launder-Ometer. Standard machine for laboratory washing tests for testing fastness of dyed textile materials. Consists of a copper tank upon a rigid angle-iron frame, with a special brass and aluminum rotor that carries twenty standard pint jars in which the tests are made.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Methods of Fiber Identification and Quantitative Separation (Tentative). Covers burning tests, color tests, solubility tests, and microscopic examination; classifies fibers as mineral, cellulose, and protein; methods of procedure; qualitative analysis of fibers; microscopical appearance of hairs, bast fibers, and artificial fibers; microscopical recognition of fibers; photographs of common textile fibers; identification of synthetic fibers; quantitative analysis; and basic properties of textile fibers.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Official Standard Method of Test for Colorfastness to Acids and Alkalies of Textiles. Covers scope, apparatus, materials, test specimens, procedure, and evaluation and classification.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Official Standard Method of Test for Colorfastness to Carbonizing of Wool Textiles. Covers scope, apparatus, materials, test specimens, procedure, and evaluation and classification.

- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Official Standard Method of Test for Colorfastness to Perspiration of Textiles. Covers scope, apparatus, materials, test specimens, types of test, procedure, and evaluation and classification.
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Official Standard Method of Test for Colorfastness to Rubbing (Crocking) of Textiles. Gives scope, apparatus, materials, test specimens, procedure, and evaluation and classification.
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Official Standard Method of Test for Colorfastness to Sea Water of Textiles. Covers scope, apparatus, materials, test specimens, procedure, and evaluation and classification.
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Official Standard Method of Test for Colorfastness to Stoving of Textiles. Covers scope, apparatus, materials, test specimens, procedure, evaluation and classification, and standards for comparison.
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Official Standard Method of Test for Evaluating Wetting Agents. Covers scope, apparatus, materials, test specimens, procedure, evaluation, determination of the wetability of yarns and threads, comparison of wetting agents for mercerizing liquors (tentative method), and comparison of rewetting agents (tentative method).
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Official Standard Method of Test for Shrinkage of Textiles. A—cotton and linen and B—fibers other than cotton and linen. Covers scope, apparatus, materials, test specimens, procedure, washing, drying, pressing, and evaluation.
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Standard Methods for Determining the Fastness of Dyestuffs on the Fiber. These methods are classified in groups—group C, dyed or printed cotton; group M, dyed or printed manufactured fibers; group S, dyed or printed silk; and group W, dyed wool. Each group is given numbered fastness tests for that fiber, such as laundering and domestic washing, chlorine, degumming, peroxide bleaching, scouring and mill washing, and fulling. Also indicates the methods for fastness, sizing and finishing, waterproofing, shrinkage, transference of color, moth proofing, mercerization, weighting tests, etc. Refers to standard dyed samples for use in grading which have been prepared by the Assn.
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Tentative Standard Method of Test for Colorfastness to Atmospheric Gases of Dyes on Cellulose Acetate Rayon. Covers scope, apparatus, materials, test specimens, procedure, and evaluation.
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Tentative Standard Method of Test for Colorfastness to Dry Cleaning of Textiles. Covers scope, apparatus, materials, test specimens, procedure dry test, procedure wet test, and evaluation and classification.
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Tentative Standard Method of Test for Colorfastness to Light of Textiles. Covers scope, apparatus and materials, test specimens, tests, procedure, evaluation, standard sun test, artificial light test, standard dyeings, and weathering test.
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Tentative Standard Method of Test for Evaluation of Fabric Pest Deterrents. For testing of fabrics or yarns which contain wool or other susceptible fibers for resistance to webbing clothes moths and black carpet beetles' larvae. Covers scope, test specimens, excrement weight method, fabric loss method, a tentative procedure for rearing and handling the black carpet beetle, and tentative procedure for rearing and handling the webbing clothes moth.
- American Assn. of Textile Chemists and Colorists. 1945 Year Book. Tentative Standard Methods of Test for Transference of Color. (1) Tentative standard method of test for colorfastness of textiles to dry and wet heat and (2) tentative standard method of test for colorfastness of cotton and linen to peroxide bleaching. Covers scope, apparatus, materials, test specimens, procedure, and evaluation and classification.
- American Assn. of Textile Chemists and Colorists. Supplement to 1945 Year Book. Determination of Copper and Iron in Textiles. Copper in textiles includes standard copper solution, carbamate reagent, preparation of samples, and determination of copper; and alternative method for copper and iron includes digestion, colorimetric comparison for copper, and iron determination.
- American Assn. of Textile Chemists and Colorists. Supplement to 1945 Year Book. Determination of Degree of Mercerization of Cotton. Standard method of test covers barium activity numbers and determination.
- American Assn. of Textile Chemists and Colorists. Supplement to 1945 Year Book. Determining of Finishing Materials in Textile Fabrics. A Proposed Method. The practice of textile finishing involves the use of an exceedingly great number of substances which are used alone or in combination with each other. Covers general scheme including petroleum ether soluble, alcohol soluble, water soluble, starches, and ash.
- American Assn. of Textile Chemists and Colorists. Supplement to 1945 Year Book. Determination of Manganese in Textiles. Standard method of test covers preparation of samples, determination of manganese, and standard permanganate solutions.
- American Assn. of Textile Chemists and Colorists. Supplement to 1945 Year Book. Determination of Weighting in Silk. Standard method of test covers determination of weighting, finishing materials, and total weighting.
- American Assn. of Textile Chemists and Colorists. Supplement to 1945 Year Book. Identification of Finishing Materials. For the identification and determination of individual constituents. Covers oils, fats and waxes, naphthenic sulfonates, solubilized oils and fats, rosin, glycerine and glycols, albumen, casein, glue and gelatin, dextrin, starch, sugars, inorganic fillers, and urea-formaldehyde resin.

American Society for Testing Materials, D506-45T; 1945. Tentative Method of Test for Fastness of Colored Textiles to Light. Applicable to all colored textiles and is intended for determining the fastness of the color to sunlight or artificial light. Gives standard dyeings, test specimens, apparatus, procedure, degree of fading, and classification of fastness of color.

American Society for Testing Materials, D684-45T; 1945. Tentative Methods of Test for Resistance of Textile Materials to Microorganisms. Methods are applicable to all types of textile materials regardless of the kinds of fiber used in their manufacture. Gives test organisms, inoculum, subcultures of chaetomium globosum, subcultures of aspergillus niger, preparation of test specimens, sterilization of test specimens, inoculation, incubation, visual examination, determination of breaking strength, and report for accelerated mildew infection method; and soil, soil beds, temperature of soil, moisture content of soil, test specimens, burial of specimens, breaking strength, soil calibration tests, and report for soil burial method.

American Society for Testing Materials, D662-45T; 1945. Tentative Methods of Test for Evaluating Treated Textiles for Permanence of Resistance to Microorganisms. Gives scope, test specimens, resistance to microorganisms, water leaching, heat, steam sterilization, light and laundering.

Textile Color Card Assn. of the U. S., Inc. Spectrophotometric and Colorimetric Determination of the Colors of the TCCA Standard Color Cards, 1946. Performs two distinct services for the textile and allied industries. First is a color forecasting service and second is to standardize colors. Covers general considerations, method, results, discussion, fundamental specification of the TCCA standards, summary, and literature references.

U. S. Gov., Federal Specification CCC-T-191a; 1937. Amendment 2; 1945, and Supplement, 1945. Textiles; General Specifications, Test Methods. Covers the general physical and chemical methods for testing textiles for conformance with the requirements of Federal specifications. It does not include the special test methods applicable to certain materials which are designated in the appropriate specifications nor does it by any means include all of the textile methods used in the industry.

300.5 TEXTILE TESTING MACHINES

American Society for Testing Materials, D76-45; 1945. Standard Specifications for Textile Testing Machines. Cover descriptions of testing machines generally applicable for the determination of certain physical characteristics of textile materials. Gives requirements for breaking strength and elongation testing machines, thickness gage, bursting testers, and twist testers.

300.6 DEFINITIONS OF TEXTILE TERMS

American Society for Testing Materials, D123-45; 1945. Standard Definitions of Terms Relating to Textile Materials. The definitions of terms included in this standard cover, in most cases, special meanings used in the textile industry; for words in common

use outside the industry, no attempt is made to give all common meanings of the various terms.

American Society for Testing Materials, D123-45T; 1945. Tentative Definitions of Terms Relating to Textile Materials. Gives part A—definitions of terms relating to textile materials and part B—list of man-made and natural fibers including table I—man-made or synthetic fibers and filaments and table II—natural fibers—(A) animal fibers, (B) mineral fibers, (C) vegetable fibers—seed and fruit hair fibers, (D) vegetable fibers—bast and leaf fibers, and (E) vegetable fibers—palm and miscellaneous fibers.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS28-46; 1946. Cotton Fabric Tents, Tarpaulins, and Covers. Provides the basis and method of marking the type, weight, and size of cotton fabric tents, tarpaulins, and covers, either treated or untreated. Covers definitions for treated, cover, tent, and cut size; requirements for marking weight, weight tolerance, used goods, and marking size; labeling; nomenclature of drill, duck, jean, osnaburg, and sheeting; conversion tables; and appendix. Initiated by National Canvas Goods Manufacturers' Assn., Inc.

301. PARTIALLY MANUFACTURED COTTON

301.2 CAULKING COTTON

U. S. Gov., Joint Army-Navy Specification JAN-C-269; 1945. Cotton, Caulking.

U. S. Gov., Navy Dept. Specification 21C7, 1945. Cotton, Caulking, Treated.

301.3 LINTERS

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 18. Cottonseed Linters. Rules 130 to 136. Covers American cotton linters, excess of low grades, rejections and replacements, linters made from burned or damaged seed, linters containing excess trash, cottonseed hull fiber, and standard weight and dimensions.

301.4 MATTRESS FILLING

U. S. Gov., Navy Dept. Specification 27F9a; 1945. Felt, Garnetted (for Mattress Filling).

301.9 MISCELLANEOUS PARTIALLY MANUFACTURED COTTON

U. S. Gov., U. S. Army, Ordnance Dept. Specification 6-339; 1944. Flock, Cotton.

302. COTTON YARN, THREAD, AND CORDAGE

302.2 COTTON THREAD

302.20 General Items

U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-57; 1946. Packaging and Packing of Thread.

302.22 Sewing Machine Thread

U. S. Gov., Federal Specification V-T-276b; 1937. Amend. 3; 1945. Thread; Cotton. Covers three types—(I) machine, in three finishes—(IA) soft, (IB) glazed silk, and (IC) mercerized; (II) basting, in one finish—(IIA) glazed silk; and (III) heavy,

unbleached, bleached white, or in colors, in two finishes—(IIIA) soft and (IIIB) glazed silk. Gives requirements for material, workmanship, balance, sewing quality, finish, ply knots and yarn splices, direction of twist, color, fastness to laundering, and physical properties; methods of sampling, inspection, and tests; and packaging, packing, and marking.

302.3 COTTON TWINE

302.31 Cable Laid Twine

U. S. Gov., Navy Dept. Specification 21T4e, 1945. Twine, Cotton, Mattress, Polished (for Use in Tufting Machines).

302.32 Cotton Seine Twine

U. S. Gov., Federal Specification T-T-881a; 1933. Amend. 1; 1945. Twine; Cotton, Seine. Covers one grade in commercial numbers 6, 9, 12, 15, 18, 24, 30, 36, 48, 72, 84, 96, 108, 120, 144, and 168. Gives requirements for material and workmanship, plies per strand, lengths per pound, and breaking strength; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Navy Dept. Specification 21C6c; 1946. Clothes-Stops.

302.4 COTTON ROPES AND CORDS

302.44 Halyards

U. S. Gov., Joint Army-Navy Specification JAN-H-226; 1945. Halliards, Signal, Braided (Treated).

302.45 Lacing Cord

U. S. Gov., Joint Army-Navy Specification JAN-L-396; 1946. Laces, Legging.

302.46 Sash Cord

U. S. Gov., Federal Specification T-C-571a; 1936. Amend. 3; 1945. Cord, Sash; Cotton, Braided. Covers two types—(A) unfinished and (B) polished. Gives requirements for material and workmanship, size, diameter, breaking strengths, number of strands, length per pound, weight of core for each size, non-fibrous material and stretch; methods of sampling, inspection, and test; and packaging, packing, and marking.

302.49 Miscellaneous Cotton Cords and Ropes

U. S. Gov., Army-Navy Aeronautical Specification AN-C-122-1; 1945. Cord; Braided Cotton.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-139; 1945. Cord; Prewaxed Braided Cotton.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 6-363; 1946. Cord and Rope; Cotton, Braided.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 13-11; 1946. Rope, Tent-Lay.

303. COTTON MECHANICAL FABRICS

303.0 GENERAL ITEMS

U. S. Gov., U. S. Army, Quartermaster Corps Specification 6-349; 1945. Dyeing and Finishing of Cotton Duck and Twill.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-42; 1945. Packing Requirements for Fabrics for Tentage and Equipage.

303.1 COTTON DUCK

U. S. Gov., Navy Dept. Specification 24C8h, 1945. Canvas, Cotton.

U. S. Gov., Navy Dept. Specification 24C20b; 1946. Canvas, Cotton; Fire-, Water-, and Weather-Resistant.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 6-342; 1945. Duck; Cotton, Plied-Yarns (Army, Numbered and Special Use).

303.5 TENT DUCK

U. S. Gov., Marine Corps Specification, revised 1945. Duck; Cotton, Plied-Yarns (Army, Numbered and Tent-Duck).

303.9 MISCELLANEOUS MECHANICAL FABRIC OF COTTON

303.95 Waterproof Duck

U. S. Gov., U. S. Army, Quartermaster Corps Specification 6-345; 1945. Duck, Cotton; Fire-, Water-, Weather-, and Mildew-Resistant.

304. COTTON CLOTH, BLEACHED AND UN-BLEACHED

304.1 COTTON CLOTH, PLAIN

U. S. Gov., Joint Army-Navy Specification JAN-C-332; 1946. Cloth, Cotton, Fine, Plain.

304.2 FLANNEL

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R186-44; 1944. Cotton Canton Flannels for Work Gloves. This recommendation establishes a simplified list of weights and weaves for cotton flannel used in the production of work gloves. Gives a table showing width, type of weave, thread count filling, and weights for unbleached cantons, striped cantons, and colored fleeces.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 6-346; 1945. Cloth, Cotton, Flannel.

304.4 DRILL

U. S. Gov., Joint Army-Navy Specification JAN-C-300; 1946. Cloth, Cotton, Drill (Fully Shrunk).

304.7 SHEETINGS

304.71 Sheetings, Bleached and Unbleached

U. S. Gov., Federal Specification CCC-S-271a; 1943. Amend. 1; 1945. Sheeting; Cotton, Bleached, Wide. Covers two classes—(A) 4.6 oz. per sq. yd. (74x66) and (B) 4.0 oz. per sq. yd. (68x80). Gives requirements for material, workmanship, weave, width, commercial designation, weight, thread count, breaking strength, and total sizing; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification CCC-S-291a; 1943. Amend. 1; 1945. Sheeting; Cotton, Unbleached, Wide.

Covers two classes—(A) 4.7 oz. per sq. yd. (68x72) and (B) 4.1 oz. per sq. yd. (64x64). Gives requirements for material, workmanship, weave, length of bolt or roll, width, commercial designation, weight, thread count, and breaking strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Joint Army-Navy Specification JAN-C-380; 1946. Cloth, Cotton, Sheeting, Coating-Quality.

U. S. Gov., Navy Dept. Specification 27S11a, 1946. Sheeting, Cotton, Bleached and Unbleached, Preshrunk.

306. COTTON CLOTH, PRINTED, DYED, COLORED, OR WOVEN FIGURED

306.0 GENERAL ITEMS

Textile Color Card Assn. of the U. S., Inc. V-E Day Colors, 1945. Issued V-E day as a tribute to men in the armed services. Presents six colors; infantry blue, artillery scarlet, air corps blue, tank force orange, marines' blue, and navy gray.

306.1 DRESS MATERIAL

306.16 Seersucker

U. S. Gov., Joint Army-Navy Specification JAN-C-343; 1946. Cloth, Cotton, Seersucker.

U. S. Gov., Marine Corps Specification, 1944. Cloth, Cotton, Seersucker (Woven), Green and White Striped.

306.2 LINING MATERIALS

306.21 Canvas, Crinoline, and Buckram

U. S. Gov., Joint Army-Navy Specification JAN-C-331; 1946. Cloth, Cotton, Buckram, White.

306.23 Padding

U. S. Gov., Joint Army-Navy Specification JAN-C-340; 1946. Cloth, Padding, Canvas.

306.24 Sateen and Silesia

U. S. Gov., Joint Army-Navy Specification JAN-C-326; 1946. Cloth, Cotton, Silesia.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 6-337A; 1946. Cloth, Cotton, Wind-Resistant, Sateen, 9-Oz.

306.29 Miscellaneous Lining Materials

U. S. Gov., Joint Army-Navy Specification JAN-C-297; 1946. Cloth, Cotton, Worsted-Spun-Hair-Filling.

306.3 SUITING, COTTON

306.32 Uniform Cloth, Cotton

U. S. Gov., U. S. Army, Army Air Forces Specification 6-338; 1945. Cloth; Cotton Element Mercerized.

306.35 Print Cloth

U. S. Gov., Joint Army-Navy Specification JAN-C-299; 1946. Cloth, Cotton, Print.

306.36 Cotton Twill

U. S. Gov., Army-Navy Aeronautical Specification AN-C-103a-1; 1945. Cloth; Cotton Twill.

U. S. Gov., Joint Army-Navy Specification JAN-C-298; 1946. Cloth, Cotton, Uniform-Twill.

U. S. Gov., Joint Army-Navy Specification JAN-C-302; 1946. Cloth, Cotton, Albert-Twill, 5-Ounce.

U. S. Gov., Joint Army-Navy Specification JAN-C-304; 1946. Cloth, Cotton, Twill, 5-Ounce.

U. S. Gov., Joint Army-Navy Specification JAN-C-342; 1946. Cloth; Cotton, Wind-Resistant, Twill and Poplin.

306.4 BUNTING

306.43 Cotton Flags

U. S. Gov., U. S. Army, Signal Corps Specification 72-3-A, 1945. Flag MC-44 and Case CS-16.

U. S. Gov., U. S. Army, Signal Corps. Specification 72-42-A, 1945. Flag Set M-238 (Tank).

306.44 Wool Flags

U. S. Gov., Marine Corps Specification Adopted 1945. Flags, Bunting (for General Officers).

306.45 Silk Flags

U. S. Gov., Marine Corps Specification, revised 1945. Flag, Marine Corps Standard.

306.46 Flag Kits

U. S. Gov., U. S. Army, Signal Corps Specification 72-3-A, 1945. Flag MC-44 and Case CS-16.

U. S. Gov., U. S. Army, Signal Corps Specification 72-9-A, 1945. Flag Set M-133.

308. MISCELLANEOUS COTTON CLOTH

308.9 MISCELLANEOUS SPECIFICATIONS FOR COTTON FABRICS

U. S. Gov., Joint Army-Navy Specification JAN-C-325; 1946. Cloth, Cotton, Broadcloth.

U. S. Gov., Joint Army-Navy Specification JAN-G-329; 1946. Gimp, Cotton (Buttonhole).

U. S. Gov., Navy Dept. Specification 27F11; 1945. Fabric, Coated, Flameproofed (for Bedding Covers).

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-13; 1944. Fabric, Impregnated, Camouflage, Flame-Resistant.

309. COTTON KNIT GOODS

309.2 HOSIERY

U. S. Gov., Marine Corps Specification, 1945. Stockings, Cotton, Beige (Marine Corps Women's Reserve).

309.3 KNIT COTTON CLOTH

U. S. Gov., Federal Specification JJ-S-746; 1945. Stockinet, Tubular (Cotton, Elastic, Washable). Covers two types—(I) rib knit unbleached (natural color) or bleached and (II) plain or flat knit olive drab. Gives requirements for widths, material, workmanship, knitting, color, length, elongation, physical requirements, and cutting; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

309.4 KNIT UNDERWEAR

U. S. Gov., Treasury Dept., Procurement Div., 751; 1946. Drawers; Men's Cotton, Woven (Shorts). Covers one type and two classes—(B) broadcloth and (C) nainsook. Gives requirements for sizes, material,

workmanship, general designs, shrinkage, sizing, color, stitching and seaming, thread, buttons, buttonholes, waist eyelets, bartacks, tie tapes, waistband, front opening, body seams, body pleats, leg bottom hems, location of buttons, location of

buttonholes, location of tie tapes, location of waist eyelets, sizes and measurements, size marking, bid samples, and details; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

310-319

MANUFACTURES OF COTTON FABRIC

310.0 GENERAL ITEMS

American Institute of Laundering. Technical Tests and Standards as Established for "Laundry-Tested and Approved" Products, 1944. Generally, laundering tests comprise continuous laundering of the product to be tested under specified plant-scale laundering procedures. The number of launderings constituting test procedure is based on an estimated service expectancy of the product. Gives details of various washing formulas and finishing procedures used in laundering tests.

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS128-45; 1945. Men's Sport Shirt Sizes—Woven Fabrics (other than those marked with regular neckband sizes). To provide standard size designations, methods of measuring, and standard minimum measurements for men's sport shirts. Gives application, general requirements, standard methods of measuring, standard minimum measurements, and labeling. Initiated by the National Assn. of Shirt and Pajama Manufacturers.
- U. S. Gov., Marine Corps Specification, revised 1945. General Specification for Processing Fabrics. (Mildewproof and Water-Repellent Requirements.)
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-63; 1946. Packaging and Packing of Cotton Fabrics (except Cotton Duck and Coated Cotton Fabrics).

311. COTTON OUTERWEAR

311.1 COATS AND JACKETS, COTTON

- U. S. Gov., Army Air Forces Specification 3243-1; 1945. Jacket; Nurses Flying, Very Light, Type K-1.
- U. S. Gov., Marine Corps Specification, revised 1945. Coat, Dress, Summer (Marine Corps Women's Reserve).
- U. S. Gov., Marine Corps Specification, revised 1945. Coat Service, Summer (Marine Corps Women's Reserve).
- U. S. Gov., Marine Corps Specification, 1945. Coat, Service, Summer, "LS" (Marine Corps Women's Reserve).
- U. S. Gov., Marine Corps Specification, revised 1945. Coat, Utility.
- U. S. Gov., Marine Corps Specification, 1945. Coat, Utility (Marine Corps Women's Reserve).
- U. S. Gov., Marine Corps Specification, revised 1945. Jacket, Field (Marine Corps Women's Reserve).
- U. S. Gov., Marine Corps Specification, 1944. Vest, Alpaca Lined.
- U. S. Gov., Treasury Dept., Procurement Div., 750; 1946. Coats, Attendants'; Men's Cotton. Covers one grade and two types—(I) standing collar and (II) turndown collar. Gives requirements for sizes, material, workmanship, fabric, dimensions, stitching and seaming, thread, buttons, buttonholes, eyelets, back facing, hems, hanger loops, size labels, and

details for each type; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

311.3 WORK CLOTHING

American Standards Assn., L18.26-1945. Specifications for Protective Occupational (Safety) Clothing—Flame-Resistant Fabric Spats (American War Standard). It is intended that the spats specified shall afford limited protection to the foot and ankle of the wearer, from hot metal splash and sparks. Gives types and sizes, pattern and design, construction, materials, methods of test, identification, and appendix.

American Standards Assn., L18.23-1945. Specifications for Protective Occupational (Safety) Clothing—Flame-Resistant Fabric Coats (American War Standard). It is intended that the coats specified shall afford limited protection from metal splash and sparks. Gives types, sizes and dimensions, pattern and design, construction, materials, methods of test, and identification.

American Standards Assn., L18.24-1945. Specifications for Protective Occupational (Safety) Clothing—Flame-Resistant Fabric Pants (American War Standard). It is intended that the pants specified shall afford limited protection to the wearer's legs from metal splash and sparks. Gives types, sizes and dimensions, pattern and design, construction, materials, methods of test, and identification.

American Standards Assn., L18.25-1945. Specifications for Protective Occupational (Safety) Clothing—Flame-Resistant Fabric Coveralls, Jumper Suits (American War Standard). It is intended that the coveralls specified shall afford limited protection to the body of the wearer from metal splash and sparks. Gives types, sizes and dimensions, pattern and design, construction, materials, methods of test, identification, and appendix.

U. S. Gov., Joint Army-Navy Specification JAN-J-53-2; 1946. Jumpers, Dungaree.

311.4 PANTS, TROUSERS, AND BREECHES, OF COTTON

- U. S. Gov., Army Air Forces Specification 3242-1; 1945. Slacks; Nurses Flying, Very Light, Type K-1.
- U. S. Gov., Joint Army-Navy Specification JAN-T-52-1; 1945. Trousers, Dungaree.
- U. S. Gov., Marine Corps Specification, 1944. Culotte, Utility (Marine Corps Women's Reserve).
- U. S. Gov., Marine Corps Specification, revised 1945. Pants, Baseball.
- U. S. Gov., Marine Corps Specification, revised 1945. Pants, Basketball.
- U. S. Gov., Marine Corps Specification, 1944. Slacks, Utility (Marine Corps Women's Reserve).

- U. S. Gov., Marine Corps Specification, revised 1945. Trousers, Service, Summer.
- U. S. Gov., Marine Corps Specification, revised 1945. Trousers, Utility.
- U. S. Gov., Marine Corps Specification, revised 1945. Trousers, White.

311.5 COTTON SHIRTS

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS135-46; 1946. Men's Shirt Sizes (exclusive of Work Shirts). To provide standard methods of measuring and standard minimum measurements for the guidance of producers, distributors, and users and to provide a uniform basis for guaranteeing full size. Covers men's shirts, exclusive of work shirts, whether made of shrunk or unshrunk material. Gives application, general requirements, methods of measuring, minimum measurements, and labeling.
- U. S. Gov., Marine Corps Specification, revised 1945. Shirt, Baseball.
- U. S. Gov., Marine Corps Specification, revised 1945. Shirt, Cotton; Khaki (Marine Corps Women's Reserve).
- U. S. Gov., Marine Corps Specification, 1945. Shirt, Dress, Gray.
- U. S. Gov., Marine Corps Specification, 1945. Shirt, Sweat.
- U. S. Gov., Marine Corps Specification, 1944. Shirt, Utility (Marine Corps Women's Reserve).
- U. S. Gov., Navy Dept. Specification 55S20f; 1946. Shirts, Chambray, Blue.

311.6 SUITS AND UNIFORMS, COTTON

- U. S. Gov., Army Air Forces Specification 3232-2; 1945. Suit; Flying, Very Light, Cotton Twill, Type K-1.
- U. S. Gov., Marine Corps Specification, revised 1944. Suit, Exercise (Marine Corps Women's Reserve).
- U. S. Gov., Navy Dept. Specification 55U10; 1945. Uniforms, Working, Gray, Women's Naval Reserve.

311.8 BELTS

- U. S. Gov., Marine Corps Specification, adopted 1946. Belt, Cloth, Blue.
- U. S. Gov., Marine Corps Specification, adopted 1945. Belt, Web, Dress (W/O Waist Plate).

311.9 MISCELLANEOUS COTTON OUTERWEAR

311.92 Aprons and Bibs

- American Standards Assn., L18.21-1945. Specifications for Protective Occupational (Safety) Clothing—Flame-Resistant Fabric Aprons, Bib Type (American War Standard). It is intended that the aprons specified shall afford limited protection to the front of the wearer, including the chest, from metal splash and sparks. Gives types, sizes and dimensions, pattern and design, construction, materials, methods of test, and identification.
- U. S. Gov., Federal Specification DDD-A-626; 1945. Aprons; Operating, Cotton. Covers one type. Gives requirements for material, workmanship, style, measurements, stitches and stitching, hems, finish, and shrinkage; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Navy Dept. Specification 55S26; 1945. Smocks, (Women's Naval Reserve).
- U. S. Gov., Treasury Dept., Procurement Div., 745; 1946. Aprons; Cotton, with Bib and Tie Strings. Covers two types—(I) knee length and (II) full length; three classes—(A) duck; (B) twill, 2/1; and (C) twill, 3/1; four colors—brown, gray, khaki, and white; and the grade shall be known commercially as "firsts." Gives requirements for material, workmanship, construction, weight, count, breaking strength, color, shrinkage, finishing and non-fibrous materials, stitching and seaming, hemming, bar tacks, thread, tie strings and neck loops, length tolerance, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

311.93 Gloves and Mittens, Cotton

- U. S. Gov., Navy Dept. Specification 37G26; 1946. Gauntlets, Anti-Flash.
- U. S. Gov., Navy Dept. Specification 37G26; 1945. Gloves, Working, Cotton, with Leather Palm.
- U. S. Gov., Navy Dept. Specification 73G6; 1945. Gloves, Dress, Women's Naval Reserve.

311.94 Leggings

- American Standards Assn., L18.22-1945. Specifications for Protective Occupational (Safety) Clothing—Flame-Resistant Fabric Leggings, Knee and Hip Length (American War Standard). It is intended that the leggings specified shall afford limited protection from metal splash and sparks. Gives type and size, pattern and design, construction, materials, methods of test, and identification.

311.96 Cotton Cloth Shoes

- U. S. Gov., Federal Specification DDD-S-438; 1945. Slippers; Hospital, Canvas. Covers four sizes—(1) small shoe size 5 to 7, (2) medium shoe size 7 1/2 to 9, (3) large shoe size 9 1/2 to 10 1/2, and (4) extra large shoe size 11 to 13. Gives requirements for material, workmanship, description, construction, outsole, filling, coversole, vamp, webbing, tolerance, weave-webbing, sizing, tying tapes, sizes, and assembly; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

311.99 Cotton Outerwear Not Otherwise Classified

- U. S. Gov., Marine Corps Specification, revised 1945. Shorts, Athletic.
- U. S. Gov., Marine Corps Specification, revised 1945. Skirt, Dress, Summer (Marine Corps Women's Reserve).
- U. S. Gov., Marine Corps Specification, revised 1945. Skirt, Service, Summer (Marine Corps Women's Reserve).
- U. S. Gov., Marine Corps Specification, 1944. Stripes, Service, Winter (Woven).
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 6-356; 1946. Neckties, Cotton-Mohair.

312. COTTON UNDERWEAR

312.0 GENERAL ITEMS

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS137-46; 1946. Size

Measurements for Men's and Boys' Shorts—Woven Fabrics. To provide standard methods of measuring and standard minimum measurements for men's and boys' shorts made from woven fabrics. Covers scope, application, general requirements, standard methods and measurements in detail, standard minimum measurements, and labeling.

312.2 NIGHTGOWNS

U. S. Gov., Treasury Dept., Procurement Div., 749; 1946. Bedshirts; Cotton, Hospital. Covers three types—(I) V-neck, elbow length sleeves, (II) round neck, elbow length sleeves, and (III) high neck, long sleeves; three sizes—small, medium, and large; and the grade shall be known commercially as "firsts." Gives requirements for material, workmanship, general design, fabric, finishing and non-fibrous materials, shrinkage, stitching and seaming, thread, tying tapes, pocket, size labels, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

312.3 PAJAMAS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS15-46; 1946. Men's Pajama Sizes—Woven Fabrics. This standard provides standard methods of measuring and standard minimum measurements for the guidance of producers, distributors, and users, to eliminate confusion resulting from a diversity of measurements and methods, and to provide a uniform basis for guaranteeing full size. Covers size designations, methods of measuring, and standard minimum requirements for men's pajamas, whether made from shrunk or unshrunk fabrics, together with a recommended label for use in guaranteeing full size. Sponsored by the National Assn. of Shirt and Pajama Manufacturers.

315. BEDDING

315.1 MATTRESSES AND MATTRESS COVERS

315.10 General Items

U. S. Gov., Navy Dept. Specification 27T6b; 1946. Tufting, Wick, for Mattresses.

U. S. Gov., Navy Dept. Specification 27T19a; 1945. Tufts, Mattress.

315.11 Cotton Felt Mattresses

U. S. Gov., Navy Dept. Specification 27M9c; 1945. Mattresses, Cotton (Felted), Berth (Chief Petty Officers' and Sick-Bay) and Bed (Sick-Bay).

U. S. Gov., U. S. Maritime Commission Specification 27-MC-34a; 1945. Mattresses; Interspring. Shall be type I—all wire spring unit, free-end coil construction; type II—all wire spring unit, knotted-end coil construction; and shall be of but one grade. Gives requirements for sizes, felt, ticking, sheeting, sewing thread, tufting tape, spring wire, workmanship, seams and stitches, casing, tufting, mattress construction, spring unit, labels, identification and marking, and details for each type; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

315.12 Kapok Mattresses

U. S. Gov., U. S. Maritime Commission. Specification 27-MC-14a; 1946. Mattresses; Kapok. Covers one type and one grade. Gives requirements for materials, workmanship, size, weight, tags, and identification and marking; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

315.13 Hair Mattresses

U. S. Gov., U. S. Maritime Commission. Specification 27-MC-28; 1946. Mattresses; Curled Hair, Hog and Cattletail. Covers one type and one grade. Gives requirements for materials, workmanship, size, weight, construction, hair, identification and marking, and tags; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

315.19 Miscellaneous Mattresses

U. S. Gov., U. S. Army, Army Air Forces Specification 94-3187; 1945. Mattress; Pneumatic, Type A-3.

315.2 SHEETS

U. S. Gov., Army Air Forces Specification 3173B-1; 1945. Sheet; Cotton, for Type A-3 Sleeping Bag.

315.3 PILLOWCASES AND PILLOWS

315.31 Pillowcases and Sacks

U. S. Gov., Federal Specification DDD-P-351; 1931. Amend. 3; 1945. Pillowcases; Cotton, Bleached. Covers one grade and ten types. Gives requirements for materials, workmanship, weave, thread count, weight, breaking strength, hems, seams, stitches, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking.

315.4 COUNTERPANES, BEDSPREADS

U. S. Gov., U. S. Maritime Commission Specification 27-MC-16a; 1945. Counterpanes; Cotton, Crinkled. Shall be but one type and grade. Gives requirements for material, workmanship, size, construction, weave and pattern, color, sizing, thread count, weight, breaking strength, and identification and marking; sampling, inspection, and tests; and packaging, packing, and marking for shipment.

315.5 BLANKETS

U. S. Gov., Federal Specification DDD-B-416; 1945. Blankets; Combat, Canvas. Covers one type. Gives requirements for material, workmanship, design, stitches, seams, stitching, and marking; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Maritime Commission. Specification 27-MC-10a; 1946. Blankets; Cotton Warp, Wool Filling. Covers one grade and two types—(I) untreated and (II) mothproofed. Gives requirements for materials, workmanship, construction, blanket material, satin binding material, sewing thread, size, identification and marking, and details; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Maritime Commission. Specification 27-MC-42a (Tentative) 1942, amended 1943. Blankets; Wind-, Water-, and Mildew-Resistant, (for) Lifeboats and Rafts. Covers one type, one grade, and two classes—(I) packed in paper wrapping—temporary and (II) packed in steel container—permanent. Gives requirements for materials, workmanship, construction, insulating fabric, and coated fabric; sampling, inspection, and methods of test; and packaging, packing, and marking.

315.9 MISCELLANEOUS BEDDING

U. S. Gov., U. S. Army, Quartermaster Corps Specification 8-147; 1945. Comforter, Wool-Filled.

317. NETS AND NETTING

317.3 MOSQUITO BAR NETTING

U. S. Gov., Navy Dept. Specification 27B16; 1946. Bars, Mosquito.

U. S. Gov., Navy Dept. Specification 27N1c, 1945. Netting, Cotton, Insect; Marquisette.

317.9 MISCELLANEOUS NETS

U. S. Gov., Joint Army-Navy Specification JAN-N-70-2; 1945. Nets, Cargo (Fiber Rope).

U. S. Gov., Navy Dept. Specification 23N2a, 1945. Nets, Life, Buoyant.

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 6-353; 1945. Netting; Cotton, Water-Repellent.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-18; 1944. Nets, Camouflage, Cotton, Shrimp, Impregnated.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-20; 1945. Nets, Camouflage, Cotton Twine, Garnished With Fabric.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-22; 1945. Camouflage Net Set, No. 2, M-2.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-23; 1945. Camouflage Net Set, No. 3, M-2.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-24; 1945. Camouflage Net Set, No. 4, M-2.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-25; 1945. Camouflage Net Set, No. 5.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-26; 1945. Camouflage Net Set, No. 6, M-2. Single Engine Airplane.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-27; 1945. Camouflage Net Set, No. 7, M-2, P-38 Type Airplane.

319. MISCELLANEOUS MANUFACTURES OF COTTON

319.1 COTTON BATTING AND WADDING

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 6-343; 1945. Wadding, Cotton, Sized.

319.3 TOWELS AND BATH MATS

U. S. Gov., Federal Specification DDD-T-551a; 1942. Amend. 2; 1945. Towels; Turkish. Covers one grade and two types—A-1 and A-2. Gives requirements for material, workmanship, finish, weave, hemming, tolerances, woven name, thread count, weight, dimensions,

and breaking strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

319.4 MOPS (WIPERS AND POLISHING CLOTHS)

U. S. Gov., Federal Specification DDD-C-441a; 1945. Cloths; Polishing. Covers one grade and two types—(I) woven and (II) knitted. Gives requirements for material, workmanship, color, finish, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 761; 1946. Cloths, Scrub; Cotton. Covers one type and two sizes—14 x 36 inches and 28 x 36 inches. Gives requirements for material, workmanship, weave, weight, thread count, ply, breaking strength, raw edges, finish, color, and bid sample; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

319.7 PADS AND DIAPERS

U. S. Gov., Marine Corps Specification, 1945. Pad, Sliding.

319.9 MISCELLANEOUS MANUFACTURED COTTON PRODUCTS

319.91 Awnings and Curtains

U. S. Gov., Navy Dept. Specification 27C7d, 1945. Curtains, Skylight Screen, and Fixtures, Ship.

319.92 Bindings, Braid

U. S. Gov., Joint Army-Navy Specification JAN-B-371; 1946. Braid, Cotton, Tubular.

U. S. Gov., Navy Dept. Specification 71B7; 1945. Braid, Women's Naval Reserve.

319.93 Cotton Sleeving

U. S. Gov., Navy Dept. Specification 17S10c; 1946. Sleeving, Insulating, Cotton.

U. S. Gov., U. S. Army, Signal Corps Specification 71-610-A; 1945. Sleeves FT-96, FT-97, FT-98, and FT-472 (Cable Splicing).

319.94 Canvas Cots, Hammocks

U. S. Gov., Navy Dept. Specification 24H1e, 1945. Hammocks and Hammock Fittings.

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2659B, 1945. Hammocks, Balkan Frame (Large and Small).

319.97 Cords, Straps, and Tape

Textile Color Card Assn. of the U. S., Inc. U. S. Army Color Card for Slide Fastener Tapes, 1945. U. S. Army color card of standard shades for slide fastener tapes approved and accepted by the Quartermaster General includes sixteen colors.

U. S. Gov., Army Air Forces Specification 17021; 1945. Tape, Phosphorescent Adhesive.

U. S. Gov., Army-Navy Aeronautical Specification AN-T-12a-1; 1945. Tape; Adhesive Moisture Resistant.

U. S. Gov., Joint Army-Navy Specification JAN-P-127-2; 1946. Packaging and Packing for Overseas Shipment; Tape, Adhesive, Pressure-Sensitive, Water-Resistant.

- U. S. Gov., Navy Dept. Specification 27T15a; 1946. Tapes, Tufting, Cotton.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 6-344; 1945. Bands; Head and Neck for Liner, Helmet M-1.

319.98 Tents, Tarpaulins, and Wind Sails

National Fire Protection Assn. American Standards Assn., Z20.2-1946. Standard for Grandstands, Tents, and Other Places of Outdoor Assembly. Covers the design, construction, location, maintenance, and use of grandstands, tents, and other structures and premises for use or used as places of outdoor assembly. Its purpose is to specify reasonable standards as a means to safeguard persons and property insofar as it affects public safety. Gives definitions, places of outdoor assembly—general requirements, grandstands, tents, ways of egress from places of outdoor assembly, fire protection in places of outdoor assembly, sanitary arrangements in places of outdoor assembly, and appendix.

- U. S. Gov., Army Air Forces Specification 40849A, 1945. Shelter; Field Maintenance Umbrella, Type D-1.
- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS28-46; 1946. Cotton Fabric Tents, Tarpaulins, and Covers. Provides the basis and method of marking the type, weight, and size of cotton fabric tents, tarpaulins, and covers, either treated or untreated. Covers definitions for treated, cover, tent, and cut size; requirements for marking weight, weight tolerance, used goods, and marking size; labeling; nomenclature of drill, duck, jean, osnaburg, and sheeting; conversion tables; and appendix. Initiated by National Canvas Goods Manufacturers' Assn., Inc.
- U. S. Gov., Marine Corps Specification, revised 1944. Tent, Shelter (Half), Olive Drab.
- U. S. Gov., Navy Dept. Specification 24E20; 1946. Bucklers, Gun, Ply-Construction, Coated-Fabric (for Battleships and Cruisers).
- U. S. Gov., Navy Dept. Specification 27C23b; 1946. Cloths, Boat.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 6-331; 1944. Wind Break, Balloon Cloth, 7x18 Feet.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 6-2008; 1944. Covers (Tarpaulins) and Curtains; Cotton Duck (for Motor Vehicles).
- U. S. Gov., U. S. Army, Signal Corps Specification 72-103; 1945. Shelter HO-17-A.
- U. S. Gov., U. S. Army, Signal Corps Specification 74-77; 1945. Inflation Shelter S-13/TM.

319.99 Miscellaneous Specifications for Cotton Goods

- U. S. Gov., Army Air Forces Specification 3175B-1; 1945. Shell; Outer, for Type A-3A Sleeping Bag.

- U. S. Gov., Marine Corps Specification, revised 1945. Carrier, Mine, 3-7 (AT).
- U. S. Gov., Marine Corps Specification, 1945. Supporter, Athletic.
- U. S. Gov., Navy Dept. Specification 20C2b; 1945. Covers, Battery-Deck.
- U. S. Gov., Navy Dept. Specification 27F21; 1945. Matting, Woven, Cotton, Nonslip; Fire-, Water-, and Weather-Resistant.
- U. S. Gov., Navy Dept. Specification 27P1b; 1945. Pillows, Transom, Leather; and Covers, Pillow, Transom, Unbleached-Sheeting.
- U. S. Gov., Treasury Dept., Procurement Div., 656a; 1946. Covers; Ironing Board. Covers one grade and two types—(I) for 54 in. ironing board and (II) for 48 in. ironing board. Gives requirements for sheeting, tape, cord, workmanship, and details for each type; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.
- U. S. Gov., Treasury Dept., Procurement Div., 712; 1944. Rugs; Cotton, Hand-Woven. Covers one type, four sizes, and six colors. Gives requirements for material and workmanship, design, weave, warp yarn, filling yarn, color fastness, and tolerances in sizes; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Treasury Dept., Procurement Div., 754; 1946. Harness; Treated Cotton Webbing, Northern and Southern Styles. Covers one grade and two types—(I) northern style and (II) southern style. Gives requirements for construction, component parts, protective coatings, rivets, hardware, webbing ends, rope ends, eyelets, loops and keepers, stitching, martingale, back pad, joints, color, webbing treatment, resistance to mildew, resistance to water, elongation, shrinkage, resistance to weathering, breaking strength, flexibility, bending test, substitutions, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-27-A; 1945. Panels AI-121 and AI-122.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-29-A; 1945. Panel AI-123 (Weather Block Signal Panel).
- U. S. Gov., U. S. Army, Signal Corps Specification 72-31-C; 1945. Panels AI-124 and AI-125 (Ground to Aircraft Signaling Panels).
- U. S. Gov., U. S. Maritime Commission. Specification 27-MC-46 (Tentative) 1943. Cloths; Galley (Floor). Covers three types—(I) superior quality, (II) good quality, and (III) fair quality. Gives requirements for materials, workmanship, dimensions, color, and details; sampling, inspection, and methods of test; and packaging, packing, and marking.

320-329

JUTE AND JUTE MANUFACTURES

325. JUTE CORDAGE

325.2 JUTE ROPE

- U. S. Gov., U. S. Army, Quartermaster Corps Specification 13-11; 1943. Rope, Tent-Lay.

330-339**FLAX, HEMP, AND RAMIE****330. GENERAL ITEMS**

American Institute of Laundering. Technical Tests and Standards as Established for "Laundry-Tested and Approved" Products, 1944. Generally, laundering tests comprise continuous laundering of the product to be tested under specified plant-scale laundering procedures. The number of launderings constituting test procedure is based on an estimated service expectancy of the product. Gives details of various washing formulas and finishing procedures used in laundering tests.

American Society for Testing Materials, D739-45T; 1945. Tentative Methods of Testing and Tolerances for Spun, Twisted, or Braided Products Made From Flax, Hemp, Ramie, or Mixtures Thereof. These methods apply to treated or untreated yarns, threads, twines, and cords. Gives definitions, tolerances, and methods of testing.

331. CORDAGE, TWINE AND THREADS**331.1 CORDAGE, FLAX, HEMP, AND RAMIE****331.10 General Items**

American Society for Testing Materials, D738-45T; 1945. Tentative Methods of Testing and Tolerances for Rope (Leaf and Bast Fibers). These methods of testing and tolerances apply only to rope made from leaf or bast fibers or mixtures of those fibers. Gives definitions, tolerances, sampling, test conditions, weight, circumference, length per turn, dry breaking strength, wet breaking strength, ethylene dichloride extract, analysis for protective treating materials, and mildew resistance.

340-349 MISCELLANEOUS VEGETABLE FIBERS, STRAW, OR GRASS**341. CORDAGE****341.1 MANILA ROPE AND TWINE**

U. S. Gov., Joint Army-Navy Specification JAN-M-69-1; 1946. Mats, Cargo.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 13-11; 1946. Rope, Tent-lay.

341.2 SISAL ROPE AND TWINE

U. S. Gov., U. S. Army, Quartermaster Corps Specification 13-11; 1946. Rope, Tent-lay.

342. STRAW HATS AND HAT MATERIALS**342.1 FIBER HELMETS**

U. S. Gov., Treasury Dept., Procurement Div., 367C; 1945. Hats; Protective. Covers one type and two classes (general service and indoor service) designed for protecting the wearer's head against impact of objects and exposed electrical conductors. For use in manufacturing, mining, and building

331.11 Fishing Lines

U. S. Gov., Navy Dept. Specification 21L2b; 1945. Lines, Fishing.

331.16 Hemp Rope and Tarred Hemp Rope

U. S. Gov., Navy Dept. Specification 21R7; 1945. Rope, Manila; and Substitutes.

331.2 TWINE (FLAX, HEMP, RAMIE)**331.22 Hemp Twine**

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Official Standards of the U. S. for Grades of Hemp Line and Hemp Tow, 1945. Covers milled dewretted American hemp line in prime, No. 1, No. 2, No. 3, No. 4, and below grade. Gives requirements for cleanliness, strength, quality, ends, length, and color. Also, covers milled dewretted American hemp scutching two in No. 1, No. 2, No. 3, and No. 4. Gives specifications for each grade. This specification covers fiber from the plant "Cannabis Sativa" grown in the Continental United States.

339. MISCELLANEOUS MANUFACTURES OF FLAX, HEMP, AND RAMIE**339.2 RUGS**

U. S. Gov., Treasury Dept., Procurement Div., 748; 1946. Carpets and Rugs; Linen. Covers one type and one grade. Gives requirements for sizes, colors, material, workmanship, weave, weight, yarn, size content, shrinkage, cleaning, color fastness, tolerances, cut ends, and bid samples; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

construction. Hat shall consist of a shell, a headband, and crown straps. Gives requirements for material, shell, headband, crown straps, interchangeability, ventilation, weight, finish, marking, and trim size; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

349. OTHER MANUFACTURES OF VEGETABLE FIBERS, STRAW, OR GRASS**349.1 MATS AND MATTING (FIBER, GRASS, STRAW)**

U. S. Gov., Federal Specification DDD-M-153a; 1939. Amend. 1; 1945. Mats, Door; Fiber. Covers one type. Gives requirements for material and workmanship, sizes, thickness, weave, color, formation, finish, tensile strength, binding, and details; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Navy Dept. Specification 27M2b; 1945. Matting, Cocoa.

U. S. Gov., Treasury Dept., Procurement Div., 747; 1946. Carpets and Rugs; Fiber. Covers one type and grade. Gives sizes, patterns and colors, material, workmanship, weave, weight, yarns per inch, color fastness, tolerances, cut ends, finish, illustrations of patterns and colors, and bid samples;

methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

349.4 COCOANUT FIBER

U. S. Gov., Navy Dept. Specification 23F5; 1946. Fenders, Ship, Coir-Rope.

360-369 WOOL AND HAIR AND MANUFACTURES THEREOF

360. GRADES, DEFINITION, AND TESTS OF WOOL

American Institute of Laundering. Technical Tests and Standards as Established for "Laundry-Tested and Approved" Products, 1944. Generally, laundering tests comprise continuous laundering of the product to be tested under specified plant-scale laundering procedures. The number of launderings constituting test procedure is based on an estimated service expectancy of the product. Gives details of various washing formulas and finishing procedures used in laundering tests.

American Society for Testing Materials, D461-45; 1945. American Standards Assn., L16.1-1945. Standard Methods of Testing Wool Felt. Applicable to fabrics which are neither woven or knitted, but built up by the interlocking of wool fibers by mechanical work, chemical action, moisture, and heat. Gives standard condition, test condition, length, width, thickness, weight, breaking strength, splitting resistance, chemical analysis, microscopic examination, and special tests.

U. S. Gov., Dept. of Agriculture, Production and Marketing Administration. Service and Regulatory Announcements No. 135. Official Standards of the U. S. for Grades of Wool and Wool Top and Rules and Regulations for Distribution of Practical Forms of Wool and Wool Top Standards Under Wool Standards Act of May 17, 1928. Issued 1932 and amended December 1939 and November 1942. Covers 13 grades—80's, 70's, 64's, 62's, 60's, 58's, 56's, 50's, 48's, 46's, 44's, 40's, and 36's. Gives rules and regulations for obtaining practical forms of the official wool top standards and gives details covering various methods of test for determining the grade of wool.

363. REWORKED WOOL

363.2 WORSTED ZEPHYR

U. S. Gov., Navy Dept. Specification 27W7a; 1945. Worsted, Zephyr.

365. FABRICS WHOLLY OR CHIEFLY OF WOOL AND HAIR

365.0 GENERAL ITEMS

American Society for Testing Materials, D582-45T; 1945. Tentative Methods of Test for Resistance of Textile Fabrics and Yarns to Insect Pests. For textile fabrics and yarns which contain wool or other susceptible fibers. Gives test cages, test insects, and test specimens; procedure, determination of damage, and report for excrement weight method and for fabric loss method; and appendices.

Textile Color Card Assn. of the U. S., Inc. Fall Woolen Colors, 1946. The 1946 fall season color

card of America—40 colors shown in woolen fabrics, featuring collections of winter tints, autumn pastels, and colors of the tropics.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-46; 1945. Mildew Resistance and Moisture Resistance Treatment for Felt, Wool.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-84; 1946. Packaging and Packing of Woolen and Worsted Fabrics.

365.1 WOOLEN CLOTH DESIGNATED BY NAME

365.16 Kersey

U. S. Gov., Marine Corps Specification, 1945. Kersey, Dark Blue.

U. S. Gov., Marine Corps Specification, adopted 1945. Kersey, Sky Blue.

365.19 Miscellaneous Woolen Cloth

U. S. Gov., Army Air Forces Specification 16167-3; 1945. Cloth; Knitted Wool (for Flying Clothing).

U. S. Gov., Army Air Forces Specification 16180; 1945. Cloth, Alpaca Pile.

U. S. Gov., Army Air Forces Specification 16185; 1945. Cloth; Wool (Circular Knitted).

U. S. Gov., Joint Army-Navy Specification JAN-C-391; 1946. Cloth, Summer-Weight (for Uniforms and Flight Clothing).

U. S. Gov., U. S. Army, Quartermaster Corps Specification 8-146; 1945. Cloth, Wool, Barathea.

365.2 WOOLEN CLOTH DESIGNATED BY COLOR

365.23 Scarlet and White Cloth

U. S. Gov., Marine Corps Specification, adopted 1945. Cloth, Scarlet.

365.24 Olive Drab

U. S. Gov., Joint Army-Navy Specification JAN-C-363; 1946. Cloth, Wool, Knitted.

365.9 MISCELLANEOUS SPECIFICATIONS FOR WOOL AND HAIR CLOTH

365.95 Facing Cloth for Uniforms

U. S. Gov., Joint Army-Navy Specification JAN-C-341; 1946. Cloth, Wool, Facing, 16.5-Ounce.

365.98 Felt

American Society for Testing Materials, D461-45; 1945. American Standards Assn., L16.1-1945. Standard Methods of Testing Wool Felt. Applicable to fabrics which are neither woven or knitted, but built up by the interlocking of wool fibers by mechanical work, chemical action, moisture, and heat. Gives standard condition, test condition, length, width, thickness,

weight, breaking strength, splitting resistance, chemical analysis, microscopic examination, and special tests.

- U. S. Gov., Army-Navy Aeronautical Specification AN-F-14a-2; 1946. Felt; Wool.
- U. S. Gov., Army-Navy Aeronautical Specification AN-F-15a-1; 1946. Felt; Hair.
- U. S. Gov., Navy Dept. Specification 27F7e; 1945. Felt, Wool.
- U. S. Gov., Navy Dept. Specification 27P7; 1945. Padding, Protective.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 8-79A; 1945. Cloth, Wool, Felt, Woven, 60-Oz. Gray.

367. WOOL KNIT GOODS

367.0 GENERAL ITEMS

Textile Color Card Assn. of the U. S., Inc. Fall Glove Colors, 1946. The 1946 fall season card of colors for women's gloves includes 14 colors.

367.1 SOCKS AND STOCKINGS, WOOLEN

- U. S. Gov., Army Air Forces Specification 3102-1; 1944. Sock; Light-Weight Woolen, for Arctic Sock Assembly.
- U. S. Gov., Army Air Forces Specification 3193-1; 1944. Sock; Medium-Weight Woolen, for Arctic Sock Assembly.
- U. S. Gov., Army Air Forces Specification 3195-1; 1944. Sock; Net Worsted Jumbo, for Arctic Sock Assembly.
- U. S. Gov., Joint Army-Navy Specification JAN-S-48A; 1946. Socks, Wool, Cushion-Sole, C. D.
- U. S. Gov., Marine Corps Specification, revised 1945. Stockings, Athletic.
- U. S. Gov., Navy Dept. Specification 7384; 1945. Socks, Winter, N-1.

367.3 HOODS AND TOQUES

- U. S. Gov., Navy Dept. Specification 37H15; 1945. Hoods, Anti-Flash.

367.4 JERSEYS AND SWEATERS

- U. S. Gov., Navy Dept. Specification 55J21; 1946. Jerseys.
- U. S. Gov., Navy Dept. Specification 55S32; 1945. Sweaters, Women's Naval Reserve.

367.5 MUFFLERS AND SCARFS

- U. S. Gov., Marine Corps Specification, 1944. Muffler, Flannel, Green (Enlisted Men).
- U. S. Gov., Marine Corps Specification, 1945. Scarf, Black.
- U. S. Gov., Navy Dept. Specification 55M4; 1946. Mufflers, Wool, Blue.

367.7 WOOLEN GLOVES

- U. S. Gov., Navy Dept. Specification 73G2c; 1945. Gloves, Woolen.
- U. S. Gov., U. S. Army, Army Air Forces Specification 94-3190-E; 1944. Insert; Knit Wool (for Types A-11A and D-3A Gloves).

368. WOOL WEARING APPAREL (EXCEPT KNIT APPAREL)

368.1 WOOLEN BREECHES

- U. S. Gov., Army Air Forces Specification 3219E; 1945. Trousers; Flying, Intermediate, Type A-11B.
- U. S. Gov., Marine Corps Specification, revised 1944. Slacks, Covert (Marine Corps Women's Reserve).
- U. S. Gov., Navy Dept. Specification 55S2e; 1945. Slacks, Blue, Women's Naval Reserve.

368.2 COATS AND OVERCOATS

- U. S. Gov., Marine Corps Specification, revised 1945. Coat, Service, Winter.
- U. S. Gov., Marine Corps Specification, revised 1945. Coat, Service, Winter (Marine Corps Women's Reserve).
- U. S. Gov., Marine Corps Specification, 1945. Overcoat (Marine Corps Women's Reserve).
- U. S. Gov., Navy Dept. Specification 55-0-1d; 1945. Overcoats.
- U. S. Gov., Navy Dept. Specification 55R7; 1945. Raincoat-Overcoats, Women's Naval Reserve.

368.4 WOOLEN SKIRTS

- U. S. Gov., Marine Corps Specification, revised 1945. Skirt, Service, Winter (Marine Corps Women's Reserve).

368.8 SUITS AND UNIFORMS OF WOOL

368.82 Woollen Uniforms

- U. S. Gov., Marine Corps Specification, adopted 1946. Coat, Dress (Enlisted Men).
- U. S. Gov., Marine Corps Specification, 1945. Trousers, Dress (Enlisted Men).
- U. S. Gov., Marine Corps Specification, adopted 1946. Trousers, Service, Wool, Green.
- U. S. Gov., Navy Dept. Specification 55U7; 1945. Uniforms, Service, Blue, Women's Naval Reserve.
- U. S. Gov., Navy Dept. Specification 55U12; 1945. Uniforms, Service, Blue, Navy Nurse Corps.

368.9 MISCELLANEOUS WOOL WEARING APPAREL

- U. S. Gov., Army Air Forces Specification 3220F, 1945. Jacket; Flying, Intermediate, Type B-15E.
- U. S. Gov., Army Air Forces Specification 3246A, 1945. Slacks; Nurses Flying, Light, Type L-1.
- U. S. Gov., Army Air Forces Specification 3247A; 1945. Jacket; Nurses Flying, Light Type L-1.
- U. S. Gov., Marine Corps Specification, 1946. Jacket, Service, Wool, Green.
- U. S. Gov., Navy Dept. Specification 73H5; 1945. Eave-locks, Winter, Women's Naval Reserve Officers'.
- U. S. Gov., Navy Dept. Specification 73N3; 1945. Neckties, Women's Naval Reserve.
- U. S. Gov., U. S. Army, Army Air Forces Specification 94-3084-A, 1942. Jacket; Mechanic's, Type D-1.

369. MISCELLANEOUS MANUFACTURES OF WOOL AND HAIR

369.1 BRAIDS AND CORDS

- U. S. Gov., Navy Dept. Specification 71B7; 1945. Braid, Women's Naval Reserve.

369.2 BLANKETS**369.21 Bed Blankets**

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS136-48; 1946. Blankets for Hospitals (Wool, and Wool and Cotton). To provide a nationally recognized standard for wool, and wool and cotton blankets, to promote fair competition between manufacturers, and to serve as a basis for guaranteeing quality. Covers three types—(I) all wool, (II) 75 percent wool, and (III) 50 percent wool. Gives requirements, methods of test, and labeling.

U. S. Gov., U. S. Maritime Commission. Specification 27-MC-10a; 1946. Blanket; Cotton Warp, Wool Filling. Covers one grade and two types—(I) untreated and (II) mothproofed. Gives requirements for materials,

workmanship, construction, blanket material, satin binding material, sewing thread, size, identification and marking, and details; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

369.6 CHEVRONS AND SERVICE STRIPES

U. S. Gov., Marine Corps Specification, 1944. Chevrons, Service, Winter (Woven).

369.9 MANUFACTURES OF HAIR AND WOOL NOT ELSEWHERE CLASSIFIED

U. S. Gov., Marine Corps Specification, 1945. Numerals, Athletic.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 2-147; 1945. Comforter, Wool-Filled.

370-379**SILK AND MANUFACTURES THEREOF****370. GENERAL ITEMS**

American Institute of Laundering. Technical Tests and Standards as Established for "Laundry-Tested and Approved" Products, 1944. Generally, laundering tests comprise continuous laundering of the product to be tested under specified plant-scale laundering procedures. The number of launderings constituting test procedure is based on an estimated service

expectancy of the product. Gives details of various washing formulas and finishing procedures used in laundering tests.

373. FABRICS WHOLLY OR CHIEFLY SILK**373.1 RIBBONS**

U. S. Gov., Navy Dept. Specification 71R1; 1945. Ribbons, Cap.

390-399**MISCELLANEOUS TEXTILE PRODUCTS****391. LINOLEUM FLOOR COVERING**

U. S. Gov., Federal Specification LLL-F-471; 1942, and Amend. 1; 1943. Floor-Coverings; Felt-Backed. Covers three types—(I) linoleum composition, (II) cellulose nitrate composition, and (III) resin-treated cellulose fibre composition; and three grades—(A) roll form, (B) tile form, and (C) rug form. Gives requirements for materials, workmanship, color, pattern, finish, felt backing, wearing surface, size, thickness, residual identification, and flexibility; methods of sampling, inspection, and tests; and packing and marking.

U. S. Gov., Federal Specification LLL-L-351a; 1939. Amend. 2; 1946. Linoleum; Battleship. Covers one type and grade, in three thicknesses—1/8 in., 3/16 in., and 6 mm. Gives requirements for material, workmanship, color, finish, width, burlap or woven cotton backing, thickness, seasoning, weight, pliability, and water absorption; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification LLL-L-359; 1942. Amend. 2; 1946. Linoleum; Inlaid and Molded. Covers one type, one grade, and two classes—inlaid (standard and 1/8 in.) and molded (standard and 1/8 in.). Gives requirements for material, workmanship, color, finish, width, burlap or woven cotton backing, thickness, seasoning, weight, and pliability; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification LLL-L-367; 1942. Amend. 2; 1946. Linoleum; Plain, Jasper and Marbleized.

Covers one type, one grade, three classes—plain, Jasper, and marbleized; and two thicknesses—standard and 1/8 in. Gives requirements for material, workmanship, color, finish, width, burlap or woven cotton backing, thickness, seasoning, weight, and pliability; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 27L12a; 1945. Linoleum, Battleship, Fire-Retardant.

U. S. Gov., Navy Dept. Specification 52C5c, 1945. Cement, Linoleum.

392. COATED, FILLED, AND WATERPROOFED FABRICS**392.1 COATED FABRICS****392.12 Tracing and Blueprint Cloth**

U. S. Gov., Federal Specification CCC-C-531a; 1944. Amend. 1; 1946. Cloth; Tracing. Covers two types—(I) for ink work and (II) for pencil work, in two classes—(A) white cloth and (B) blue cloth. Gives requirements for fabric, workmanship, samples, weave, thread count, breaking strength, erasing qualities, opacity, and coating; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

392.4 WATERPROOF CLOTH

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Determination of Water Resistance of Fabrics. Standard method of test of textile fabrics—(1) hydrostatic pressure resistance; (2)

resistance to water spray; (3) absorption of water during immersion; and (4) resistance to penetration of water by impact. Covers scope, apparatus, materials, test specimens, procedure, and evaluation. American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives requirements for fabric, untreated fabric, and treated fabric.

392.5 WATERPROOF CLOTHING

392.51 Ponchos

U. S. Gov., Marine Corps Specification, revised 1945. Poncho, Polyvinyl Butyral Filler.

392.54 Rain Clothing

U. S. Gov., Federal Specification BBB-C-606; 1941. Amend. 1; 1946. Coats and Trousers; Rubber-Synthetic, Rubber-, and Synthetic Resin-Coated (Foul-Weather Clothing). Covers two types—(I) coats, in four classes—(A) short (jackets), (B) three-quarter length, (C) workman's and (D) police, standard weight and (II) trousers, overalls. Gives material and workmanship, composition of coating, color, vulcanizing or curing, odor, cement for hems, tolerances, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Marine Corps Specification, 1944. Raincoat, Lightweight (Marine Corps Women's Reserve).

U. S. Gov., Marine Corps Specification, revised 1944. Trench Coat, with Detachable Hood and Woolen Lining (Marine Corps Women's Reserve).

U. S. Gov., Navy Dept. Specification 55R5b; 1945. Raincoats, Navy Nurse Corps.

U. S. Gov., Navy Dept. Specification 55R7; 1945. Raincoat-Overcoats, Women's Naval Reserve.

U. S. Gov., Navy Dept. Specification 73H7; 1945. Havelocks and Raincovers, Hat, Women's Naval Reserve.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 20-104B; 1946. Raincoat, Rubberized, M-1938.

393. LABELS AND TAGS, WOVEN

U. S. Gov., Joint Army-Navy Specification JAN-L-389; 1946. Labels, Loop, Size.

U. S. Gov., Navy Dept. Specification 27L11; 1945. Labels, Approval, Women's Naval Reserve.

394. WEBBING

394.0 GENERAL ITEMS

U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-62; 1946. Packaging and Packing of Webbing.

394.1 KHAKI WEBBING

U. S. Gov., U. S. Army, Ordnance Dept. Specification 6-186A; 1943. Webbing, Cotton, Olive Drab, for Bandoleers.

394.5 ELASTIC CORD AND ELASTIC WEBBING

U. S. Gov., Army-Navy Aeronautical Specification AN-E-15; 1946. Elastic; Parachute Pack Opening Flat.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-15-3; 1945. Webbing; Elastic Cotton.

U. S. Gov., Federal Specification JU-W-155; 1945. Webbing; Elastic. Covers one grade and two types—(I) woven and (II) braided. Gives requirements for material, workmanship, color, set, rupture of rubber and/or synthetic rubber strands, test loads and elongation, and construction; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

394.6 COTTON AND LINEN WEBBING

U. S. Gov., Army-Navy Aeronautical Specification AN-W-21-1; 1945. Webbing; Cotton.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-27-1; 1946. Webbing; Nylon and Cotton, Tubular.

U. S. Gov., U. S. Army, Medical Dept. Specification 6-197B; 1946. Webbing, Orthopedic.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 6-334; 1944. Webbing, Cotton, Woven Pockets.

395. HATS AND CAPS (EXCEPT STRAW OR OTHER FIBER, OR RUBBER)

395.1 CAPS

395.13 Caps, Dress, Full Dress, Special Dress

U. S. Gov., Marine Corps Specification, revised 1945. Cover, Cap, Blue.

U. S. Gov., Marine Corps Specification, revised 1945. Cover, Cap, Green.

395.14 Olive-Drab Service and Officers' Caps

U. S. Gov., Marine Corps Specification, revised 1945. Cover, Cap, Khaki.

395.15 Summer Caps

U. S. Gov., Marine Corps Specification, revised 1945. Cap, Baseball.

395.16 Watch Caps

U. S. Gov., Navy Dept. Specification 55C42; 1946. Caps, Watch.

395.17 White Caps, Marine Band and Officers

U. S. Gov., Marine Corps Specification, revised 1945. Cover, Cap, White.

395.19 Miscellaneous Caps

U. S. Gov., Marine Corps Specification, revised 1945. Cap, Utility.

U. S. Gov., Marine Corps Specification, revised 1945. Cap, Wool, Knit.

U. S. Gov., Marine Corps Specification, 1945. Frame, Cap.

U. S. Gov., Navy Dept. Specification 73T1; 1945. Turbans, Women's Naval Reserve.

395.2 HATS, EXCEPT STRAW AND RUBBER HATS

395.20 General Items

Textile Color Card Assn. of the U. S., Inc. Fall Colors for Men's Felt Hat Bodies, 1946. The 1946 fall season card of colors for felt bodies of men's hats shows three colors.

Textile Color Card Assn. of the U. S., Inc. Fall Millinery Colors, 1946. The 1946 fall millinery

colors lists colors especially adaptable for fur felt and for wool felt (12 for fur felt—18 for wool felt).

395.29 Miscellaneous Hats

- U. S. Gov., Joint Army-Navy Specification JAN-H-47A-1; 1946. Hats, White.
- U. S. Gov., Navy Dept. Specification 73H4; 1945. Hats, Combination, Women's Naval Reserve Officers'.
- U. S. Gov., Navy Dept. Specification 73H6; 1945. Hats, Combination, Women's Naval Reserve.
- U. S. Gov., Navy Dept. Specification 73H10b; 1945. Hats, Outdoor, Navy Nurse Corps.

396. BALLOON AND AIRSHIP FABRICS

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3802A; 1946. Cloth; Airplane, Cotton, Mercerized, 50 Lbs. Breaking Strength. Covers application, material, quality, requirements, tests, tolerances, length of cut, length of roll, reports, identification, packaging, approval, and rejections. Similar specification; Army Air Forces 16128.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3804; 1946. Cloth; Airplane, Cotton, Mercerized, 65 Lbs. Breaking Strength. Covers application, material, quality, requirements, tests, tolerances, length of cut, length of roll, reports, identification, packaging, approval, and rejections. Similar specification: Army Air Forces 16128.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3806; 1946. Cloth; Airplane, Cotton, Mercerized, 80 Lbs. Breaking Strength. Covers application, material, quality, requirements, tests, tolerances, length of cut, length of roll, reports, identification, packaging, approval, and rejections. Similar specification: Army-Navy Aeronautical AN-C-121.

- U. S. Gov., Army Air Forces Specification 16133A, 1945. Fabric; Nylon (for Parachutes).
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-121-1; 1945. Cloth; Mercerized Cotton Airplane.
- U. S. Gov., Army-Navy Aeronautical Specification AN-F-17; 1945. Fabric; Process for Application of Aircraft Surface.
- U. S. Gov., Navy Dept. Specification 27041; 1946. Cloth, Artificial-Fiber (for Parachutes, Pyrotechnic).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-115A; 1944. Cloth, Rayon, for Bomb Parachutes.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-124; 1944. Cloth, Celanese, Fortisan, Parachute.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-127A; 1944. Cloth, Nylon, for Parachutes.

397. RAYON, CELANESE, AND MANUFACTURES THEREOF

397.0 GENERAL ITEMS

American Institute of Laundering. Technical Tests and Standards as Established for "Laundry-Tested and Approved" Products, 1944. Generally, laundering tests comprise continuous laundering of the product to be tested under specified plant-scale laundering procedures. The number of laundrings

constituting test procedure is based on an estimated service expectancy of the product. Gives details of various washing formulas and finishing procedures used in laundering tests.

Textile Color Card Assn. of the U. S., Inc. Fall Glove Colors, 1946. The 1946 fall season card of colors for women's gloves includes 14 colors.

Textile Color Card Assn. of the U. S., Inc. Fall Rayon Colors, 1946. The 1946 fall season color card of America—40 colors shown in rayon fabrics, featuring holiday hues, and jewels of the Orient.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Circular C455; 1946. Flameproofing of Textiles. Textile flameproofing is applied chiefly to cotton, rayon, and other fibers of vegetable origin. Covers principles of flameproofing, historical notes, types of treatments, processes and formulas, tests and testing methods, and references.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-65; 1946. Packaging and Packing of Nylon, Rayon, and Rayon-Cotton Fabrics.

397.1 RAYON KNIT GOODS

397.11 Socks and Stockings of Rayon

U. S. Gov., Marine Corps Specification, 1945. Stockings, Rayon, Beige (Marine Corps Women's Reserve).

397.14 Jerseys and Sweaters of Rayon

U. S. Gov., Marine Corps Specification, revised 1945. Shirt, Basketball.

397.15 Rayon Mufflers and Scarfs

U. S. Gov., Marine Corps Specification, 1945. Muffler, White (Marine Corps Women's Reserve).

397.16 Rayon Cloth

U. S. Gov., Army Air Forces Specification 16173A, 1945. Fabric; Rayon Satin (Fluorescent).

U. S. Gov., Joint Army-Navy Specification JAN-C-368; 1946. Cloth, Rayon, Lining.

U. S. Gov., Navy Dept. Specification 27041; 1946. Cloth, Artificial-Fiber (for Parachutes, Pyrotechnic).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-115A; 1944. Cloth, Rayon, for Bomb Parachutes.

397.19 Miscellaneous Items, Rayon

U. S. Gov., Marine Corps Specification, adopted 1946. Colors, National, Rayon.

U. S. Gov., Marine Corps Specification, adopted 1946. Cord and Tassels for Colors, National, Rayon.

U. S. Gov., Navy Dept. Specification 5508; 1945. Uniforms, Service, White, Women's Naval Reserve.

U. S. Gov., Navy Dept. Specification 55U11; 1945. Uniforms, Service, White, Navy Nurse Corps.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-116A; 1944. Cordage, Rayon, Braided and Woven.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-123; 1944. Cord, Rayon, Braided.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 34-23; 1945. Cords and Tassels, Baton Drum Major, Rayon.

U. S. Gov., U. S. Army, Signal Corps Specification 72-45-B; 1945. Panel Set AP-50-B.

397.2 NYLON

- U. S. Gov., Army Air Forces Specification 16162-2; 1945. Cloth; Rayon Milanese Knit.
- U. S. Gov., Army Air Forces Specification 16165A; 1945. Fabric; Coated Nylon.
- U. S. Gov., Army Air Forces Specification 16169-1; 1945. Cloth; Nylon, for Flying Clothing.
- U. S. Gov., Army Air Forces Specification 16178; 1945. Cloth, Nylon Tricot Knit.
- U. S. Gov., Army Air Forces Specification 16184; 1945. Fabric; Perbunan Coated Nylon.
- U. S. Gov., Army Air Forces Specification 16189; 1945. Cloth; Nylon, Dobby.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-162; 1946. Cloth; Tricot Knit Nylon.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-9a; 1945. Thread; Nylon.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-83-1; 1946. Tape; Nylon Reinforcing.
- U. S. Gov., Army-Navy Aeronautical Specification AN-W-10b; 1946. Webbing; Nylon Tubular.
- U. S. Gov., Army-Navy Aeronautical Specification AN-W-27-1; 1946. Webbing; Nylon and Cotton, Tubular.
- U. S. Gov., Army-Navy Aeronautical Specification AN-W-28; 1946. Webbing; Nylon Multiple Tubular.
- U. S. Gov., Joint Army-Navy Specification JAN-C-391; 1946. Cloth, Summer-Weight (for Uniforms and Flight Clothing).
- U. S. Gov., Marine Corps Specification, adopted 1946. Braid, Nylon, Yellow.
- U. S. Gov., Navy Dept. Specification 27C41; 1946. Cloth, Artificial-Fiber (for Parachutes, Pyrotechnic).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 6-340; 1945. Cloth, Nylon Duck (for Use in Armored Vests).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-127A; 1944. Cloth, Nylon, for Parachutes.

397.3 CELLULOSE FABRIC

- U. S. Gov., Federal Specification LLL-F-471; 1942 and Amend. 1; 1943. Floor-Coverings; Felt-Backed. Covers three types—(I) linoleum composition, (II) cellulose nitrate composition, and (III) resin-treated cellulose fibre composition; and three grades—(A) roll form, (B) tile form, and (C) rug form. Gives requirements for materials, workmanship, color, pattern, finish, felt backing, wearing surface, size, thickness, residual identification, and flexibility; methods of sampling, inspection, and tests; and packing and marking.

397.4 CELANESE CLOTH

- U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-124; 1944. Cloth, Celanese, Fortisan, Parachute.

398. ABSORBENT COTTON, GAUZE, AND SURGICAL DRESSING**398.1 ABSORBENT COTTON**

- U. S. Gov., Federal Specification JJJ-C-561b; 1945. Cotton; Sterile and Nonsterile. Covers two grades—(A) sterile (USP) and (B) nonsterile. Grade A shall be in three sizes—(1) 1 oz. package (compressed or

noncompressed), (2) 4 oz. package (noncompressed), and (3) 1 lb. package (noncompressed). Grade B shall be furnished in one pound rolls. Gives requirements for material, ash, alkali or acid, dyes, fatty matter, and water-soluble substances, fiber length, absorbency, weight, layers, sterility, and individual packages; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

398.3 SURGICAL DRESSING**398.31 Bandages**

- U. S. Gov., Federal Specification GG-R-571; 1945. Rollers; Bandage. Covers two sizes—(I) for 4 1/2 in. maximum width bandages (single clamp) and (2) for 6- to 8-in. bandages (double clamp). Gives requirements for material, workmanship, description, construction, dimensions, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification DDD-B-61b; 1946. Bandages; Gauze, Roller, Plain. Covers four sizes. Gives requirements for material, workmanship, description, sterility, and dyed material; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2462A; 1945. Bandage, Gauze, Adhesive.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2486B; 1945. Bandage, Triangular.

398.32 Compresses

- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2470A; 1945. Bandage, Gauze, Compress.

398.34 Gauze Dressings, Pads, Etc.

- U. S. Gov., Federal Specification GG-R-563; 1946. Rolls; Absorbent, Dental. Covers four types—(I) cotton rolls, starched surface, (II) cotton filler, knitted cover, (III) cellulose filler, knitted cover, and (IV) cellulose filler, gauze cover. Gives requirements for sizes, material, workmanship, sterility, and construction for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification DDD-G-148; 1945. Gauze, Strip; Plain and Medicated. Covers two types—(I) plain, sterile and (II) medicated, not sterile; four sizes—(1) 1/4 in., (2) 1/2 in., (3) 1 in., and (4) 2 in.; and one grade. Gives requirements for material, workmanship, physical requirements, weave, edges, sterilization, medication, certificate of sterilization, and container; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification DDD-S-621; 1945. Sponges; Surgical (All-Gauze and Gauze-and-Cotton). Covers two types—(I) all-gauze (class A—8 ply, B—12 ply, and C—16 ply) and (II) gauze and cotton (class A—4 plies of gauze and B—8 plies of gauze). Gives requirements for material, workmanship, labeling, packaging, and construction of each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

399. MISCELLANEOUS TEXTILE MANUFACTURES**399.3 CASES OF CLOTH**

- U. S. Gov., Federal Specification K-C-131; 1945. Cases, Canvas; Forceps-and-Scalpel. Covers one type. Gives requirements for material, workmanship, design, dimensions, construction, and snap fasteners; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Marine Corps Specification, revised 1945. Case, Canvas, Dispatch, M-1942.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 6-332; 1944. Case, Carrying, Map and Photograph, Canvas.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-69; 1945. Case, Carrying Drawing Board, 15 In. x 20 In.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 6-142C; 1944. Covers and Cases, Textile, Ordnance Equipment.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-28-B; 1945. Case CS-18.
- U. S. Gov., U. S. Maritime Commission Specification 27-MC-48; 1945. Bags, Waterproof; (for) Lifeboat and Liferaft Blankets. Covers one type and grade. Gives requirements for materials, workmanship, construction, waterproofness, and marking; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

399.5 CUSHIONS AND COVERS

- U. S. Gov., Navy Dept. Specification 27C24b; 1945. Cushions and Covers, Boat-Seat.
- U. S. Gov., U. S. Maritime Commission Specification 27-MC-49; 1945. Covers; Slip (for Steamer Chair Pads). Covers one type and grade. Gives requirements for materials, workmanship, size, construction, slip cover material, sewing thread, snap fasteners, and identification; sampling, inspection, and methods

of test; packaging, packing, and marking for shipment.

- U. S. Gov., U. S. Maritime Commission Specification 27-MC-50; 1946. Covers; Slip (for Sun Deck Pads). Covers one type and grade. Gives requirements for material, workmanship, size, construction, slip cover material, sewing thread, snap fasteners, and identification; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

399.9 TEXTILE PRODUCTS NOT ELSEWHERE CLASSIFIED

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS129-46; 1946. Materials for Safety Wearing Apparel. To provide protection to the wearer of safety wearing apparel through the establishment of standard minimum quality requirements and methods of test for the material used in the manufacture of such apparel. Gives material specifications, methods of test, and labeling for asbestos fabrics, flame-resistant cotton fabrics, leather, woolen fabrics, and accessory materials. Initiated by the Industrial Safety Equipment Assn.
- U. S. Gov., Navy Dept. Specification 71A1a; 1946. Aiguillettes.
- U. S. Gov., Navy Dept. Specification 71E2; 1946. Embroidery-Materials, Metallic.
- U. S. Gov., Treasury Dept., Procurement Div., 744; 1945. Collars, Horse; Canvas. Covers one type and one grade. Gives requirements for duck, ticking, leather, plastic, steel, thread, filling, rivets, hardware, workmanship, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Chemical Warfare Service Specification 97-54-366; 1944. Set, Anti-Dim, M1.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 6-347; 1945. Liners, Helmet, M-1.

400-499

WOOD AND PAPER

400-409 LUMBER (LOGS, TIMBER, AND OTHER UNMANUFACTURED OR PARTLY MANUFACTURED WOOD)

400.0 LUMBER STANDARDIZATION

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 and 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; grading rules for ponderosa pine; grading rules for Idaho white pine; grading rules for sugar pine; and standard manufactured sizes.

400.1 PHYSICAL ANALYSIS OF LUMBER

400.13 Test of Lumber

U. S. Gov., Army-Navy Aeronautical Specification AN-W-3a; 1945. Wood; Determination of Moisture Content of.

400.15 Kiln Drying of Lumber

U. S. Gov., Army-Navy Aeronautical Specification AN-W-2a-3; 1946. Wood; Method for Kiln Drying.

400.2 SOFTWOOD GRADING RULES

400.20 General Items

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber; 1942, with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and grading rules for softwood.

400.21 Cedar Grading Rules

West Coast Lumbermen's Assn. Grade-Use Guide for Buildings and Other Structures, undated. For Douglas fir, west coast hemlock, western red cedar, and Sitka spruce. Covers light frame construction, heavy frame construction (mill construction, bridges, docks, platforms, walks), trusses, concrete forms, interior finish, exterior finish, towers and scaffolds, heavy false work, nominal and surfaced sizes, unit working stresses in pounds per square inch for standard structural grades, notes on working stresses for standard structural grades, standard patterns, and grade-use descriptions.

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and rules for grading red cedar and incense cedar.

400.22 Cypress Grading Rules

National Hardwood Lumber Assn. Rules for the Measurement and Inspection of Hardwood Lumber, Cypress, Veneers, and Thin Lumber, 1943. Includes national inspection service, inspection regulations, general instructions, standard grades, standard inspection, surfaced lumber, special inspection, wagon stock, hardwoods for construction work, ties, cypress, veneer and thin lumber, weights, and national hardwood lumber sales codes.

400.23 Fir Grading Rules

West Coast Lumbermen's Assn. Grade-Use Guide for Buildings and Other Structures, undated. For Douglas fir, west coast hemlock, western red cedar, and Sitka spruce. Covers light frame construction, heavy frame construction (mill construction, bridges, docks, platforms, walks), trusses, concrete forms, interior finish, exterior finish, towers and scaffolds, heavy false work, nominal and surfaced sizes, unit working stresses in pounds per square inch for standard structural grades, notes on working stresses for standard structural grades, standard patterns, and grade-use descriptions.

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; rules for grading white fir; rules for grading larch-Douglas fir; rules for grading Douglas fir railroad car material; and standard specifications and working stresses for structural grades of Douglas fir structural joists, plank, posts, and timbers.

400.24 Hemlock Grading Rules

West Coast Lumbermen's Assn. Grade-Use Guide for Buildings and Other Structures, undated. For Douglas fir, west coast hemlock, western red cedar, and Sitka spruce. Covers light frame construction, heavy frame construction (mill construction, bridges, docks, platforms, walks), trusses, concrete forms, interior finish, exterior finish, towers and scaffolds, heavy false work, nominal and surfaced sizes, unit working stresses in pounds per square inch for standard structural grades, notes on working stresses for standard structural grades, standard patterns, and grade-use descriptions.

400.25 Larch and Tamarack Grading Rules

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann

Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; rules for grading larch and Douglas fir railroad car material; and standard specifications and working stresses for structural grades of larch structural joists, plank, posts, and timbers.

400.26 Pine Grading Rules

Southern Pine Inspection Bureau of the Southern Pine Assn. Diagrams Illustrating Measurement of Density in Southern Pine Lumber, undated. Gives density rule, basis of measurement, diagrams, and data.

Southern Pine Inspection Bureau of the Southern Pine Assn. Short Course in Grading Southern Pine Lumber, 1945. Gives information as to how the grading rules were developed and the extent to which they are now in universal use. Covers development and use of grading rules, definitions, general grading provisions, sizes and lengths, measurement and tally, moisture content provisions, inspection and shipping provisions, grades of yard lumber, density rule—medium grain—longleaf, and dimension and timbers.

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; grading rules for ponderosa pine; grading rules for Idaho white pine; grading rules for sugar pine; grading rules for lodgepole pine; and standard manufactured sizes.

400.28 Spruce Grading Rules

West Coast Lumbermen's Assn. Grade-Use Guide for Buildings and Other Structures, undated. For Douglas fir, west coast hemlock, western red cedar, and Sitka spruce. Covers light frame construction, heavy frame construction (mill construction, bridges, docks, platforms, walks), trusses, concrete forms, interior finish, exterior finish, towers and scaffolds, heavy false work, nominal and surfaced sizes, unit working stresses in pounds per square inch for standard structural grades, notes on working stresses for standard structural grades, standard patterns, and grade-use descriptions.

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and rules for grading Engelmann spruce.

400.3 HARDWOOD GRADING RULES

400.30 General Items

National Hardwood Lumber Assn. Rules for the Measurement and Inspection of Hardwood Lumber, Cypress,

Veneers, and Thin Lumber, 1946. Includes national inspection service, inspection regulations, general instructions, standard grades, standard inspection, surfaced lumber, special inspection, wagon stock, hardwoods for construction work, ties, cypress, veneer and thin lumber, weights, and national hardwood lumber sales code.

400.37 Oak Grading Rules

U. S. Gov., Navy Dept. Specification 39-0-5f; 1946. Oak, White (for Ship Use).

U. S. Gov., Navy Dept. Specification 39-0-8c; 1946. Oak, White, and Elm (for Bending).

400.4 PRESERVATIVE TREATMENT FOR WOOD

400.41 Preservative Solutions for Wood

Western Pine Assn. Technical Bulletin No. 6; 1940. Permatol, A Preservative Treatment for Exterior Millwork. Covers permatol formulas, requirements of an effective preservative, methods of application, standards for preservatives and for treatments, preservative treatment standards, and dependability of permatol.

U. S. Gov., Army Air Forces Specification 14141; 1945. Preservative; Non-Water-Repellent Treating Solution for Wood.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-76; 1945. Preservative; Water-Repellent.

400.42 Pressure Process of Wood Preservations

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 21—Preservative Treatments for Timber. Gives general information and requirements for materials, preparation for treatment, amount of preservative, and pressure treatment processes.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for the Preservative Treatment of Pacific Coast Douglas Fir. Gives general requirements, oil and salt treatment, results of treatment, preservatives, inspection, and retreatment.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Treating Processes. Gives general requirements, oil and salt treatment, results of treatment, preservatives, inspection, and retreatment.

U. S. Gov., Navy Dept. specification 52W5; 1945. Wood-Preservative, Water-Repellent.

400.43 Brush and Open Tank Treatment for Wood Preservation

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Tests Relating to Zinc Chloride Treatment. Gives determining the strength of zinc chloride solution, determination of penetration by zinc chloride in treated wood, and determination of quantity of zinc in treated wood.

U. S. Gov., Navy Dept. Specification 52W5; 1945. Wood-Preservative, Water-Repellent.

400.5 WOOD PULP

400.50 General Items

- Technical Assn. of the Pulp and Paper Industry. Water Solubility of Wood, Standard T 1 m-45; 1945. Covers apparatus, test specimen, procedure, and report for bath cold-water solubility and hot-water solubility.
- Technical Assn. of the Pulp and Paper Industry. Ether Solubility of Wood, Standard T 5 m-45; 1945. For measurement of waxes, fats, resins, and similar materials. Covers apparatus, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Alcohol-Benzene Solubility of Wood, Standard T 6 m-45; 1945. For measurement of waxes, fats, resins, and certain other ether-insoluble components, including possibly some of the so-called wood gums. Covers apparatus, reagent, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Laboratory Process of Pulp (Beater Method), Standard T 200 m-45; 1945. Concerns the processing of pulp by means of a laboratory standard beater prior to forming handsheets for the purpose of determining its behavior when subjected to a definite beating schedule. Covers apparatus, care of beater, sampling, storage of pulp samples, test specimen, procedure, report, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Isolation of Cellulose by Chlorination Method, Standard T 201 m-45; 1945. Covers apparatus, reagents, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Chlorine Consumption of Pulp, Standard T 202 m-45; 1945. May be applied to unbleached sulphite, sulphate, and soda pulps. Covers apparatus, reagents, test specimen, procedure, report, and precision.
- Technical Assn. of the Pulp and Paper Industry. Alpha-Cellulose in Pulp, Standard T 203 m-44; 1944. For routine test determinations of alpha cellulose in papermaking fiber. Covers reagent, test specimen, procedure, modification for unbleached pulps, report, and precision.
- Technical Assn. of the Pulp and Paper Industry. Forming Handsheets for Physical Tests of Pulp, Standard T 205 m-45; 1945. For precision method of forming test sheets from pulps, before or after beating, for testing their physical properties. Covers apparatus, sampling, storage of pulp samples, test specimen, procedure, and appendices.
- Technical Assn. of the Pulp and Paper Industry. Water Solubility of Pulp, Standard T 207 m-45; 1945. Covers apparatus, specimen, procedure, and report for cold-water solubility and hot-water solubility methods.
- Technical Assn. of the Pulp and Paper Industry. Moisture in Pulp by Toluene Method, Standard T 208 m-45; 1945. A rapid and accurate procedure for small laboratory samples and for ground wood pulp, but not in acceptance tests of pulp shipments. Gives apparatus, reagent, test specimen, procedure, report, and precision.
- Technical Assn. of the Pulp and Paper Industry. Methoxyl Groups in Pulp, Standard T 209 m-45; 1945. Covers apparatus, reagents, test specimen, procedure, report, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Weighing, Sampling, and Testing Wood Pulp for Moisture, Standard T 210 m-45; 1945. Gives methods for baled pulp: dried sheets, shredded pulp, hydraulic pressed laps; roll pulp; loose lap pulp: wet laps, hydraulic pressed laps; and double-press wet-machine pulp in sheets. Covers apparatus, test specimen, procedure, precaution, and retests in case of dispute.
- Technical Assn. of the Pulp and Paper Industry. Copper Number of Pulp, Standard T 215 m-45; 1945. Mainly for evaluation of pulps free from unbleached, ground wood, or other highly lignified fibers. Covers apparatus, reagents, test specimen, procedure, report, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Forming Handsheets for Optical Tests of Pulps, Tentative Standard T 218 m-45; 1945. For all unbleached and bleached pulps, provided that they have been so processed in manufacture that the individual fibrous elements have become separated. Covers apparatus, sampling, storage of pulp samples, test specimen, procedure, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Laboratory Processing of Pulp (Ball-Mill Method), Suggested Method T 224 sm-45; 1945. Concerns the processing of pulp by means of a laboratory ball mill prior to forming handsheets for the purpose of determining its behavior when subjected to a definite beating schedule. Covers apparatus, sampling, storage of pulp samples, test specimen, procedure, report, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Specific External Surface of Pulp, Suggested Method T 226 sm-45; 1945. For determining the specific surface of chemical pulps, groundwood, wood flour, and similar materials. Covers apparatus, reagents, test specimen, procedure, report, precision, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Fineness of Pulp, Standard T 227 m-43; 1943. The fineness test is a wholly empirical one which gives a measure of the rate at which a dilute suspension of pulp may be partially dewatered. Covers apparatus, care of instrument, sampling, test specimen, procedure, report, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Bacteriological Examination of Pulp and Slush Stock, Tentative Standard T-228 m-45; 1945. Covers scope, apparatus and equipment, chemicals and media, sterilization of equipment and media, sampling, preparation of sample, plating and incubating, counting plate cultures, calculation of results, and report.
- Technical Assn. of the Pulp and Paper Industry. Water-Soluble Sulphates and Chlorides in Pulp, Tentative Standard T 229 m-45; 1945. Applicable to the determination of the small quantities of water-soluble chlorides and sulphates normally existing in pulp. Covers reagents, test specimen, procedure for sulphates, procedure for chlorides, and gravimetric method.

400.7 ANALYSIS OF WOOD

Technical Assn. of the Pulp and Paper Industry. Holocellulose in Wood, Standard T 9 m-45; 1945. Holocellulose is a white lignin-free fibrous material composed of the hemicellulose and the cellulose in wood. Covers apparatus, reagents, test specimen, procedure, report, and additional information.

Technical Assn. of the Pulp and Paper Industry. Sampling and Preparing Wood for Analysis, Standard T 11 m-45; 1945. For the preparation of wood samples for all chemical tests except the determination of cellulose. Covers sampling, grinding and screening, and additional information.

Technical Assn. of the Pulp and Paper Industry. Preparation of Extractive-Free Wood, Standard T 12 m-45; 1945. For all North American woods and may be applied to bark, straw, and similar fibrous materials and to pulps. Covers apparatus, reagents, specimen, and procedure.

Technical Assn. of the Pulp and Paper Industry. Lignin in Wood, Standard T 13 m-45; 1945. When wood is treated with strong acids the carbohydrates are hydrolized, leaving an insoluble residue which is determined as lignin. Covers apparatus, reagents, test specimen, procedure, and report.

Technical Assn. of the Pulp and Paper Industry. Dirt in Wood Chips, Suggested Method T 14 sm-44; 1944. Material such as bark, black knots, red knots, pin knots, and pitch are always associated with the wood chips prepared for pulping and their presence leads to dirt in the finished pulp. Covers apparatus, test specimen, procedure, report, and additional information.

Technical Assn. of the Pulp and Paper Industry. Ash in Wood, Tentative Standard T 15 m-45; 1945. Covers apparatus, test specimen, procedure, report, and precision.

Technical Assn. of the Pulp and Paper Industry. Sieve Analysis of Pulpwood Chips, Suggested Method T 16 sm-45; 1945. Measures the amounts of several different sized aggregates in pulpwood chips by means of sieves. Covers apparatus, test specimen, procedure, and report.

401. RAW AND HEWN TIMBERS**401.1 RAILROAD TIES****401.10 General Items**

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Ties. Service Records—Cross-Tie Test Sections. Includes marking ties for service records, installation and keeping records of cross-tie test sections, size of holes bored for spikes, traffic unit for use in comparing cross-tie life, and best practice for tie renewals.

401.3 POLES, HEWN AND SAWN**401.30 General Items**

American Standards Assn., 05.7-1945. Specifications and Dimensions for Wood Poles—Miscellaneous Conifers (American War Standard). To conserve the

natural supply of pole trees and to channel such production and use within the generally accepted lines. Gives introduction and specifications including material requirements, dimensions, manufacturing requirements, storage and handling, definition of terms, subsidiary drawing, and tables showing dimensions.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-113; 1945. Poles; Wood, Treated.

401.4 PILING, HEWN AND SAWN**401.40 General Items**

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division IV, Section 25—Timber Piles. Gives species of woods, limitation of use, grading of yard lumber, hewn and round timbers, general information, quality, and dimensions.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1945. Specifications for Wood Piles. Gives requirements for kinds of wood, physical properties, design, manufacture, inspection, delivery, and shipment.

401.41 Cedar Piling

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1945. Specifications for Wood Piles. Gives requirements for cedar piles for railway and highway bridges; physical properties, design, manufacture, inspection, delivery, and shipment.

401.42 Chestnut Piling

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1945. Specifications for Wood Piles. Gives requirements for chestnut piles for railway and highway bridges; physical properties, design, manufacture, inspection, delivery, and shipment.

401.43 Cypress Piling

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1945. Specifications for Wood Piles. Gives requirements for cypress piles for railway and highway bridges; physical properties, design, manufacture, inspection, delivery, and shipment.

401.44 Fir Piling

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1945. Specifications for Wood Piles. Gives requirements for Douglas fir piles for railway and highway bridges; physical properties, design, manufacture, inspection, delivery, and shipment.

401.45 Oak Piling

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads.

Manual for Railway Engineering, 1945. Specifications for Wood Piles. Gives requirements for oak piles for railway and highway bridges; physical properties, design, manufacture, inspection, delivery, and shipment.

401.46 Pine Piling

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1945. Specifications for Wood Piles. Gives requirements for southern pine piles for railway and highway bridges; physical properties, design, manufacture, inspection, delivery, and shipment.

401.6 CORDWOOD

Technical Assn. of the Pulp and Paper Industry. Physical Evaluation of Pulp Cord-Wood, Tentative Standard T 7 p-45; 1945. A determination of the quality of wood per commercial unit of volume. Covers apparatus, test specimen, procedure, calculations, report, and precision for methods A and B.

402. ROUGH LUMBER

402.4 YARD LUMBER

402.43 Dimension Lumber

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber; 1942, with 1944 Supplement. Includes official grade,

trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and grading rules for dimension and timbers—all species.

402.5 LATHS AND SHINGLES

402.51 Lath

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber; 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and requirements for lath—all species.

403. SURFACED AND WORKED LUMBER

403.2 MATCHED, SHIP-LAPPED, AND PATTERNED LUMBER

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber; 1942, with 1944 Supplement. Includes official grade, trade, and species marks; general instructions; measurements and tally; definitions of defects; reinspection; and diagrams showing dimensions for various types of matched, shiplap, and pattern lumber.

410-419

LUMBER FOR BUILDING AND FACTORY USE

411. YARD LUMBER FOR GENERAL BUILDING PURPOSES

411.0 GENERAL ITEMS

National Lumber Manufacturers Assn. Forest Products Research Guide in Fundamental and Applied Research, 1945. Gives structure, identification and properties of wood; processes, materials and devices used with wood in order to improve or modify its properties in use; primary timber and lumber products; buildings, building parts, and other structures; fabricated wood products; chemical products and industries using wood; means and devices for the selection of the quality of wood required for particular purposes; published information on forest products utilization; lists of research agencies; and appendices.

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber; 1942, with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and grading rules for yard lumber—all species.

U. S. Gov., Navy Dept., Bureau of Yards and Docks. Specification 28Yc; 1944. Carpentry and Joinery.

411.1 SIDING

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber; 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and requirements for bevel, bungalow, and colonial siding.

411.2 FLOORING

411.25 Maple Flooring

Appalachian Hardwood Manufacturers, Inc. Appalachian Hardwoods, 5a-1; 1946. Includes Appalachian Hard Maple flooring for floors subjected to severe use. Gives clear all-white grade, first grade, second grade, third grade, and sub-floors and nails.

411.26 Oak Flooring

Appalachian Hardwood Manufacturers, Inc. Appalachian Hardwoods, 5a-1; 1946. Includes Appalachian Oak flooring for nailed and mastic installation. Gives kinds, grades and sizes, how to specify, amount of flooring required, and standard strip oak flooring grades in quarter sawn and plain sawn.

411.29 Miscellaneous Flooring Specifications

Appalachian Hardwood Manufacturers, Inc. Appalachian Hardwoods, 5a-1; 1946. Includes Appalachian Beech flooring. Has excellent wearing qualities when laid in schools, auditoriums, armories, dance pavilions, factories and other places where floors are subjected to severe use. Its wearing qualities are not excelled in any important respect by hard maple flooring, yet it offers the advantage of lower cost. Graded in accordance with specifications of the Maple Flooring Manufacturers' Assn.

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and grade requirements for industrial flooring and decking.

411.4 PARTITION LUMBER, MOLDINGS, AND FINISH LUMBER**411.42 Moldings**

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and requirements for molding stock and standard moldings.

411.43 Finish Lumber

Appalachian Hardwood Manufacturers, Inc. Appalachian Hardwoods, 5a-1; 1946. Includes Appalachian Oak for fine architectural woodwork. Gives characteristics, effect of rate of growth on character of grain pattern, availability, grades and effects, distinguishing white from red oak, importance of specifying "Appalachian," how to specify "Appalachian" oak, how to recognize Appalachian oak, obtaining uniformity in woodwork, and typical effects available in Appalachian oak.

Appalachian Hardwood Manufacturers, Inc. Appalachian Hardwoods, 5a-1; 1946. Includes Appalachian Yellow Poplar for painted or enameled woodwork. Gives availability, characteristics, grades and sizes, importance of specifying "Appalachian," and how to specify for the finer projects, for utmost economy, and paint specifications.

411.6 DRESSED AND MATCHED YARD LUMBER

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942, with 1944 Supplement. Includes official grade, trade, and species marks; general instructions; measurements and tally; definitions of defects; reinspection; and requirements for dressed and matched yard lumber.

412. STRUCTURAL TIMBERS AND BRIDGES**412.0 GENERAL ITEMS**

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division IV, Section 27—Timber Connectors. Gives general information and requirements for split-ring connectors, tooth-ring connectors, shear-plate connectors, claw-plate connectors, and spike-grid connectors.

National Lumber Manufacturers Assn. National Design Specification for Stress-Grade Lumber and Its Fastenings, 1944. Gives general—stress-grade lumber, allowable unit stresses for stress-grade lumber, design loads, design formulas and provisions, timber connector joints, bolted joints, lag screw joints, nail, spike, drift pin, and wood screw joints, glued laminated structural members, and appendices.

National Lumber Manufacturers Assn. Teco Technical Series 1; 1943. Teco Design Manual for Teco Timber Connector Construction. Gives choice of sizes and types of Teco connectors and use of data and charts; charts giving data for split rings, shear plates, toothed rings, and claw plates; spike grids; clamping plates; camber chart; truss weights; properties of lumber sizes; and galvanizing specification.

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and standard specifications and working stresses for structural grades of larch and Douglas fir structural joists, plank, posts, and timbers.

412.1 STRUCTURAL TIMBERS

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division IV, Section 25—Grading of Structural Timber. Gives species of woods, limitation of use, grading of yard lumber, hewn and round timbers, general information, grade of timber, commercial grading rules, and general requirements.

412.2 BRIDGES

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division I.—General Provisions includes definition of terms, proposal requirements and conditions, award and execution of contract, scope of the work, control of the work, control of materials, legal relations and responsibility to public, prosecution and progress, and measurement and payment. Division II.—Construction includes excavation and fill, sheet piles, bearing piles, concrete masonry, reinforcement, ashlar masonry, mortar rubble masonry, dry rubble masonry, brick masonry, steel structures, bronze or copper-alloy bearing and expansion plates, steel grid flooring, railings, painting metal structures, riprap, concrete cribbing, waterproofing, dampproofing, name plates, timber structures, preservative treatments

for timber, timber cribbing, sectional plate pipe and arches, and wearing surfaces. Division III.—Design includes general features of design, loads, distribution of loads, unit stresses, pile loads and bearing, substructures and retaining walls, structural steel design, concrete design, design of timber structures, composite beams, sectional plate pipe, sectional plate arches, and rating of existing bridges. Division IV.—Materials includes cement, water for use with cement, fine aggregate, coarse aggregate, reinforcement, structural, eyebar and rivet steels, wrought iron, steel forgings, steel castings, gray-iron castings, malleable castings, bronze or copper-alloy bearing and expansion plates, steel piles, steel sheet piling, steel grid floors, paint, welding, sheet metal for water stops and general use, sectional plate pipe and arches, stone for masonry, brick, bituminous materials and joint fillers, asphalt paving blocks, premolded asphalt plank, structural timber, lumber and piling, timber preservatives, and timber connectors.

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 20—Timber Structures. Gives requirements for materials, timber connectors, storage of material, workmanship, treated timber, untreated timber, treatment of pile heads, holes for bolts, dowels, rods and lag screws, bolts and washers, countersinking, framing, pile bents, framed bents, caps, bracing, stringers, plank floors, laminated or strip floors, wheel guards and railings, trusses, truss housings, erection of housing and railings, painting, and measurement and payment.

412.3 FRAME STRUCTURES OTHER THAN BRIDGES

National Fire Protection Assn. American Standards Assn., Z20.2- 1946. Standard for Grandstands, Tents, and Other Places of Outdoor Assembly. Covers the design, construction, location, maintenance, and use of grandstands, tents, and other structures and premises for use or used as places of outdoor assembly. Its purpose is to specify reasonable standards as a means to safeguard persons and property insofar as it affects public safety. Gives definitions, places of outdoor assembly—general requirements, grandstands, tents, ways of egress from places of outdoor assembly, fire protection in places of outdoor assembly, sanitary arrangements in places of outdoor assembly, and appendix.

412.9 MISCELLANEOUS SPECIFICATIONS FOR STRUCTURAL TIMBERS AND BRIDGES

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 22—Timber Cribbing. Gives requirements for material, preparation, dimensions, construction, filling, and measurement and payment.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Timber Substructures for Water Tanks (50,000 and 100,000 Gal. Capacity). Gives general requirements, materials, design and workmanship, timber, metal, concrete, painting, workmanship,

drawing notes, and drawings showing recommended types and designs.

413. SHOP OR FACTORY LUMBER

413.0 GENERAL ITEMS

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and requirements for shop or factory lumber.

413.1 TANK STOCK LUMBER

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and grading rules for tank stock.

413.2 CAR STOCK LUMBER

413.21 Fir Car Stock

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and rules for grading larch and Douglas fir railroad car material.

413.29 Miscellaneous Car Stock

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and rules for grading larch and Douglas fir railroad car material.

413.3 AIRPLANE STOCK LUMBER

413.31 Softwood Airplane Stock

U. S. Gov., Army-Navy Aeronautical Specification AN-F-6b, 1945. Fir; Aircraft Noble.
U. S. Gov., Army-Navy Aeronautical Specification AN-F-7b, 1945. Fir Aircraft Douglas.
U. S. Gov., Army-Navy Aeronautical Specification AN-H-4b, 1945. Hemlock; Aircraft Western.
U. S. Gov., Army-Navy Aeronautical Specification AN-S-6b, 1945. Spruce; Aircraft.

413.32 Hardwood Airplane Stock

U. S. Gov., Army-Navy Aeronautical Specification AN-P-17c, 1945. Poplar; Aircraft Yellow.

413.5 STOCK FOR WOODEN HANDLES, FURNITURE, AND VEHICLES**413.52 Veneer and Plywood**

American Society for Testing Materials, D805-45T; 1945. Tentative Methods of Testing Plywood, Veneer, and Other Wood and Wood-Base Materials. Covers compression parallel or perpendicular to grain, static bending, tension, panel shear, shearing strength, plate shear, toughness, Rockwell hardness, swelling and recovery of compressed wood products due to moisture absorption, moisture absorption of compressed wood products, glue block shear test, plywood glue shear test, and moisture content and specific gravity. Gives details for making the above-mentioned tests.

National Hardwood Lumber Assn. Rules for the Measurement and Inspection of Hardwood Lumber, Cypress, Veneers, and Thin Lumber, 1946. Includes national inspection service, inspection regulations, general instructions, standard grades, standard inspection, surfaced lumber, special inspection, wagon stock, hardwoods for construction work, ties, cypress, veneer and thin lumber, weights, and national hardwood lumber sales code.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-69a; 1946. Plywood and Veneer; Aircraft Flat Panel.

U. S. Gov., Joint Army-Navy Specification JAN-P-66-1; 1946. Plywood, Flat Panel.

U. S. Gov., Joint Army-Navy Specification JAN-P-139-1; 1946. Packaging and Packing for Overseas Shipment—Plywood, Container Grade.

413.6 PATTERN STOCK LUMBER

Western Pine Assn. Idaho White Pine Ideal for Wood Patterns, 1941. Covers general descriptions, the seasoning of Idaho white pine at the mill, what pattern makers think of Idaho white pine, timber supply of Idaho white pine, physical properties of

Idaho white pine, mechanical properties of Idaho white pine, and conclusion.

Western Pine Assn. Sugar Pine for Perfect Patterns, 1942. Covers sugar pine grades for pattern use, grade descriptions, the seasoning of sugar pine lumber at the mill, care of sugar pine lumber at the pattern shop, what pattern makers and others in the trade think of sugar pine, supply of sugar pine, physical properties of sugar pine, mechanical properties, and summary.

413.8 DOOR, WINDOW, AND MILLWORK LUMBER

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber; 1942, with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and grading rules for door, window, and millwork lumber.

413.9 MISCELLANEOUS SHOP AND FACTORY LUMBER

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber; 1942, with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection and grading rules for miscellaneous shop and factory lumber.

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber, 1942 with 1944 Supplement. Includes official grade, trade and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and grading rules for pine box lumber.

420-429**MANUFACTURES OF WOOD**

(Except Furniture)

423. MILLWORK**423.1 WOODEN DOORS**

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar-Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber; 1942, with 1944 Supplement. Includes official grade, trade, and species marks; general instructions, measurements, and tally; definitions of defects; reinspection; and grading rules for door stock.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS73-45; 1945. Old Growth Douglas Fir Standard Stock Doors. This standard provides minimum specifications for four grades of stock fir doors in four thicknesses, 3/4, 1 1/8, 1 3/8, and 1 3/4 in. It covers construction, defects, and the grading tolerances for these requirements. Gives general requirements, inspection

and labeling, detail requirements, house doors, millrun grade, garage doors, designs and layouts, Douglas fir stock door list, and grade marking. Initiated by Fir Door Institute.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS120-46; 1946. Standard Stock Ponderosa Pine Doors. To establish standard specifications and sizes for ponderosa pine, standard stock doors in four nominal thicknesses, 3/4, 1 1/8, 1 3/8, and 1 3/4 in. Covers general requirements, grading, designs and layouts, inspection, labeling, and nomenclature and definitions.

U. S. Gov., U. S. Army, Corps of Engineers Specification 86-3; 1945. Door, Refrigerated Warehouse, in Sets, 2, Walk-In Type (2 Feet 6 Inches by 6 Feet, with 2 Vestibule Batten Doors).

U. S. Gov., U. S. Army, Corps of Engineers Specification 86-5; 1946. Doors, Refrigerated Warehouse,

Infitting, Walk-In Type, Single, 6 x 7 1/2 Ft.; Double, 8 x 7 1/2 Ft.

423.2 SASH

Western Pine Assn. Standard Grading Rules for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber; 1942, with 1944 Supplement. Includes official grade, trade, and species marks; general instructions; measurements and tally; definitions of defects; reinspection; and grading rules for cut sash.

423.9 MISCELLANEOUS MILLWORK SPECIFICATIONS

U. S. Gov., Joint Army-Navy Specification JAN-F-209; 1945. Frame, Mosquito-Bar, Wood (for Cot, Folding, Canvas).

425. MANUFACTURES OF CORK

425.2 CORK BOARD, COMPRESSED CORK

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part V—Miscellaneous Standards. No. 550—Insulation for Cold Storage Rooms. Covers purpose, scope, thickness of insulation, and table showing equivalent thickness of corkboard for various room temperatures.

American Public Works Assn. Specification for Portland Cement Concrete Pavement, Fl-44; 1944. Includes cork joint filler. Gives requirements for preformed cork joint filler and preformed self-expanding cork joint filler.

U. S. Gov., Navy Dept. Specification 39C7b, 1945. Cork, Sheet (for Ring Life Buoys).

425.3 LIFE PRESERVERS, BELTS, AND BUOY RINGS OF CORK

U. S. Gov., Navy Dept. Specification 23B4a, 1945. Buoys, Life, Ring, Cork.

425.9 MISCELLANEOUS CORK ITEMS

Society of Automotive Engineers, Inc. Aeronautical Specification 3250A; 1946. Synthetic Rubber and Cork Composition; General Purpose (35-45). For sheet, strip, molded shapes, or as ordered. Gives application, material and fabrication, requirements, quality, tolerances, sampling, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3251A; 1946. Synthetic Rubber and Cork Composition, General Purpose (45-55). For sheet, strip, molded shapes, or as ordered. Gives application, material and fabrication, requirements, quality, tolerances, sampling, reports, identification, packaging, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3252A; 1946. Synthetic Rubber and Cork Composition, General Purpose (55-65). For sheet, strip, molded shapes, or as ordered. Gives application, material and fabrication, requirements, quality, tolerances, sampling, reports, identification, packaging, approval, and rejections.

427. ELECTRICAL EQUIPMENT OF WOOD

U. S. Gov., U. S. Army, Corps of Engineers Specification 85-31; 1946. Poles, Pike, 8-Ft.

428. WOODEN HANDLES, OARS, TENT PINS, AND POLES

428.1 HANDLES FOR AGRICULTURAL IMPLEMENTS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R77-45; 1945. Hickory Handles. This recommendation applies to grades of long and short hickory handles for striking tools, such as the ax, adze, pick, sledge, hammer, hatchet, etc., and gives the necessary information for grading these handles. It covers grade symbol, color of wood, number of annual rings, weight, admissible blemishes, and defects. Initiated by the Hickory Handle Assn.

428.2 WOODEN HANDLES FOR TOOLS

428.29 Miscellaneous Tool Handles

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Ash and Hickory Handles for Track Tools. Gives requirements for material, physical characteristics, design, manufacture, inspection, definitions of blemishes and defects, delivery, grade classification, and use of classification.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R77-45; 1945. Hickory Handles. This recommendation applies to grades of long and short hickory handles for striking tools, such as the ax, adze, pick, sledge, hammer, hatchet, etc., and gives the necessary information for grading these handles. It covers grade symbol, color of wood, number of annual rings, weight, admissible blemishes, and defects. Initiated by the Hickory Handle Assn.

U. S. Gov., Federal Specification NN-H-93; 1941. Amend. 3; 1945. Handles, Hickory; Striking-Tool. Covers ten types—sledge hammer, riveting hammer, single-bitted ax, double-bitted ax, adz eye hammer, adz, railroad or clay pick, blacksmith hammer, hatchet, and machinist hammer; and three grades—AA, A, and B. Gives material and workmanship, general requirements, and details for each type; methods of inspection; and packaging, packing, and marking for shipment.

428.3 OARS AND PADDLES

U. S. Gov., Joint Army-Navy Specification JAN-O-39-1; 1945. Oars.

U. S. Gov., Joint Army-Navy Specification JAN-P-40-2; 1946. Paddles; Boat and Life Float.

U. S. Gov., Navy Dept. Specification 23P14; 1945. Paddles, Laminated, Boat and Life-Float.

429. MISCELLANEOUS MANUFACTURES OF WOOD

429.2 WOODEN TOOLS

U. S. Gov., Federal Specification LLL-M-71; 1933. Amend. 4; 1945. Mallets and Mauls; Wood. Covers seven types—(I) mallets, calking; (II) mallets, carpenters' (class A—round, B—round, reinforced-head, and C—square); (III) mallets, coppersmiths'; (IV) mallets, hawsing (beetles); (V) mallets, serving; (VI) mallets, tinnerns'; and (VII) mauls. Gives

requirements for material, workmanship, wood, density, handles, lengths, handle holes, heads, tolerances, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Navy Dept. Specification 41S24b, 1945. Sticks, Packing.

429.4 WOODEN LADDERS

U. S. Gov., Army Air Forces Specification 40889-1; 1945. Ladder, Folding Refueling, Type B-1.

U. S. Gov., Army Air Forces Specification 40917-1; 1945. Ladder, Folding Refueling, Type B-2 (Portable By Air).

U. S. Gov., Federal Specification LLL-L-51; 1938. Amend. 1; 1946. Ladders (Extension, Sectional, and Straight); and Ladder-Shoes. Covers four types—(I) extension, (II) sectional, (III) single-or-straight, and (IV) ladder-shoes. Gives requirements for material, workmanship, general construction, finish, side rails, rungs, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., U. S. Army, Corps of Engineers Specification 85-18; 1945. Ladders, Fire, Solid Side, Extension and Roof.

429.9 MANUFACTURES OF WOOD NOT ELSEWHERE CLASSIFIED

American Bowling Congress. Rules and Regulations, 1945-46. Covers material, dimension and weight, and design and measurements of pins; weight and size, and balance of balls; and construction of tail plank, gutters, pin spots, kickbacks, fibre plates, pit, and rear swinging cushion.

American Public Works Assn. Specification for Portland Cement Concrete Pavement, FI-44; 1944. Includes redwood or cypress joint filler. Gives requirements for selection of wood, dimensions, and testing.

National Duck Pin Bowling Congress, 1944-45. Alleys. Gives requirements for width, length, clear run, friction member, pin spots, foul line, and electric eye.

National Duck Pin Bowling Congress, 1944-45. Gutters and Pits. Gives requirements for location, wood necessary, width, shape, and depth of gutters; and for depth, width, incline, board at rear of alley bed, kickbacks, and kickback plates.

U. S. Gov., Army Air Forces Specification 40825A, 1945. Bench, Instrument Repair.

U. S. Gov., Army-Navy Aeronautical Specification AN-H-31; 1945. Humidity Cabinets; Operation of.

U. S. Gov., Federal Specification GG-B-636; 1945. Brackets, Storage; (for) X-Ray Film Hangers. Covers one type. Gives requirements for material, workmanship, description, wood base, metal base, metal arms, screws, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 26H1d, 1945. Hangers, Coat.

U. S. Gov., Navy Dept. Specification 26H2c; 1946. Hangers, Trouser.

U. S. Gov., Navy Dept. Specification 39W2a, 1945. Wood, Impregnated, Compressed.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 89-102; 1944. Buoy, Mine, Wood.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 23-108A; 1946. Snowshoes, Trail, with Binding.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 23-110; 1945. Club, Policeman's M-1944.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3211; 1945. Loudspeaker Stand MT-128/ TIQ-2.

U. S. Gov., U. S. Army, Signal Corps Specification 72-104; 1945. Shelter HO-27.

U. S. Gov., U. S. Army, Signal Corps Specification 72-114; 1945. Shelter HO-23-A.

U. S. Gov., U. S. Army, Signal Corps Specification 74-33; 1945. Shelter ML-41-B and Support ML-42-B.

430-439

FURNITURE OF WOOD

430. GENERAL ITEMS

Mahogany Assn., Inc. Rules for the Designation of Furniture Woods, 1940. Furniture in which exposed surfaces are of one wood shall be designated by the name of the wood. Furniture in which the exposed surfaces are of more than one kind of wood shall be designated by the names of the principal woods used. Gives interpretation of rules used in connection with furniture.

433. CAMP FURNITURE

433.2 FOLDING TABLES

U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-22B; 1945. Table, Camp, Folding.

435. OFFICE FURNITURE OF WOOD

435.2 WOODEN OFFICE CHAIRS AND STOOLS

U. S. Gov., Federal Specification AA-C-311; 1933. Amend. 2; 1945. Chairs; Office, Wood. Covers ten types—(A) rotary, arm chair, No. 1-C; (B) leg, arm

chair, No. 2-C; (C) rotary chairs, without arms, No. 3-C; (D) leg chairs, without arms, No. 4-C; (E) rotary chair, No. 5-C; (F) judge's rotary chair, No. 6-C; (G) rotary stool, with back, No. 7-C; (H) rotary stool, without back, No. 8-C; (I) rotary chair, No. 1026; and (J) alternates for No. 1-C and No. 2-C may have perforated leather seats properly reinforced. Gives requirements for design, material and workmanship, construction, upholstery, hardware, finish, and color; method of inspection; and packing and marking.

435.3 DESKS AND OFFICE TABLES, WOODEN

U. S. Gov., U. S. Army, Quartermaster Corps Specification 23-112; 1946. Table, Mail, Dumping and Stamping (3 Ft. x 6 Ft.).

438. WOODEN CHAIRS

438.3 FOLDING CHAIRS AND CAMP STOOLS

U. S. Gov., U. S. Maritime Commission. Specification 26-MC-4a; 1946. Chair; Folding, Wood. Covers two

types—(I) bentwood (class A—padded seat and plywood back support and seat base) and (II) straightwood (class B—solid wood seat and back supports and class C—plywood seat and back). Gives requirements for

materials, workmanship, wood, finish, stretchers, dimensions, folding, stability, strength, glue, and details; sampling, inspection, and methods of test; and packing, packaging, and marking for shipment.

470-479

PAPER

(Except Printed Matter)

470. GENERAL ITEMS

470.1 DEFINITIONS AND CLASSIFICATION OF PAPER

Technical Assn. of the Pulp and Paper Industry. Standard Terms Used in the Soda Pulping Process, Standard O 402 p-44; 1944. Defines special nomenclature relating to process.

470.3 TESTS OF PAPER

American Society for Testing Materials, D722-45; 1945.

Technical Assn. of Pulp and Paper Industry Standard Method, T 454 m-44. Standard Method of Turpentine Test for Grease Resistance of Paper. This method gives an accelerated comparison of the relative rates at which ordinary oils or greases, such as commonly found in foodstuffs, may be expected to penetrate papers, such as uncoated or unimpregnated greaseproof, glassine, and vegetable parchment. Gives apparatus, reagent, sampling, test specimens, procedure, and report.

American Society for Testing Materials, D723-45; 1945.

Technical Assn. of Pulp and Paper Industry Standard Method, T 440 m-42. Standard Method of Test for Degree of Staining of Paper by Alkali. This method is applicable to undyed papers and can be used with hard-sized (rosin) papers by first removing the major part of the sizing with ether or methanol. Not recommended for use with pulp. Gives apparatus, reagents, reference standards, test specimen, procedure, and report.

American Society for Testing Materials, D724-45; 1945.

Technical Assn. of Pulp and Paper Industry Suggested Method, T458 sm-42. Standard Method of Test for Surface Wettability of Paper (Angle-of-Contact Method). Intended for the quantitative determination of the resistance of paper surfaces to wetting and is useful for the determination of writing and ruling qualities of papers, as well as for other problems related to the resistance which the surface of paper offers to water and aqueous vehicles. Gives apparatus, test liquids, sampling, test specimens, procedure, calculation and report, reproducibility, and interpretation of results.

American Society for Testing Materials, D725-45; 1945.

Technical Assn. of Pulp and Paper Industry Suggested Method, T 455 sm-42. Standard Methods of Test for Wire and Felt Sides of Paper. The wire and felt sides of paper cannot always be distinguished, this being particularly true of coated and other surface-treated papers, and of specialties made with variations in the usual paper-machine practice. These methods of test cover four procedures—A, B, C, and D.

American Society for Testing Materials, D824-45T; 1945.

Technical Assn. of Pulp and Paper Industry

Standard Methods T 431 m-41 and T 432 m-45. Tentative Method of Test for Absorption by Bibulous Papers of Water and Writing Ink. Covers the procedure for determining the rate at which unsized and absorbent papers will absorb water or ink. Gives apparatus, test liquids, test specimen, procedure, report, and reproducibility.

American Society for Testing Materials, D825-45T; 1945.

Tentative Methods of Test for Ply Adhesion of Paper or Vulcanized Fibre. Cover procedures for measuring the amount of bond or adhesion between the plies of a multiply paper or of vulcanized fibre. Gives apparatus, calibration of testing machine, test specimens, procedure, and report for testing paper; and apparatus, test specimens, procedure, and report for testing vulcanized fibre.

American Society for Testing Materials, D826-45T; 1945.

Technical Assn. of Pulp and Paper Industry Standard Method T 486 m-44. Tentative Method of Test for Degree of Wet Curl of Paper. Covers the procedure for determining the maximum curvature developed and the time required to reach this maximum curvature by means of bringing one side of the test specimen in contact with water. Gives apparatus, test specimens, procedure, and report.

American Society for Testing Materials, D827-45T; 1945.

Tentative Method of Test for Edge Tearing Strength of Paper. Gives scope, apparatus, test specimens, procedure, and report.

American Society for Testing Materials, D828-45T; 1945.

Technical Assn. of Pulp and Paper Industry Standard Method T 404 m-44. Tentative Method of Test for Tensile Breaking Strength of Paper and Paper Products. Gives scope, apparatus, calibration of apparatus, test specimens, procedure, report, and reproducibility.

American Society for Testing Materials, D829-45T; 1945.

Tentative Method of Test for Wet Tensile Breaking Strength of Paper and Paper Products. Covers a procedure for determining the tensile breaking strength of paper and paper products after wetting with water or other liquid. Gives apparatus, test specimens, procedure, and report for tissue, towel, and other absorbent papers which are easily damaged by handling when wet; and for water-resistant papers, such as photographic, blue-print, and special map papers, which can be handled without damage after immersion.

American Society for Testing Materials, D830-45T; 1945.

Technical Assn. of Pulp and Paper Industry Standard Method T 464 m-44. Tentative Method of Test for Water Vapor Permeability of Paper and Other Sheet Materials at Elevated Temperature and Humidity. Gives scope, definition, apparatus, test specimens, procedure, calculation, report, and reproducibility.

- Technical Assn. of the Pulp and Paper Industry. Paper Machine Drying Rate, Tentative Standard E 203 p-44; 1944. To provide a uniform procedure for calculating drying rates in different mills. Covers definition of drying rate and method of calculating drying rate.
- Technical Assn. of the Pulp and Paper Industry. Chemical Composition of Process Water for Fine Paper Manufacture, Tentative Standard E 600 s-44; 1944. To be considered only as a guide in determining the quality of water to be used. Covers definition, chemical composition, and notes.
- Technical Assn. of the Pulp and Paper Industry. Measuring, Sampling and Analyzing White Waters, Standard M 400 p-45; 1945. Intended to evaluate as accurately as possible paper mill white waters and to separate fibrous and nonfibrous constituents. Covers measurement of white water volume, sampling, analysis, and report.
- Technical Assn. of the Pulp and Paper Industry. Sulphate Recovery Thermal Code, Standard O 404 p-45; 1945. To enable users to better evaluate the thermal factors involved in sulphate recovery and is applicable to both spray-type and rotary-type recovery units. Covers feed liquor data and summary.
- Technical Assn. of the Pulp and Paper Industry. Sampling Paper for Testing, Standard T 400 m-41; 1941. Covers test sample, procedure for sampling, and resampling.
- Technical Assn. of the Pulp and Paper Industry. Conditioning Paper and Paperboard for Testing, Standard T 402 m-44; 1944. Covers relative humidity and temperature, conditioning, determination of humidity and temperature, and notes.
- Technical Assn. of the Pulp and Paper Industry. Bursting Strength of Paper, Standard T 403 m-45; 1945. Specifies the use of the hydraulic type tester. Covers bursting strength definition, scope, apparatus, calibration of gage, test specimen, procedure, report, and reproducibility of results.
- Technical Assn. of the Pulp and Paper Industry. Tensile Breaking Strength of Paper and Paperboard, Standard T 404 m-45; 1945. Covers apparatus, calibration, test specimen, procedure, report, reproducibility of results, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Paraffin in Paper, Standard T 405 m-45; 1945. For determining quantitatively the amount of paraffin in wax-impregnated or so-called "waxed" papers. Covers apparatus, reagents, test specimen, procedure, report, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Reducible Sulphur in Paper, Standard T 406 m-45; 1945. For determining total amount of reducible sulphur in paper, but not for determining if it will tarnish silverware. Covers apparatus, reagents, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Amount of Coating on Mineral-Coated Paper, Standard T 407 m-45; 1945. Suitable for the ordinary types of mineral coatings but may not be effective where lacquers or other minerals are used to impart a high degree of water resistance. Covers reagent, test specimen, procedure, report, and precision.
- Technical Assn. of the Pulp and Paper Industry. Resin in Paper, Standard T 408 m-44; 1944. Combines qualitative and quantitative determinations of total resins. Covers qualitative tests, quantitative determination, apparatus, reagents, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Machine Direction of Paper, Standard T 409 m-35; 1935. Defines machine direction and cross direction of paper. Covers test specimen, procedure, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Basis Weight of Paper and Paperboard, Standard T 410 m-45; 1945. Basis weight of paper in the U. S. is the weight in pounds of a ream of 500 sheets of a given size. Covers apparatus, calibration, test specimen, procedure, report, precision, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Thickness and Density of Paper, Standard T 411 m-44; 1944. Covers definitions, scope, apparatus, test specimen, procedure, report, reproducibility of results, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Moisture in Paper and Paperboard, Standard T 412 m-42; 1942. Applies to all paper, paperboard, and paper products except those containing materials other than water which are volatile at 100-105°C. Covers apparatus, test specimen, procedure, report, and reproducibility of results.
- Technical Assn. of the Pulp and Paper Industry. Ash in Paper, Standard T 413 m-45; 1945. Deals with the determination of ash, which is defined as the residue after complete combustion of paper. Covers apparatus, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Internal Tearing Resistance of Paper, Standard T 414 m-42; 1942. For determining the average force in grams required to tear a single sheet of paper after the tear has been started. Covers apparatus, adjustment, calibration, test specimen, procedure, report, precision, and notes.
- Technical Assn. of the Pulp and Paper Industry. Casein in Paper (Qualitative), Standard T 415 m-45; 1945. Applicable only to papers in which the amount of casein is relatively large. Covers reagent, test specimen, and procedure.
- Technical Assn. of the Pulp and Paper Industry. Proteinaceous Nitrogenous Materials in Paper (Qualitative), Standard T 417 m-45; 1945. This method regarded as conclusive evidence of the presence of nitrogenous (proteinaceous) materials, such as glue and casein, in paper. Covers reagents and procedure.
- Technical Assn. of the Pulp and Paper Industry. Proteinaceous Nitrogen in Paper, Standard T 418 m-45; 1945. Covers apparatus, test specimen, procedure (Gunning method), and report.
- Technical Assn. of the Pulp and Paper Industry. Starch in Paper, Standard T 419 m-45; 1945. A positive result obtained shall be regarded as conclusive evidence of the presence of starch in paper. Covers qualitative, quantitative, apparatus, reagents, test specimen, procedure, and report.

- Technical Assn. of the Pulp and Paper Industry. Qualitative Analysis of Mineral Filler and Mineral Coating of Paper, Standard T 421 m-44; 1944. For determining qualitatively the mineral constituents of filled and coated papers. Covers reagents, test specimen, procedure, report, interpretation of results, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Folding Endurance of Paper, Standard T 423 m-45; 1945. Provides for use of two different forms of apparatus: the Schopper type and the M.I.T. Covers apparatus, adjustment and calibration, test specimen, procedure, and report for both Schopper and M.I.T. folding endurance.
- Technical Assn. of the Pulp and Paper Industry. Gloss of Paper, Standard T 424 m-45; 1945. Describes photometer, source of diffused illumination, opal glass diffusing screen, apparatus, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Opacity of Paper, Standard T 425 m-44; 1944. The contrast-ratio method of determining the opacity of paper. Covers apparatus, calibration, test specimen, procedure, precision, and report.
- Technical Assn. of the Pulp and Paper Industry. Bulking Thickness of Paper and Paperboard, Standard T 426 m-40; 1940. The average single-sheet thickness in thousandths of an inch when a pile of several sheets is placed under a steady pressure. Covers apparatus, calibration, test specimen, procedure, report, reproducibility of results, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Water-Soluble Acidity or Alkalinity of Paper, Standard T 428 m-45; 1945. Covers scope, apparatus, reagents, test specimens, procedure, report, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Alpha-, Beta- and Gamma-Cellulose in Paper, Standard T 429 m-44; 1944. Cellulose consists analytically of three fractions—alpha, beta, and gamma. Covers apparatus, reagents, test specimen, procedure for alpha-cellulose, report for alpha-cellulose, procedure for beta- and gamma-cellulose, and report for beta- and gamma-cellulose.
- Technical Assn. of the Pulp and Paper Industry. Acid-Soluble Iron in Paper, Standard T 434 m-45; 1945. For determining the portion of iron present that is potentially chemically reactive. Covers reagents, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Arsenic in Paper, Standard T 436 m-45; 1945. Covers Gutzeit apparatus used for determination of arsenic, reagents, standard stains, test specimen, procedure; report, and calculations.
- Technical Assn. of the Pulp and Paper Industry. Zinc Pigments in Paper, Standard T 438 m-45; 1945. For determining the amount of zinc pigments used in the paper fillers. Covers reagents, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Alkali-Staining Resistance of Paper, Standard T 440 m-42; 1942. For a quantitative statement of the resistance to alkali staining. Covers scope, reagent, apparatus, test specimen, procedure, report, and interpretation of results.
- Technical Assn. of the Pulp and Paper Industry. Water Absorptiveness of Nonfibulose Paper and Paperboard, Standard T 441 m-45; 1945. For paper and paperboard 0.004 in. and over in thickness. Covers apparatus, reagent, test specimen, procedure, report, precision, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Moisture Expansivity of Paper, Standard T 447 m-45; 1945. By expansivity is meant the capacity to change dimensions. Covers apparatus, calibration, test specimen, procedure, precision, and report.
- Technical Assn. of the Pulp and Paper Industry. Water Vapor Permeability of Paper and Paperboard, Standard T 448 m-45; 1945. For the determination of the water vapor permeability under normal atmospheric conditions. Covers apparatus, materials, test specimen, procedure, report, and reproducibility of results.
- Technical Assn. of the Pulp and Paper Industry. Bacteriological Examination of Paper and Paperboard, Tentative Standard T 449 m-45; 1945. Covers scope, apparatus and equipment, chemicals and media, sterilization of equipment and media, sampling, preparation of sample, plating and incubating, counting plate cultures, calculation and results, and report.
- Technical Assn. of the Pulp and Paper Industry. Pentosans in Paper, Standard T 450 m-44; 1944. The distillates are analyzed for furfural by a rapid volumetric procedure. Covers apparatus, reagents, test specimen, procedure, calculation of results, and report.
- Technical Assn. of the Pulp and Paper Industry. Turpentine Test for Grease Resistance of Paper, Tentative Standard T 454 m-44; 1944. Gives an accelerated comparison of the relative rates at which ordinary oils or greases may be expected to penetrate papers. Covers apparatus, reagent, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Wire and Felt Sides of Paper, Suggested Method T 455 m-42; 1942. The wire side of paper is the side that was in contact with the wire of the paper machine; the other side is termed the felt side. Gives procedures for distinguishing between the two sides.
- Technical Assn. of the Pulp and Paper Industry. Wax Test for Surface Strength of Paper, Tentative Standard T 459 m-45; 1945. Applicable to coated and uncoated papers and is designed to measure the surface strength of paper or its resistance to picking. Covers apparatus and materials, test specimen, procedure, and report.
- Technical Assn. of the Pulp and Paper Industry. Air Resistance of Paper, Tentative Standard T 460 m-44; 1944. Applicable to paper and paper products which permit the passage of air, except such as crepe and corrugated papers. Covers apparatus, calibration, test specimen, procedure, report, reproducibility of results, and additional information.
- Technical Assn. of the Pulp and Paper Industry. Flammability of Treated Paper and Paperboard, Suggested

Method T 461 sm-44; 1944. Applicable to paper and paperboards of all types, not over 1/16 in. thick, that have been treated to prevent the spread of flame when ignited. Covers apparatus, test specimen, procedure, report, and additional information. Technical Assn. of the Pulp and Paper Industry. Printing-Ink Permeation of Paper (Castor-Oil Test), Standard T 462 m-43; 1943. The time in which a drop of castor oil produces a uniform translucent spot in paper. Covers apparatus, test specimen, procedure, and report.

Technical Assn. of the Pulp and Paper Industry. Adhesiveness of Gummed Paper Tape, Tentative Standard T 463 m-43; 1943. For testing the adhesiveness of gummed sealing tape, not less than 2 in. wide, used for sealing shipping containers. Covers apparatus, testing paper, test specimen, procedure, and report.

Technical Assn. of the Pulp and Paper Industry. Water Vapor Permeability of Sheet Materials at High Temperature and Humidity, Tentative Standard T 464 m-45; 1945. Intended for the testing of paper and other sheet materials used for packaging. Covers apparatus, materials, definitions, test specimen, procedure, report, reproducibility, and additional information.

Technical Assn. of the Pulp and Paper Industry. Creasing of Paper for Water Vapor Permeability Tests, Suggested Method T 465 sm-44; 1944. For creasing of papers and other thin sheet materials. Covers apparatus, test specimen, and procedure.

Technical Assn. of the Pulp and Paper Industry. Degree of Curl and Sizing of Paper, Tentative Standard T 466 m-44; 1944. Applies the principle of wetting one side of the paper and determining the maximum curvature developed or the time required to reach maximum curvature. Covers apparatus, test specimen, procedure, report, and additional information.

Technical Assn. of the Pulp and Paper Industry. Paraffin Wax Absorptiveness of Paper, Tentative Standard T 467 m-45; 1945. To find the amount of wax required to completely saturate the paper. Covers apparatus and materials, test specimen, procedure, report, and additional information.

Technical Assn. of the Pulp and Paper Industry. Water-Soluble Sulphates and Chlorides in Paper and Paperboard, Tentative Standard T 468 m-45; 1945. Applicable to paper or paperboard containing small quantities of chlorides and sulphates. Covers reagents, test specimen, procedure for sulphates, and procedure for chlorides.

Technical Assn. of the Pulp and Paper Industry. Analysis of Sulphite Waste Liquor, Suggested Method T 629 sm-44; 1944. Designed for a systematic determination of the important constituents of a large number of chemical compounds in the waste liquor. Covers specific gravity and chemical analysis.

Technical Assn. of the Pulp and Paper Industry. Bacteriological Examination of Mill Process Water, Tentative Standard T 631 m-45; 1945. Covers scope, apparatus and equipment, chemicals and media, sterilization of equipment and media, sampling, plating and incubating, counting plate cultures, calculation of results, and report.

471. ABSORBENT PAPER

471.1 BLOTTING PAPERS

Technical Assn. of the Pulp and Paper Industry. Ink Absorption of Blotting Paper, Standard T 431 m-45; 1945. Covers reagent, test specimen, procedure, report, and precision.

471.3 PAPER TOWELING

Technical Assn. of the Pulp and Paper Industry. Water Absorption of Bibulous Papers, Standard T 432 m-45; 1945. For paper having a fairly rapid rate of water absorption, such as paper toweling. Covers test specimen, procedure, report, and precision.

472. PAPER BOARDS

472.0 GENERAL ITEMS

Technical Assn. of the Pulp and Paper Industry. Puncture Test of Container Board, Tentative Standard T 803 m-44; 1944. A measure of the energy required to force a puncture head of designated size and shape completely through a sample of container board. Covers apparatus, test specimen, procedure, report, and additional information.

472.2 PASTED BOARD (TWO OPERATIONS)

472.25 Corrugated Strawboard

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 19-10C; 1944. Fillers, Interior Packing, Fiberboard, Corrugated, Single and Double Faced (for General Packing Purposes).

472.9 MISCELLANEOUS BOARDS

472.93 Fiber Board

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part V—Miscellaneous Standards. No. 550—Insulation for Cold Storage Rooms. Covers purpose, scope, thickness of insulation, and table showing equivalent thickness of corkboard for various room temperatures.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3560; 1946. Fibreboard, Solid. Gives material, application, construction, requirement, quality, reports, marking, approval, and rejections.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-134; 1945. Board, Ammunition Container.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-135; 1945. Board, Kraft (for Ammunition Containers).

472.95 Illustrating Board

U. S. Gov., U. S. Army, Corps of Engineers Specification 19-66; 1044. Paperboard, Road Sign.

473. BUILDING PAPER

473.2 FELTS (CARPET LINING, DEADENING, SATURATION)

American Society for Testing Materials, D727-45; 1945. Technical Assn. of Pulp and Paper Industry Standard Method T427 m-43. Standard Method of Test for Kerosine Number of Roofing and Flooring Felt by

the Vacuum Method. This method of test is for the absorptive qualities of felt. Gives kerosine number, apparatus, kerosine, test specimens, procedure, and calculation and report.

Technical Assn. of the Pulp and Paper Industry. Saturating Properties of Roofing Felt, Standard T 427 m-43; 1943. Covers apparatus, reagent, test specimens, procedure, and report for kerosine test, oil-penetration test, and xylene-penetration test.

473.3 THERMAL INSULATING PAPER AND FIBER

Air Conditioning and Refrigerating Machinery Assn. Inc. Equipment Standards, 1946. Part V—Miscellaneous Standards. No. 550—Insulation for Cold Storage Rooms. Covers purpose, scope, thickness of insulation, and table showing equivalent thickness of corkboard for various room temperatures.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-908-46; 1945. Paper, Insulation for Refrigerator Cars. Gives manufacture, physical properties and tests, permissible variations, and inspection and rejection.

U. S. Gov., Federal Specification Hh-I-571a; 1945 and Amend. 1; 1945. Insulation (Vegetable or Wood-Fiber); Blanket, Felt, and Loose-Fill. Covers three classes—(A) flexible blanket, (B) semi-rigid felt, and (C) loose-fill. Manufactured from cleaned and sterile wood or other vegetable fiber; or a mixture of animal hair and wood-bark fiber. Gives requirements for thermal conductivity, density, construction, flexibility, and thickness; method of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 17F5e; 1946. Fiber, Insulating.

474. CARDBOARD

474.9 MISCELLANEOUS CARDBOARDS

U. S. Gov., Army Air Forces Specification 27588-1; 1945. Card; Instrument Record.

U. S. Gov., Federal Specification UU-C-78a; 1943. Amend. 1; 1946. Cards; Guide (Card-Size). Covers one type and one grade. Gives requirements for material and workmanship, color, grain, finish and cleanliness, projections, bid samples, stock, ash, acidity, sizing, weight, bursting strength, thickness, tabs, and sizes; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification UU-C-128a; 1946. Cards; Index. Covers four grades—(I) 100 percent (for permanent records); (II) 50 percent; (III) 25 percent; and (IV) chemical wood. Gives requirements for sizes, weights, material and workmanship, ply, ruling, writing, and erasing qualities, color, finish, cleanliness, edges, tolerances in dimensions, punching, grain, acidity, curl, comparison samples, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

476. TISSUE PAPER

476.2 INDUSTRIAL TISSUES

476.21 Carbon Paper

U. S. Gov., Federal Specification UU-P-154; 1945. Paper; Carbon, Standard-Weight (Pencil). Covers one grade and weight for pencil use in color and sizes as specified in the invitation for bids. Gives requirements for material and workmanship, curling, stock, weight, and serviceability; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification UU-P-158; 1945. Paper; Carbon, Typewriter, Black. Covers light-weight in two types—(I) special manifolding, 9 to 12 copies, and (Ia) standard manifolding, 5 to 8 copies; and standard-weight in one type—(II) standard manifolding 1 to 4 copies. Shall be furnished in types, in weights, and sizes as specified in the invitation for bids. Gives requirements for material and workmanship, curling, suitability, bid samples, comparison sample, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 53P19d; 1946. Paper, Carbon, Direct-Process-Duplicating.

476.9 MISCELLANEOUS TISSUE PAPER

U. S. Gov., U. S. Army, Army Air Forces Specification 75-424; 1944. Paper, White-Tissue (Photographic Dodging).

477. WRAPPING PAPER

477.8 WATERPROOF WRAPPING PAPER

U. S. Gov., Joint Army-Navy Specification JAN-P-125-1; 1946. Packaging and Packing for Overseas Shipment; Barrier-Materials, Waterproof, Flexible.

477.9 MISCELLANEOUS WRAPPING PAPERS

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2574A, 1946. Preservation of Engines (Limited Period). Provides a procedure for preparing reciprocating aircraft engines to resist corrosion during shipment and limited storage under favorable conditions. Gives requirements for material and equipment, preliminary operation, preparation for storage procedure, recommended procedure for re-preservation, and general.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-18a-1; 1946. Wadding; Creped Cellulose.

U. S. Gov., Joint Army-Navy Specification JAN-P-130; 1945. Packaging and Packing for Overseas Shipment—Barrier-Material; Utility, Noncorrosive, Paper.

U. S. Gov., Joint Army-Navy Specification JAN-P-224; 1945. Paper (Folling).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-70B; 1945. Felt, Protecting (Paper).

478. WRITING PAPER, DRAWING AND CHART PAPER

478.1 COMMERCIAL WRITING PAPER

478.11 Bond Writing Paper

U. S. Gov., Federal Specification UU-P-121d; 1946. Paper; Bond, White and Colored. Covers four

types—(I) 100 percent, white, for permanent records; (II) 50 percent, white and colored; (III) 25 percent, white and colored; and (IV) chemical wood, white and colored (grades A and B). Gives requirements for sizes, weights, material and workmanship, ruling, writing and erasing qualities, color, finish, formation, cleanliness, punching, comparison samples, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

478.12 Flat Writing Paper

U. S. Gov., Federal Specification UU-P-641a; 1946. Amend. 1; 1946. Paper; Writing. Covers one type and grade. Gives requirements for material and workmanship, stock, weight, folding endurances, bursting strength, size, ruling and writing quality, comparison sample, color, finish, formation, and cleanliness; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

478.13 Ledger Paper

U. S. Gov., Federal Specification UU-P-288a; 1946. Paper; Ledger. Covers three types—(I) 100 percent, white, for permanent records; (II) 25 percent, white and colored; and (III) chemical wood, white and colored. Gives requirements for sizes, weights, material and workmanship, writing, ruling, erasing qualities, color, finish, formation, cleanliness, comparison samples, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

478.19 Miscellaneous Commercial Writing Paper

U. S. Gov., Federal Specification UU-P-301a; 1946. Paper; Legal-Cap, Ruled. Covers one type and grade. Gives requirements for material, workmanship, stock, weight, folding endurance, bursting strength, size, ruling, writing and erasing qualities, comparison sample, color, finish, formation, and cleanliness; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

478.2 DUPLICATING PAPER

478.22 Manifold Paper (Includes Stencil Paper)

U. S. Gov., Federal Specification UU-P-328b; 1946. Paper; Manifold. Covers five types—(I) 100 percent, white and colored; (II) 50 percent, white and colored; (III) 50 percent, white, glazed; (IV) 25 percent, white and colored; and (V) chemical wood, white and colored. Gives requirements for sizes, weights, material and workmanship, writing quality, color, finish, formation, cleanliness, comparison samples, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification UU-P-543b; 1946. Paper; Stencil, Board. Covers two types—(I) un-oiled and (II) oiled; and three grades—(1) for stenciling and other purposes where a high degree of resistance to wear is required and (2 and 3) for stenciling purposes where only a moderate degree of use is required. Gives requirements for material and workmanship, size, pliability, stock, comparison sample, and details; methods of sampling,

inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification UU-P-545; 1943. Amend. 1; 1945. Paper; Stencil, Duplicating-Machine, Dry-Process. Covers one type, one grade, and one class. Gives requirements for materials, workmanship, backing sheet, cushion sheets, printing, sizes and scale numbers, odor, tensile strength, stretch, moisture resistance, permanence, opacity, finish, cut-outs and type filling, correction properties, use with stylus, and duplicating quality; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

478.23 Onionskin Paper

U. S. Gov., Joint Army-Navy Specification JAN-P-157; 1944. Paper, Onionskin (for Use in Ammunition).

478.24 Teletype Paper (Roll and Tape)

U. S. Gov., U. S. Army, Signal Corps Specification 71-1532; 1945. Teletypewriter Paper M-327.

478.3 INDUSTRIAL PAPER

478.31 Chart and Map Paper

U. S. Gov., U. S. Army, Corps of Engineers Specification 19-68; 1944. Paper, Map, Lithographic Finish, Sulphite, White.

U. S. Gov., U. S. Army, Signal Corps Specification 74-80; 1946. Meteorological Chart Paper.

478.32 Drawing Paper

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 10, revised 1945. Standard Form for National Aircraft Standard Drawings. Gives diagram and notes. Developed by National Aircraft Standards Committee.

479. MISCELLANEOUS SPECIFICATIONS FOR PAPER

479.2 GUMMED PAPER

U. S. Gov., Army-Navy Aeronautical Specification AN-T-12a-1; 1945. Tape; Adhesive, Moisture-Resistant.

U. S. Gov., Federal Specification UU-L-49; 1945. Labels; Paper, Gummed. Covers two types—(I) labels with water-soluble gum (class A—individual labels in seven styles, B—labels in books, C—labels in rolls, and D—labels for file holders) and (II) labels with water-insoluble gum in three styles. Gives requirements for sizes, material, workmanship, writing quality, curl, tolerance, and details for each type and style; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 735; 1945. Fly-Paper. Covers one grade in double sheets approximately 8 x 14-1/8 inches in size. Gives requirements for material, workmanship, tolerances, marking, tests, backing, and coating; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

479.4 MISCELLANEOUS PAPERS USED IN PRINTING PROCESS

U. S. Gov., Navy Dept. Specification 53P7d, 1945. Paper, Templet.

480-489

BOOKS AND OTHER PRINTED MATTER

481. BOOKS AND PAMPHLETS

- U. S. Gov., Army Air Forces Specification 41004; 1945. Handbook of Operation and Maintenance Instructions (Test Stands and Test Equipment).
- U. S. Gov., Army Air Forces Specification 41017; 1945. Handbook; Ground Radio and Radar Equipment Maintenance.
- U. S. Gov., Army Air Forces Specification 41018; 1945. Handbook; Ground Radio and Radar Equipment Operating.
- U. S. Gov., Army-Navy Aeronautical Specification AN-B-9b-1; 1946. Bulletins; Contractor Service (for Airframes, Engines, and Accessories).
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-85a-2; 1946. Catalogs; Aircraft Parts.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-100a-1; 1945. Catalogs; Radio and Radar Equipment Spare Parts.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-110; 1946. Catalogs; Engine Parts.
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-1b, 1945. Handbooks; Structural Repair (for Aircraft).
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-7b-2; 1945. Handbooks and Catalogs; General Specification for Preparation of.
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-8b; 1946. Handbooks; Pilots' Flight Operating Instruction.
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-8a-2; 1946. Handbooks; Service Instruction (for Aircraft Engines).
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-10-2; 1946. Handbooks; Overhaul Instruction (for Aircraft Engines).
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-11-2; 1946. Handbooks; Operation and Service Instruction (for Aircraft Accessories, Aircraft Engine Accessories, and Related Equipment).
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-12-3; 1946. Handbooks; Overhaul Instruction (for Aircraft Accessories, Aircraft Engine Accessories, and Related Equipment).
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-13A-3; 1946. Handbooks; Erection and Maintenance (for Aircraft).
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-19a-2; 1946. Handbooks; Radio and Radar Equipment Operating.
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-20a-2; 1946. Handbooks; Radio and Radar Equipment Maintenance.
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-21a-1; 1945. Handbooks and Catalogs; Radio and Radar Equipment (General Specification for Printing of).
- U. S. Gov., Joint Army-Navy Specification JAN-B-42-1; 1944. Book, Song, and Service.

485. DRAWINGS AND BLUEPRINTS

- U. S. Gov., Navy Dept. Specification 35D1e; 1946. Drawings, Instrument (Electrical) (for Navigational Purposes).

489. MISCELANEOUS PRINTED MATTER

- American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Rail Record Forms. The following forms are considered essential and are recommended for keeping records of rail purchased and in track. Gives forms for reporting results of mill inspection and shipments, for reporting and recording failures in track, for reporting heat numbers of rail in track, for reporting and recording measurements of rail batter, and miscellaneous.
- Manufacturing Chemists' Assn. of the U. S. Manual L-2. Product Caution Labels, adopted and revised, 1945. This manual contains product caution labels suggested for use on a selected group of chemical products. Shows illustrated labels of approximately seventy suggested labels for dangerous chemicals. It is anticipated that the manual will be supplemented from time to time.
- Manufacturing Chemists' Assn. of the U. S. Manual L-1. A Guide for the Preparation of Warning Labels for Hazardous Chemicals, adopted 1945. The development of new chemical products and the introduction of chemical processes into ever-widening fields has accentuated the need for furnishing appropriate information in those cases where special precautions are necessary. Includes general principles, preparation of precautionary labels, definitions, classification of hazards, recommended label cautions, labels for experimental samples, and specimen product labels.
- National Warm Air Heating and Air Conditioning Assn. Printed Forms Issued by the Assn., 1945. Includes "Information and Sketch Blanks" with spaces to fill in data and make sketches, "Work Sheets" for heat loss calculations and selection of equipment, "Warm Air Heating Agreements" being a standard uniform warm air heating agreement, and "Engineering Data Sheets" for use with the Technical Code.
- U. S. Gov., Army Air Forces Specification 27643; 1945. Labels; Identification (for Instrument Lines).
- U. S. Gov., Army Air Forces Specification 40985; 1945. Marking of Interior Packages (for Radio and Radar Equipment).
- U. S. Gov., Army-Navy Aeronautical Specification AN-B-11; 1946. Bill of Materials; Aircraft and Aeronautical Equipment.
- U. S. Gov., Army-Navy Aeronautical Specification AN-L-35; 1946. Lists; Parts Application Data.
- U. S. Gov., Army-Navy Aeronautical Specification AN-M-8a-2; 1946. Maintenance Parts Breakdown (for Aircraft).
- U. S. Gov., Army-Navy Aeronautical Specification AN-M-13-1; 1945. Marking and Tagging; Airframe, Engine, and Accessory Maintenance Parts.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Placards on Cars. Covers explosives, dangerous, and poison gas placards, commodity name on carloads, placards must be standard, and application of placards. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

490-499**MISCELLANEOUS PAPER PRODUCTS****494. ENVELOPES AND FILE FOLDERS**

U. S. Gov., Federal Specification UU-F-571c; 1944. Amend. 1; 1948. Folders; File (Calendered), Vertical. Covers three types—(I) 100 percent chemical pulp, extra durable; (II) 100 percent chemical pulp; and (III) not less than 70 percent chemical pulp. Gives requirements for construction, tabs, writing quality, color, sizes, expansion, bid samples, stock, acidity, weight, average thickness, and average tearing strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

496. TUBING

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R218-46; 1946. Paper Tubes for Packaging Milk-Bottle Caps. This recommendation is to ameliorate, as far as possible, the difficulties experienced by

dairies in fitting the paper tubes holding milk-bottle caps into the metal magazines on mechanical-capping and hand-capping machines. Gives table showing recommended dimensions for inside diameter of tube, cap clearance, and outside diameter of tube, for nine sizes of milk-bottle caps. Sponsored by Milk Cap Statistical Bureau and National Assn. of Sanitary Milk Bottle Closure Mfrs.

499. PAPER PRODUCTS NOT ELSEWHERE CLASSIFIED

U. S. Gov., Federal Specification GG-P-106; 1941. Amend. 1; 1946. Paper; Articulating. Covers two types—(I) blue and (II) red; and two classes—(A) sheets and (B) rolls. Gives material, workmanship, general requirements, and details for each class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

500-599

NONMETALLIC MINERALS

500-509 COAL, PETROLEUM, ASPHALT, AND MINERAL WAX

501. COAL AND COKE

501.0 GENERAL ITEMS

American Society for Testing Materials, D441-45; 1945. Standard Method of Tumbler Test for Coal. For determining the relative friability of a particular size of sized coal. Gives apparatus, collection of gross sample, preparation of sample, procedure, and report.

501.1 ANTHRACITE COAL

Anthracite Institute. Standard Anthracite Specifications, 1946. Lists standard mesh thru and over, tolerances, maximum percentage of slate, bone, and ash for broken; egg, stove, nut, pea, buckwheat, rice, barley, No. 4, and No. 5 sizes of anthracite (hard coal).

501.6 CHARCOAL

U. S. Gov., Joint Army-Navy Specification JAN-C-178A; 1945. Charcoal (for Use in Munitions).

502. PETROLEUM

502.0 GENERAL ITEMS

New York Produce Exchange. Rules Regulating the Petroleum Trade, 1929. Gives rules in effect among members of the Exchange. Covers committee on petroleum, crude petroleum, refined petroleum, naphtha and gasoline, inspection of barrels, preparation of barrels for lubricating oils, contracts and deliveries, and general rules.

502.2 PETROLEUM PRODUCTS

American Society for Testing Materials, D92-45; 1945. American Petroleum Institute Standard 511-45. American Assn. of State Highway Officials T 48. American Standards Assn., Z11.6-1945. Method of Test for Flash and Fire Points by Means of Open Cup. For all petroleum products except fuel oils and those having an open cup flash below 175 F. Gives apparatus, procedure, flash point, fire point, precautions, and precision.

American Society for Testing Materials, D855-45T; 1945. Tentative Method of Analysis of Petroleum Sulfonates. Covers procedures for the determination of mineral oil, sodium sulfonate, carboxylate soap, inorganic salt, free alkali content, combining weight, and specific gravity of crude and refined petroleum sulfonates. Gives outline of method, apparatus, reagents, mineral oil, oil-free total solids, sulfonate, carboxylate soap, inorganic salts and free alkali, water, average combining weight of sulfonate, specific gravity, and calculations.

U. S. Gov., Army Air Forces Specification 3580D-2; 1945. Fluid, Hydraulic (Petroleum Base).

U. S. Gov., Navy Dept. Specification 52C16a, 1945. Compound, Metal-Conditioning.

U. S. Gov., Navy Dept. Specification 52P14b, 1945. Petroleum-Residuum, Blown.

503. FUEL AND ILLUMINATING OILS

503.0 GENERAL ITEMS

American Society for Testing Materials, D86-45; 1945. American Petroleum Institute Standard 507-45. American Assn. of State Highway Officials T 115. American Standards Assn., Z11.10-1945. Method of Test for Distillation of Gasoline, Naphtha, Kerosine, and Similar Petroleum Products. Gives apparatus, preparation of apparatus, procedure, reproducibility of results, and correction for barometric pressure.

American Society for Testing Materials, D357-45; 1945. American Petroleum Institute Standard, 532-45. American Standards Assn., Z11.37-1945. Standard Method of Test for Knock Characteristics of Motor Fuels. For determining knock characteristics, in terms of an arbitrary scale of octane numbers, of fuels for use in spark-ignition engines other than engines for aircraft. Gives A.S.T.M. motor octane number, apparatus, reference fuels, standard engine and operating conditions, outline of test, starting and stopping the engine, obtaining standard knock intensity, adjusting bouncing pin, checking test conditions, adjusting compression ratio and carburetor, bracketing the test fuel, test fuel rating, reproducibility of results, and appendices.

Associated Factory Mutual Fire Insurance Companies. Pamphlet 28; 1939. Fuel Oil—Industrial Storage and Use. To indicate good practice for the installation of such equipment. Covers characteristics of fuel oils, fuel oil storage, oil distribution, oil burners, fuel oil applications, and safety devices for oil burners.

Associated Factory Mutual Fire Insurance Companies. Pamphlet 81; 1935. Fuel Gas—Safe Industrial Use. Fuel gas, extensively used in industry, introduces fire and explosion hazards which should be recognized and which can be safeguarded. Covers types of fuel gases, gas distribution, piping and storage, gas burners and mixers, application of fuel gases, and safety devices.

Natural Gasoline Association of America. Standard Factors for Volume Correction and Specific Gravity Conversion of Liquefied Petroleum Gases and Volatile Gasolines. N.G.A.A. Standard 2142; 1942. For converting measured volumes of liquefied petroleum gases and more volatile gasolines to standard volumes at 60° F. Gives tables showing specific gravity conversion factors and volume correction factors.

Natural Gasoline Association of America. Standard Method for Determining the Specific Gravity of Volatile Hydrocarbon Products by Means of the Hydrometer, 1942. Includes scope, apparatus,

test procedure, sampling, gravity determination, reproducibility, table showing specific gravity conversion factors, and table showing abridged volume correction factors.

- U. S. Gov., Federal Specification VV-L-791c; 1945. Lubricants and Liquid-Fuels; General Specifications (Methods for Sampling and Testing). Gives scope, apparatus, and drawings and a detailed description of the various methods of sampling and testing of lubricants and liquid fuels. These methods shall be used officially in the routine testing and inspection of lubricants and liquid fuels bought under the Federal Specifications.

503.1 BENZINE AND PETROLEUM ETHER

- U. S. Gov., Federal Specification O-E-751a; 1945. Ether, Petroleum; Technical-Grade. Gives requirements for appearance, odor, color, nonvolatile matter, spot test, acidity, and distillation range; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

503.2 DISTILLATES OF PETROLEUM

American Society for Testing Materials, D86-45; 1945. American Petroleum Institute Standard 507-45. American Assn. of State Highway Officials T 115. American Standards Assn., Z11.10-1945. Method of Test for Distillation of Gasoline, Naphtha, Kerosine, and Similar Petroleum Products. Gives apparatus, preparation of apparatus, procedure, reproducibility of results, and correction for barometric pressure.

- U. S. Gov., Army-Navy Aeronautical Specification AN-T-37a, 1945. Trichloroethylene; Stabilized Decreasing.

- U. S. Gov., Federal Specification O-T-634; 1945. Trichloroethylene; Technical-Grade. Covers one grade and two types—(I) regular, and (II) vapor-decreasing. Gives requirements for appearance, color, odor, specific gravity, nonvolatile matter, spot test, acidity-alkalinity, water content, distillation range, copper corrosion, and free chlorine; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Navy Dept. Specification 14F3; 1946. Fluid (Oil), Fog, No. 1.

503.3 GASOLINE AND NAPHTHA

American Society for Testing Materials, D838-45T; 1945. Tentative Specifications for Refined Solvent Naphtha. Gives scope, specific gravity, color, distillation range, acid wash color, acidity, sulfur compounds, and methods of testing.

American Society for Testing Materials, D839-45T; 1945. Tentative Specifications for Crude Light Solvent Naphtha. Gives scope, specific gravity, color, distillation range, acidity, and methods of testing.

American Society for Testing Materials, D840-45T, 1945. Tentative Specifications for Crude Heavy Solvent Naphtha. Gives scope, specific gravity, color, distillation range, acidity, and methods of testing.

American Society for Testing Materials, ES-45a; 1945. Emergency Method of Test for Olefins, Aromatics, Paraffins, and Naphthenes in Aviation Gasoline

(Without Distillation Into Fractions). Gives scope and principle of method; details for determination of olefins, determination of aromatics, and determination of paraffins and naphthenes; and appendices.

- U. S. Gov., Army-Navy Aeronautical Specification AN-F-18; 1946. Fuel; Aircraft-Engine, General Specification (Method for Supercharged Knock-Test).

- U. S. Gov., Army-Navy Aeronautical Specification AN-F-19; 1946. Fuel; Aircraft Engine, General Specification (Method for Knock-Test).

- U. S. Gov., Army-Navy Aeronautical Specification AN-F-32-3; 1946. Fuel; Grade K, Aircraft Engine.

- U. S. Gov., Army-Navy Aeronautical Specification AN-F-34; 1945. Fuel; Grade JP-2 Aircraft Engine.

- U. S. Gov., Army-Navy Aeronautical Specification AN-F-48; 1946. Fuel; Aircraft Reciprocating Engine.

- U. S. Gov., Army-Navy Aeronautical Specification AN-VV-N-96-4; 1945. Naphtha; Petroleum, Aromatic.

- U. S. Gov., Federal Specification VV-M-561; 1946. Amend. 1; 1946. Motor-Fuel M. Covers two grades designated as 72 and 80 octane. Each grade shall be of one grade only, with three automatic provisions for locality and climatic conditions, classified as A, B, and C. Gives requirements for material and workmanship, general requirements, distillation test, residue, vapor pressure, octane number, gum, sulfur, corrosion, tetraethyl lead content, and oxidation stability; methods of sampling and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Navy Dept. Specification 52N1c; 1945. Naphtha, Coal-Tar.

- U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-103C; 1946. Motor Fuel (All Purpose).

- U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-114B; 1945. Gasoline.

- U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-116A; 1945. Gasoline, White.

503.4 FUEL AND GAS OILS

- U. S. Gov., Navy Dept. Specification 7-0-1g, 1945. Oil, Fuel, Boiler.

- U. S. Gov., Navy Dept. Specification 7-0-2e, 1945. Oil, Fuel, Diesel.

- U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-102C; 1944. Oil, Fuel, Diesel, for High Speed, Automotive Type, Diesel Engines.

503.5 KEROSENE AND SIMILAR ILLUMINATING OILS

American Society for Testing Materials, D187-39; 1939. American Petroleum Institute Standard, 502-39. American Standards Assn., Z11.17-1939. Standard Method of Test for Burning Quality of Kerosene Oils. Intended for the determination of the burning quality of ordinary kerosene used for illuminating purposes. Gives apparatus, test room, procedure, and reproducibility of results. A.S.T.M. Emergency Alternate Provision, EA-D-187; 1945 affected section 2, apparatus; and section 4, procedure.

- U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-125; 1945. Kerosene.

503.6 MINERAL SEAL OIL

- U. S. Gov., Navy Dept. Specification 14-0-8d; 1945. Oil, Mineral, Light-Colored (for Cordage Oils).

504. LUBRICATING OILS, INSULATING OILS, AND GREASES (INCLUDES PARAFFIN OIL)

504.0 GENERAL ITEMS

American Gear Manufacturers Assn., Standard 250.01; 1946. Lubrication of Enclosed and Open Gearing. Covers the method of lubricating and the type and grade of oil to be used in enclosed gear drives and open gearing. Applicable to helical, herringbone, straight bevel, spiral bevel, worm, hypoid, and spur types of gearing. Gives limitations, lubrication of gear teeth, temperature, type of oil, and viscosity. Also gives scope, limitations, methods of lubrication, lubrication recommendations, and maintenance for lubrication of enclosed gear units and for oil lubrication of open gears.

American Society for Testing Materials, D92-45; 1945.

American Petroleum Institute Standard 511-45.

American Assn. of State Highway Officials T 48.

American Standards Assn., Z11.6-1945. Method of

Test for Flash and Fire Points by Means of Open

Cup. For all petroleum products except fuel oils

and those having an open cup flash below 175 F.

Gives apparatus, procedure, flash point, fire

point, precautions, and precision.

American Society for Testing Materials, D155-45T;

1945. Tentative Method of Test for Color of Lubri-

cating Oil and Petrolatum by Means of A. S. T. M.

Union Colorimeter. Gives scope, apparatus, proce-

dure for lubricating oil and petrolatum not darker

than 8 color, and procedure for lubricating oil and

petrolatum darker than 8 color.

American Society for Testing Materials, ES-43a; 1946.

Emergency Method of Test for Sulfated Residue From

Lubricating Oils. Intended for the determination

of sulfated residue from new and used lubricating

oils and from additive concentrates. Gives outline

of method, apparatus, reagents, preparation of

sample, procedure, calculation, and precision.

American Standards Assn., Z47.1-1945. Color Code for

Lubrication of Machinery (American War Standard).

To facilitate the application of the proper type of

lubricant to machinery. Gives scope and purpose,

identification system, table showing colors for

classes of lubricants, and appendix.

504.1 SPECIAL LUBRICATING OILS

504.19 Miscellaneous Lubricating Oils

U. S. Gov., Army Air Forces Specification 3582-A-3; 1945. Oil; Lubricating and Preservative.

U. S. Gov., Army Air Forces Specification 3606-1; 1945. Oil; Low Temperature Lubricating.

U. S. Gov., Army-Navy Aeronautical Specification AN-0-3-6; 1945. Oil; Low Temperature Lubricating Gear.

U. S. Gov., Army-Navy Aeronautical Specification AN-0-6a-3; 1945. Oil; General Purpose, Low Temperature Lubricating.

U. S. Gov., Army-Navy Aeronautical Specification AN-0-7-2; 1946. Oil; Preservative (for Hydraulic Equipment).

U. S. Gov., Navy Dept. Specification 14L7; 1945. Lubricant, High-Temperature.

U. S. Gov., Navy Dept. Specification 14L8, 1945. Lubricant, Turret, Roller and Pinion.

U. S. Gov., Navy Dept. Specification 14L9a; 1945. Lubricant, General-Purpose, No. 1.

U. S. Gov., Navy Dept. Specification 14L10a; 1945. Lubricant, General-Purpose, No. 2 (Wheel-Bearing, Chassis Lubricant—WB).

U. S. Gov., Navy Dept. Specification 14L11a; 1946. Lubricant, Water-Pump, No. 4.

U. S. Gov., Navy Dept. Specification 14-0-16; 1945. Oil, Lubricating (Dental).

U. S. Gov., Treasury Dept., Procurement Div., 737; 1945. Oil; Lubricating, General Household Use. Covers one type and one grade. Gives requirements for material, color and appearance, viscosity, flash point, pour point, neutralization number, corrosion, and water; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-27F; 1945. Oil, Lubricating, Light.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-122; 1944. Oil, Lubricating, Preservative Medium.

504.2 CYLINDER OILS

504.21 Compressor Oils for Air and for Ammonia Compressors

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-124; 1945. Oil, Lubricating, Refrigerant Compressors.

504.22 Engine Oils for Steam Engine Cylinders and for Turbines

U. S. Gov., Navy Dept. Specification 14-0-15; 1945. Oil, Lubricating, Turbine (Noncorrosive).

504.23 Cylinder Oils for Internal-Combustion Engines

U. S. Gov., Army-Navy Aeronautical Specification AN-0-8; 1946. Oil; Lubricating Aircraft-Engine.

504.3 MACHINE OILS

504.37 Hydraulic Oil

U. S. Gov., Army-Navy Aeronautical Specification AN-VV-0-366b-3; 1945. Oil; Hydraulic, Petroleum Base.

U. S. Gov., Navy Dept. Specification 14-0-19; 1945. Oil, Hydraulic (Noncorrosive).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-79R; 1945. Oil, Hydraulic.

504.4 LUBRICATING GREASES

504.43 Gear, Chain, and Wire Rope Greases

U. S. Gov., Treasury Dept., Procurement Div., 766; 1946. Lubricant; Gear, Universal. For worm, spiral, bevel, and hypoid gears requiring an extreme pressure (E. P.) lubricant. Covers two grades designed as 80 and 90 differentiated by viscosity. Gives material and workmanship, general requirements, viscosity, viscosity index, channel test, load-carrying capacity, stability test, corrosion tests, foaming test, and turbidity; methods of

sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-105B; 1946. Lubricant, Gear, Universal.

504.44 Graphite Greases

U. S. Gov., Army Air Forces Specification 3807; 1945. Grease; Lubricating Graphite.

U. S. Gov., Federal Specification VV-G-671b; 1945. Amend. 1; 1946. Grease; Lubricating, Graphite. Covers three grades—(A) soft, (E) medium, and (C) hard. Gives material and workmanship, general requirements, ash as sulfates, moisture, mineral oil content, and penetration; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

504.49 Miscellaneous Lubricating Greases

U. S. Gov., Army-Navy Aeronautical Specification AN-G-5a-1; 1945. Grease; High Temperature Lubricating.

U. S. Gov., Army-Navy Aeronautical Specification AN-G-3a-3; 1945. Grease; Low Temperature Lubricating.

U. S. Gov., Army-Navy Aeronautical Specification AN-G-10-4; 1945. Grease; Extreme Pressure Low Temperature Lubricating.

U. S. Gov., Army-Navy Aeronautical Specification AN-G-14a; 1945. Grease; Gasoline and Oil Resistant.

U. S. Gov., Army-Navy Aeronautical Specification AN-G-15-1; 1945. Grease; General Purpose Aircraft Lubricating.

U. S. Gov., Army-Navy Aeronautical Specification AN-G-25; 1946. Grease; Low Temperature Aircraft Lubricating (Low Volatility Type).

U. S. Gov., Federal Specification P-C-582; 1945. Compound; Lubricating, Dental. Covers one type. Gives requirements for material, workmanship, consistency, and tubes; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 14G1j; 1946. Grease, Lubricating, Mineral.

U. S. Gov., Navy Dept. Specification 14G7a; 1946. Grease, Wool, Rope-Lubricant.

U. S. Gov., Navy Dept. Specification 14L3c; 1946. Lubricant, Ball- and Roller-Bearing.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-39D; 1945. Grease, Aluminum Base.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-108B; 1946. Grease, General Purpose, No. 2.

504.5 PARAFFIN, PARAFFIN OIL, AND PARAFFIN WAX

504.50 General Items

Natural Gasoline Association of America. Standard Table of Physical Constants for the Paraffin Hydrocarbons. N.G.A.A. Standard 2145; 1942. Revised 1945. To provide the natural gasoline industry with authoritative numerical values of the physical properties of hydrocarbons commonly occurring in the natural gasoline range. Includes table showing physical constants of paraffin hydrocarbons, constants used in calculations, and examples of calculations.

504.51 Candles

U. S. Gov., Federal Specification C-C-91a; 1946. Candles. Covers one type and three classes—(A) 8-hour, (B) 6- to 8-hour, emergency, and (C) 4-hour. Gives requirements for material, workmanship, wick, burning, temperature effect, solubility, burning time and dimensions, and deformation; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Signal Corps Specification 74-64; 1945. Candle ML-90.

504.54 Paraffin Wax

American Society for Testing Materials, D612-45; 1945. American Petroleum Institute Standard, 544-45. American Standards Assn., 211.50-1945. Standard Method of Test for Carbonizable Substances in Paraffin Wax. Applicable to paraffin wax to ascertain whether it conforms to the standard of quality required for pharmaceutical use. Gives apparatus, reagents, procedure, and interpretation of results. Technical Assn. of the Pulp and Paper Industry. Melting Point of Paraffin Wax, Tentative Standard T 630 m-45; 1945. Covers definition, apparatus, procedure, report, and reproducibility. This procedure is standard method of American Society for Testing Materials, American Standards Assn., 211.4-1942, and American Petroleum Institute No. 513-42.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-23C; 1944. Wax, Paraffin.

504.6 PETROLATUM

American Society for Testing Materials, D156-45T; 1945. Tentative Method of Test for Color of Lubricating Oil and Petrolatum by Means of A. S. T. M. Union Colorimeter. Gives scope, apparatus, procedure for lubricating oil and petrolatum not darker than 8 color, and procedure for lubricating oil and petrolatum darker than 8 color.

American Society for Testing Materials, D565-45; 1945. American Petroleum Institute Standard, 545-45. American Standards Assn., 211.49-1945. Standard Method of Test for Carbonizable Substances in White Mineral Oil (Liquid Petrolatum). To ascertain whether it conforms to the standard of quality required for pharmaceutical use. Gives apparatus, reagents, procedure, and interpretation of results.

504.7 CUTTING OILS

U. S. Gov., Federal Specification VV-B-136; 1945. Base; Oil, Cutting, Sulphur and Chlorine Containing. Covers one grade. Gives general requirements for viscosity, pour point, flash point, color, water content, sediment, miscibility, corrosion, saponifiable oil content, sulfur, chlorine, and cutting performance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification VV-O-241; 1945. Oil; Cutting, Mineral. Covers two grades—No. 1, and No. 2. Gives general requirements and requirements for viscosity, flash point, pour point, water and sediment, and color; methods of sampling,

inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification VV-0-251a; 1945. Oil; Cutting, Mineral-Fatty-Oil-Blend. Covers three grades—No. 1, No. 2, and No. 3. Gives general requirements and requirements for viscosity, flash point, pour point, color, neutralization number, fatty oil content, sediment, gumming, corrosion, and water content; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification VV-0-275; 1945. Oil; Cutting, Sulfurized-Fatty-Mineral. Covers four grades designated by the letters A, B, C, and D; and grades A and B shall be two types designated by the numerals I and II. Gives general requirements and requirements for color, flash point, viscosity, pour point, water content, saponifiable oil, sulfur, and solubility test; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification VV-0-283; 1945. Oil; Cutting, Sulfurized-Mineral. Covers two grades designated by the numbers 1 and 2. Gives general requirements and requirements for viscosity, pour point, flash point, color, water content, saponifiable oil, and active sulfur; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 14-0-11b; 1945. Oil, Cutting, Mineral-Lard, Sulfur-Treated.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-123; 1945. Oil, Cutting, Sulfurized.

504.8 TRANSFORMER AND SWITCH INSULATING OILS

American Society for Testing Materials, D94-45; 1945.

American Petroleum Institute Standard, 547-45.

American Standards Assn., Z11.20-1945. Standard Method of Test for Saponification Number of Petroleum Products by Color Indicator Titration. The method is applicable to new and used petroleum oils including electrical insulating oils and to mixtures of fats and mineral oils. Gives definition, outline of method, apparatus, reagents, blank determinations, sample, procedure, calculation, identification of fat, and reproducibility of results.

American Society for Testing Materials, D831-45T; 1945. Tentative Methods of Test for Gas Content of Insulating Oils. Intended for determining the gas content of electrical insulating oils of low viscosities. Gives nature of test, sampling, apparatus, calibration of apparatus, procedure and calculation for routine method and for referee method; and explanatory note.

505. ASPHALT AND OTHER BITUMINOUS MATERIALS

505.0 GENERAL ITEMS

American Society for Testing Materials, D92-45; 1945.

American Petroleum Institute Standard 511-45.

American Assn. of State Highway Officials T 48.

American Standards Assn. Z11.6-1945. Method of Test for Flash and Fire Points by Means of Open

Cup. For all petroleum products except fuel oils and those having an open cup flash below 175 F. Gives apparatus, procedure, flash point, fire point, precautions, and precision.

505.1 ASPHALTS

505.13 Asphalt Cement

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives requirements for plastic cement.

U. S. Gov., Treasury Dept., Procurement Div., 278a; 1945. Cement, Fatty Acid Pitch Base, Plastic. Covers one type and one grade. Cement shall be composed of a suitable inorganic filler, suitable solvent, and a binder consisting essentially of a suitable fatty acid pitch base material. Intended for use in repair of roofs, walls, and foundations and as an expansion joint and caulking material. Gives requirements for colors, nonvolatile matter, inorganic filler and coloring material, workability, behavior at 70° C., behavior at 0° C., staining, and paint bleeding; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

505.14 Oil Asphalt

Asphalt Institute. Construction Series 51; 1940. Revised Specifications for Cut-Back Asphalts. Includes viscosity, distillation, tests on residue from distillation, new specifications for type RC and MC materials, methods of test, and uses for cut-back asphalts.

505.15 Asphalt and Other Bituminous Fillers

American Public Works Assn. Specification for Portland Cement Concrete Pavement, F1-44; 1944. Includes joint fillers. Gives requirements for bituminous premoulded fiber joint filler (A.S.T.M. designation D544) and poured joint filler including asphalt filler, flash point, softening point, penetration, loss on heating, ductility, total bitumen, and proportion of bitumen soluble in carbon tetrachloride.

U. S. Gov., Treasury Dept., Procurement Div., 278a; 1945. Cement, Fatty Acid Pitch Base, Plastic. Covers one type and one grade. Cement shall be composed of a suitable inorganic filler, suitable solvent, and a binder consisting essentially of a suitable fatty acid pitch base material. Intended for use in repair of roofs, walls, and foundations and as an expansion joint and caulking material. Gives requirements for colors, nonvolatile matter, inorganic filler and coloring material, workability, behavior at 70° C., behavior at 0° C., staining, and paint bleeding; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

505.16 Asphalt and Asphalt Felt for Roofing and Waterproofing

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division

II, Sections 17 and 18—Waterproofing and Damp-proofing. Gives general information and requirements for materials, storage of fabric, preparation of surface, application, damage patching, protection course, and measurement and payment.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives scope, design, types, and requirements for bitumen, asphalt for saturant and mopping above ground, asphalt for mopping below ground, coal-tar pitch for saturant and mopping, asphaltic primer, creosote primer, fabric, untreated fabric, treated fabric, felt, insulating paper, plastic cement, asphalt mastic, coal-tar pitch mastic, premoulded asphalt blocks, asphalt plank, materials for concrete, brick, inspection and tests, and application.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual of Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives requirements for asphaltic primer.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives requirements for felt.

American Society for Testing Materials, D249-45T; 1945. Tentative Specifications for Asphalt Roofing Surfaced with Coarse Mineral Granules. Cover asphalt roofing in sheet form surfaced with colored mineral granules, either 36 or 32 in. in width, composed of roofing-felt saturated and coated on both sides with asphalt and surfaced on the weather side with granulated slate or equivalent mineral material. Gives manufacture, character of felt, character of saturant and coatings, character of saturated felt, surface finish, physical properties, freedom from defects, pliability and stickiness, packing, marking, nails and lap-cement, sampling and testing, inspection, and basis of rejection. A. S. T. M. Emergency Alternate Provision EA-D 249c; 1945 affected table I physical requirements of asphalt roofing, section 10 packing, and section 12 nails and lap-cement.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R213-45; 1945. Asphalt Roll Roofing and Asphalt-and Tar-Saturated-Felt Products. To simplify the types and varieties of asphalt and tar roofing products. Gives tables showing item, unit area, shipping weight, and minimum weight of moisture free dry felt for smooth-surfaced roll roofing, mineral-surfaced roll roofing, roll siding, and saturated felt.

U. S. Gov., Treasury Dept., Procurement Div., 438b; 1945. Priming-Material, Fatty Acid Pitch Base; Brushing and Spraying Consistency (for Concrete, Masonry, and Other Mineral Surfaces). Covers one type and one grade of a suitable fatty acid pitch base dissolved in a suitable volatile organic solvent. Gives requirements for color, consistency, nonvolatile matter, ash content, heat and cold test, and paint bleeding test; methods of sampling,

inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Corps of Engineers Specification 81-61; 1945. Flooring, Felt, Asphalt Impregnated, 36 x 96 Inches.

505.17 Asphaltic Mastic Flooring

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives requirements for asphalt mastic.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives requirements for premoulded asphalt blocks.

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention 4.20; 1942. Making Factory Floors Watertight. Discusses wooden floors, concrete floors, general precautions, drainage, and waterproof covers. Covers adaptability, application, and limitations of hot asphalt mastic flooring, pitch mastic flooring, asphalt emulsion flooring, magnesite composition flooring, rubber membrane flooring, asphalt and membrane flooring, and lightweight surfacing.

U. S. Gov., U. S. Maritime Commission. Specification 59-MC-3 (Tentative); 1946. Deck Coverings; Asphalt Emulsion Mastic and Its Application in Refrigerated Spaces. Covers one type and one grade. Gives requirements for materials, workmanship, composition, preparation of base, mixing, method of application in refrigerated spaces, thickness, and details; inspection, sampling, and methods of test; and packaging, packing, and marking for shipment.

505.19 Miscellaneous Specifications for Asphalt

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual of Railway Engineering, 1946. Specifications for Bituminous Emulsions for Dampproofing. Covers materials and methods for dampproofing steel and concrete surfaces by use of asphalt emulsions (clay type) and concrete surfaces by use of coal-tar emulsions (soap type). Gives requirements for materials and application.

Asphalt Institute. Construction Series 53; 1940. Specifications for Emulsified Asphalts. Includes tests on emulsion and tests on residue (A. S. T. M. methods), and scope and uses.

U. S. Gov., Joint Army-Navy Specification JAN-P-102; 1944. Packaging and Packing for Overseas Shipment; Composition Topcoating Materials, Bituminous.

U. S. Gov., Treasury Dept., Procurement Div., 459b; 1945. Coating-Material, Fatty Acid Pitch Base; (Nonbleeding) Brushing-Consistency (for Foundations, Roofs, Walls, Etc.). Covers one type and one grade composed of suitable inorganic filler, volatile organic solvent, and binder consisting of suitable fatty acid pitch material; intended for use as a dampproofing material in the maintenance of bituminous and metal roofing and for application on walls and foundations. Gives requirements for

colors, consistency, nonvolatile matter, inorganic filler and coloring material, heat and cold test, and paint bleeding test; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

505.3 TAR AND TAR PITCH

505.35 Tar Cement

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives requirements for plastic cement.

U. S. Gov., Treasury Dept., Procurement Div., 278a; 1945. Cement, Fatty Acid Pitch Base, Plastic. Covers one type and one grade. Cement shall be composed of a suitable inorganic filler, suitable solvent, and a binder consisting essentially of a suitable fatty acid pitch base material. Intended for use in repair of roofs, walls, and foundations and as an expansion joint and caulking material. Gives requirements for colors, nonvolatile matter, inorganic filler and coloring material, workability, behavior at 70° C., behavior at 0° C., staining, and paint bleeding; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

505.36 Tar and Tar Felt for Roofing and Waterproofing

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Sections 17 and 18—Waterproofing and Damp-proofing. Gives general information and requirements for materials, storage of fabric, preparation of surface, application, damage patching, protection course, and measurement and payment.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives requirements for coal-tar pitch for saturant and mopping.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives requirements for felt.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R213-45; 1945. Asphalt Roll Roofing and Asphalt-and Tar-Saturated-Felt Products. To simplify the types and varieties of asphalt and tar roofing products. Gives tables showing item, unit area, shipping weight, and minimum weight of moisture free dry felt for smooth-surfaced roll roofing, mineral-surfaced roll roofing, roll siding, and saturated felt.

U. S. Gov., Treasury Dept., Procurement Div., 438b; 1945. Priming-Material, Fatty Acid Pitch Base; Brushing and Spraying Consistency (for Concrete, Masonry, and Other Mineral Surfaces). Covers one type and one grade of a suitable fatty acid pitch base dissolved in a suitable volatile organic solvent. Gives requirements for color, consistency,

nonvolatile matter, ash content, heat and cold test, and paint bleeding test; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

505.39 Miscellaneous Specifications for Tar

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual of Railway Engineering, 1946. Specifications for Bituminous Emulsions for Dampproofing. Covers materials and methods for dampproofing steel and concrete surfaces by use of asphalt emulsions (clay type) and concrete surfaces by use of coal-tar emulsions (soap type). Gives requirements for materials and application.

U. S. Gov., Navy Dept. Specification 52P71a; 1946. Primer and Enamel, Coal-Tar.

U. S. Gov., Treasury Dept., Procurement Div., 439b; 1945. Coating-Material, Fatty Acid Pitch Base; (Nonbleeding) Brushing-Consistency (for Foundations, Roofs, Walls, Etc.). Covers one type and one grade composed of suitable inorganic filler, volatile organic solvent, and binder consisting of suitable fatty acid pitch material; intended for use as a dampproofing material in the maintenance of bituminous and metal roofing and for application on walls and foundations. Gives requirements for colors, consistency, nonvolatile matter, inorganic filler and coloring material, heat and cold test, and paint bleeding test; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

505.4 BITUMINOUS SURFACE TREATMENTS

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-637; 1943. Bituminous Coatings for Steel Surfaces.

507. BITUMINOUS PRODUCTS

U. S. Gov., U. S. Army, Corps of Engineers Specification 83-25; 1946. Pipe and Fittings, Sewer, Bituminized-Fibre.

509. MISCELLANEOUS OILS

U. S. Gov., Treasury Dept., Procurement Div., 731; 1945. Oil; Penetrating. Covers one grade and one type intended for loosening frozen metallic parts, such as nuts, bolts, etc. Gives requirements for material, composition, color and appearance, viscosity, flash point, pour point, water, and corrosion; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 734; 1945. Oil; Air-Filter Screen (for Use with Automatic Air-Filter Screens). Covers one type, one grade, and two classes—(A) 100° F. pour point and (B) 350° F. pour point. Intended for use with multipanel automatic air-filters in air conditioning systems. Gives requirements for mineral oil, flash point, viscosity at 1000 F., pour point, neutralization number, color, and odor; methods of sampling, inspection, and tests; and packaging and marking for shipment.

510-519**STONE, SAND, AND CEMENTITIOUS MATERIAL****511. STONE AND STONE MANUFACTURES****511.7 ROCK AND STONE FOR ROAD BUILDING****511.72 Riprap**

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 15—Riprap. Gives requirements for materials, dry riprap for slopes, mortared riprap for slopes, grouted riprap for slopes, stone riprap for foundation protection, and concrete riprap in bags; and concrete slab riprap including general information and requirements for concrete, placing, and measurement and payment.

512. SAND, GRAVEL, BROKEN STONE, SLAG**512.1 SAND, GRAVEL, BROKEN STONE****512.13 Fine Aggregate**

U. S. Gov., Federal Specification SS-A-281a; 1941. Amend. 2; 1945. Aggregate; (for) Portland-Cement-Concrete. Covers two classes—(1) fine aggregate and (2) coarse aggregate, two grades—(A) for use in concrete structures in general and (B) for use only in concrete protected from the weather. Gives requirements for sizes, materials, grading, mortar strength, soundness, and resistance to abrasion; methods of sampling, inspection, and tests; and packing and marking.

512.14 Coarse Aggregate

American Public Works Assn. Specification for Portland Cement Concrete Pavement, F1-44; 1944. Includes concrete Aggregates. A.S.T.M. designation C33 adopted as part of these specifications for both fine and coarse aggregate. At least two sizes of coarse aggregate shall be used to insure uniformity. Gives table showing grading of coarse aggregate and soundness test.

U. S. Gov., Federal Specification SS-A-281a; 1941. Amend. 2; 1945. Aggregate; (for) Portland-Cement-Concrete. Covers two classes—(1) fine aggregate and (2) coarse aggregate, two grades—(A) for use in concrete structures in general and (B) for use only in concrete protected from the weather. Gives requirements for sizes, materials, grading, mortar strength, soundness, and resistance to abrasion; methods of sampling, inspection, and tests; and packing and marking.

514. GYPSUM, GYPSUM PLASTERS, AND OTHER PLASTERS**514.2 CALCINED GYPSUM (PLASTER OF PARIS)**

U. S. Gov., Federal Specification SS-P-446; 1946. Plaster-of-Paris; Dental and Orthopedic. Covers three types—(I) model and orthopedic, (II) impression, and (III) impression, self-separating. Gives requirements for material, workmanship, instructions, fineness, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

514.3 GYPSUM PLASTER

U. S. Gov., Federal Specification SS-P-402; 1946 and Amend. 1; 1945. Plaster; Gypsum. Covers five types—(N) neat, (W) wood fibered, (B) prepared sanded brown coat, (S) prepared sanded scratch coat, and (G) calcined gypsum for finishing coat. Gives requirements for material and workmanship, chemical composition, and physical properties; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

514.4 LIME PLASTER

National Lime Assn. Specifications for Lime and Its Uses in Plastering, Stucco, Unit Masonry and Concrete, 1945. Includes lime plaster and lime stucco. Gives materials, plaster proportions and application (base coats), plaster proportions and application (finish coats), stucco proportions and application (base coats), and stucco proportions and application (finish coat).

515. MAGNESITE

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss-Prevention, 4.20; 1942. Making Factory Floors Watertight. Discusses wooden floors, concrete floors, general precautions, drainage, and waterproof covers. Covers adaptability, application, and limitations of hot asphalt mastic flooring, pitch mastic flooring, asphalt emulsion flooring, magnesite composition flooring, rubber membrane flooring, asphalt and membrane flooring, and lightweight surfacing.

U. S. Gov., U. S. Maritime Commission. Specification 59-MC-2 (Tentative); 1944. Deck Covering; Magnesite Oxchloride Cement (Magnesite) and Its Application. Covers one grade for each type and three types—(I) single coat application, (II) base coat, and (III) finish coat. Gives requirements for materials, workmanship, composition, preparation of steel deck, mixing, method of application, thickness, efflorescence, and details; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

516. CEMENT, CONCRETE, AND MORTAR**516.0 GENERAL ITEMS**

American Concrete Institute. ACI Standards-1945. American Standards Assn., A89.1-1946. Building Regulations for Reinforced Concrete, ACI 318-41. Gives general requirements, materials and tests, concrete quality and working stresses, mixing and placing concrete, forms and details of construction, design—general considerations, flexural computations, shear and diagonal tension, bond and anchorage, flat slabs—with square or rectangular panels, reinforced concrete columns and walls, and footings.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-114; 1946. Supplementary Equipment, Set No. 13 Soil Testing (Concrete).

516.1 CEMENT**516.11 PORTLAND CEMENT**

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division IV, Section 1—Cement. Covers five types—(I) general concrete construction, (II) general concrete construction exposed to moderate sulfate action, (III) high early strength, (IV) low heat of hydration, and (V) high sulfate resistance. Gives requirements for sampling and testing.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Standard Specifications for Portland Cement. Gives scope, basis of purchase, definition, chemical requirements, physical requirements, packaging and marking, storage, inspection, rejection, and methods of testing.

U. S. Gov., Federal Specification SS-C-192; 1946. Cements; Portland. Covers ten types of Portland cement—five types without air-entraining agents, each designated by number, and five corresponding types with air-entraining agents, each designated by inclusion of the letter "A" in the type number; type (I) for use in general concrete construction; (II) for use in general concrete construction and in construction exposed to moderate sulfate action, or where moderate heat of hydration is required; (III) for use where high early strength is required; (IV) for use where low heat of hydration is required; and (V) for use where high sulfate resistance is required. Gives requirements for material and workmanship, chemical requirements, physical requirements, and additions during grinding; methods of sampling, inspection, and testing; and packaging, packing, and marking for shipment.

516.19 Miscellaneous Cements

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-694; 1944. Cement; Hydraulic, Blast-Furnace Slag.

U. S. Gov., Federal Specification SS-C-158b; 1946. Cements, Hydraulic; General Specifications (Methods for Sampling, Inspection, and Testing). Covers requirements which are common to all specifications for cements unless specifically excepted in detail specification. It does not describe the material or article but provides means for determining whether the material or article conforms to the detail requirements. Complete test methods are given in detail.

U. S. Gov., Navy Dept. Specification 32C8c; 1945. Cement, Silica.

516.2 STUCCO

National Lime Assn. Specifications for Lime and Its Uses in Plastering, Stucco, Unit Masonry and Concrete, 1945. Includes lime plaster and lime stucco. Gives materials, plaster proportions and application (base coats), plaster proportions and application (finish coats), stucco proportions and application (base coats), and stucco proportions and application (finish coat).

516.3 CONCRETE AND MORTARS

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 4—Concrete Masonry. Gives general requirements, care and storage of concrete aggregates, storage of cement, classes of concrete, classification and proportioning of concrete mixtures, consistency, measurement of materials, mixing concrete, handling and placing concrete, pneumatic placing, pumping, depositing concrete under water, construction joints, rubble or cyclopean concrete, concrete exposed to sea water, concrete exposed to alkali soils or alkali water, falsework and centering, forms, removal of falsework and forms, concreting in cold weather, curing concrete, expansion and fixed joints and bearings, and finishing concrete surfaces.

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 24—Separate Concrete Wearing Surface. Gives general description and requirements for measurement and payment.

American Concrete Institute. ACI Standards-1945. Recommended Practice for the Design of Concrete Mixes, ACI 613-44. Gives introduction, recommended procedure, and appendix; and tables showing net water-cement ratios for various types of construction and exposure conditions, compressive strength for various water-cement ratios, recommended slumps for various types of construction, maximum size of aggregate recommended for various types of construction, approximate sand and water contents per cubic yard of concrete, typical minimum program of concrete mix tests, strength data from concrete mix tests, rules and increments for mix adjustments, and mixes for small jobs.

American Concrete Institute. ACI Standards-1945. Recommended Practice for Measuring, Mixing, and Placing Concrete, ACI 614-42. Gives introduction, measurement, mixing, placing, general considerations, and closure.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Concrete and Reinforced Concrete Railroad Bridges and Other Structures. Gives general assumptions, design loads for railway structures, summary of working stresses, direct stress in concrete, shearing stress in concrete, and stresses in reinforcement.

American Society for Testing Materials, C178-45T; 1945. Tentative Specifications for Air-Setting Refractory Mortar (Wet Type) for Boiler and Incinerator Service. For use in laying up fireclay refractories in boiler furnaces and incinerators. Gives classes, quality, test requirements, sampling, retests, and methods of testing.

American Society for Testing Materials, C198-45T; 1945. Tentative Method of Test for Bonding Strength of Air-Setting Refractory Mortar (Wet Type). Covers a procedure for determining the bonding strength of air-setting refractory mortar (wet type) by obtaining the modulus of rupture of oven-dried brick-mortar joints. Gives apparatus and supplies, sampling, procedure, and report.

American Society for Testing Materials, C199-45T; 1945. Tentative Method of Test for Refractoriness of Air-Setting Refractory Mortar (Wet Type). Covers a procedure for determining refractoriness of three classes of air-setting refractory mortar (wet type) by heating a pier of brick laid up with the test mortar to learn whether the prescribed heat treatment causes the mortar to flow out of the joints. Gives apparatus and supplies, sampling, procedure, and report.

American Standards Assn., A59.1-1945. Sponsored by Gypsum Assn. and Building Officials Conference of America, Inc. Reinforced Gypsum Concrete. Gives requirements for materials, strength of gypsum concrete, allowable stresses, design, and inspection.

National Lime Assn. Specifications for Lime and Its Uses in Plastering, Stucco, Unit Masonry, and Concrete, 1945. Includes mortars for use in unit masonry and lime in concrete. Gives materials, batching, proportions, concrete for footings and foundation walls, reinforced concrete above grade, and paving, driveways, etc.

U. S. Gov., Navy Dept. Specification 32M3c; 1945. Mortar, Refractory, High-Temperature, Air-Setting.

516.4 CONCRETE BRICKS, BLOCKS, AND CAST STONE

American Concrete Institute. ACI Standards-1945. Specification for Cast Stone, ACI 704-44. Gives definition, minimum compressive strength, average water absorption, aggregate, selection of specimens for testing, and methods of testing.

American Institute of Architects and The Producers' Council, Inc., sponsors. American Standards Assn., A62.3-1946. Standard Sizes of Clay and Concrete Modular Masonry Units. Covers unit sizes and permissible size variations for clay and concrete modular masonry units. Gives scope, definitions, clay masonry units, concrete masonry units, and appendix.

Cast Stone Institute. Complete Architectural Specifications for Cast Stone, 1945. The work covered by this specification is subject to the provisions of the General Conditions of the Contract. Covers scope of work, division of work, drawings and details, kind and finish, models and carving, tests, handling and storing at site, setting mortar, centering, anchors, setting, protection, cleaning, pointing, and patching.

Cast Stone Institute. Short Form Basic Specification for Cast Stone. Cast stone shall be the product of an established manufacturer whose material has previously been used in similar work with satisfactory results. Covers physical quality, color and finish, workmanship, curing, samples, tests, and notes.

Underwriters' Laboratories, Inc., 1945. Standard for Concrete Masonry Units. Covers hollow and solid concrete masonry units which have been shown by fire tests to be eligible for fire retardant classifications under standard fire exposure conditions as specified in the American Standard Fire Test Specifications. Gives design, dimensions, materials, cement, cement-aggregate proportion, aggregate, strength, consistency, curing methods, and fire endurance tests.

517. LIME

517.0 GENERAL ITEMS

American Society for Testing Materials, C110-45T; 1945. Tentative Methods of Physical Testing of Quicklime and Hydrated Lime. Gives test procedures for residue, standard consistency of lime putty, plasticity of lime putty, soundness of hydrated lime, popping and pitting of hydrated lime, and water retention of hydrated lime:

National Lime Assn. Specifications for Lime and Its Uses in Plastering, Stucco, Unit Masonry and Concrete, 1945. Includes methods of test. Gives sampling, chemical composition, physical testing, preparation of putty from quicklime, unhydrated oxides, fineness, popping and pitting, plasticity, soundness, residue, and water retentivity.

517.2 HYDRATED LIME AND QUICKLIME

National Lime Assn. Specifications for Lime and Its Uses in Plastering, Stucco, Unit Masonry, and Concrete, 1945. Includes finishing hydrated lime; masons hydrated lime; quicklime—lump, pebble, crushed, granular and ground; and quicklime—pulverized. Gives definition, uses, scope, chemical composition, residue, fineness, soundness, pitting and popping, plasticity, water retentivity, and methods of test.

518. CONSTRUCTION WORK

518.0 GENERAL ITEMS

Associated General Contractors of America, Inc. Manual, 1946. Contracts. Includes standard contract forms for engineering construction, standard building contract of the American Institute of Architects, subcontract form, standard government contract—U. S. Standard Form No. 23, A.G.C. cost plus a fee contract, construction service contract—principles and practice, equipment rental agreement, and A.G.C. proposal form.

Associated General Contractors of America, Inc. Manual, 1946. Estimating and Accounting. Includes highway estimate sheets, building estimate summary, job overhead summary, contractors' equipment ownership expense, and equipment record.

Associated General Contractors of America, Inc. Manual, 1946. Investigation of Bidders. Includes standard pre-qualification questionnaires and financial statements for prospective bidders, standard questionnaires and financial statement for bidders, and financial statement and questionnaire for credit transactions.

Associated General Contractors of America, Inc. Manual, 1946. Miscellaneous. Includes advantages of winter construction, the functions of a general contractor, A.G.C. governing measures, and A.G.C. code of ethics.

518.1 GRADING FOR ROADS

518.10 General Items

American Society for Testing Materials, D420-45; 1945. Standard Methods of Surveying and Sampling Soils for Highway Subgrades. Covers purpose, scope, and equipment for subgrade survey, soil

profile determination, examination of soil section, for roads in service and new roads, typical survey sheets, and analysis of data.

518.3 PAVEMENT SURFACES

518.30 General Items

American Assn. of State Highway Officials. Design Standards for Construction and Reconstruction of Secondary and Feeder Roads, 1945. Gives definition, traffic basis, design speed, sharpest curve, maximum gradient, non-passing sight distance, width of surfacing or pavement, width of roadbed, new bridges, bridges to remain, and width of right-of-way.

American Assn. of State Highway Officials. Design Standards for the National System of Interstate Highways, 1945. Gives definition, traffic basis, control of access, railroad crossings, crossroads, design speed, alignment control, sight distance, gradients, pavement widths, divided highways, three-lane highways, shoulders, slopes, right-of-way, culverts, bridges, and design policies.

518.31 Cement Concrete Pavements

American Concrete Institute. ACI Standards-1945. Specifications for Concrete Pavements and Bases, ACI 617-44. Gives scope, materials, proportions of materials, measurement and handling of materials, mixing, high early strength concrete, subgrade preparation, forms, installation of joints and reinforcement, placing and finishing concrete, curing, miscellaneous, and table showing proportions based on uniform cement content.

American Public Works Assn. Specification for Portland Cement Concrete Pavement, F1-44; 1944. Intended to cover average conditions for concrete and reinforced concrete pavements. Gives subgrade, materials, pavement section, joints, forms, water supply, curb and gutter, proportioning concrete, mixing concrete, depositing concrete, finishing concrete, curing, protection and opening to traffic, acceptance, and recommendations on design.

518.34 Bituminous Macadam and Bituminous Concrete Pavements

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 24—Bituminous Carpets. Gives general information and requirements for materials, preparation of subfloor, construction of tar mat surface, construction of asphalt mat surface (mixed method), construction of asphalt mat surface (penetration method), opening to traffic, and measurement and payment.

American Public Works Assn. Standard Specification for Bituminous Macadam Pavement, G2-46; 1946. Intended to serve the public works engineer as a guide or model in the preparation of actual contract specifications. Covers general requirements, materials, construction, protection of pavement, and maintenance.

American Public Works Assn. Standard Specification for Asphaltic Concrete Pavement, G3-46; 1946. Intended to serve the public works engineer as a guide or model in the preparation of actual

contract specifications. Covers general requirements, materials, paving plant, paving plant operation, construction, and maintenance.

American Public Works Assn. Standard Specification for Cold Laid Asphaltic Concrete Pavement, G4-46; 1946. Intended to serve the public works engineer as a guide or model in the preparation of actual contract specifications. Covers general requirements, materials, paving plant, paving plant operation, construction, and maintenance.

518.37 Asphalt Pavements

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 24—Asphalt Block Wearing Surface. Gives general information and requirements for materials, preparation of subfloor, mortar bed, laying the blocks, opening to traffic, and measurement and payment.

American Public Works Assn. Standard Specification for Sheet Asphalt Pavement, G1-46; 1946. Intended to serve the public works engineer as a guide or model for the preparation of actual contract specifications. Covers general requirements, materials, paving plant, paving plant operation, construction, and maintenance.

Asphalt Institute. Construction Series 52; 1940. Revised Specifications for Slow-Curing Liquid Asphaltic Road Materials. Includes new specifications for type SC materials and methods of test (A.S.T.M. methods).

Asphalt Institute. Construction Specifications, A-2-a; 1945. Hot-Mix, Hot-Laid, Asphaltic Concrete Paving (Dense Graded Aggregate Type). Includes description, asphalt cement, coarse aggregate, fine aggregate, mineral filler, characteristics of paving mixtures, approval of materials, methods of testing, paving plant inspection, paving plant essentials, preparation of asphalt cement, preparation of mineral aggregate, preparation and composition of mixture, transportation of mixture, placing asphalt mixture, joints, compaction of mixture, method of measurement, basis of payment, and methods of testing mixtures.

Asphalt Institute. Construction Specifications, A-2-b; 1945. Hot-Mix, Hot-Laid, Asphaltic Concrete Paving (Graded Aggregate Type). Includes description, asphalt cement, coarse aggregate, fine aggregate, mineral filler, characteristics of paving mixtures, approval of materials, methods of testing, paving plant inspection, paving plant essentials, preparation of asphalt cement, preparation of mineral aggregate, preparation and composition of mixture, transportation of mixture, placing asphalt mixture, joints, compaction of mixture, method of measurement, basis of payment, and methods of testing mixtures.

Asphalt Institute. Construction Specifications, P-1; 1945. Asphalt Priming of Granular Type Base Courses. Includes description, asphalt primer, sand, approval of materials, methods of testing, preparation of existing surface, application of asphalt primer, application of sand cover, methods of measurement, basis of payment, and important notice to engineers.

Asphalt Institute. Inspection of Hot-Mix, Hot-Laid Asphaltic Concrete Paving, 1945. Includes inspection personnel, paving plant inspection, asphalt plant inspector's daily report, job inspection, and job inspector's daily report.

518.39 Miscellaneous Pavements Specifications

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for the Construction of Prefabricated Sectional Treated Timber Crossings. Gives general requirements, track structure and size of crossing, materials, size of sections, fabrication, flange-ways and fillers, treatment, installation, and relation of crossing to adjacent pavement.

518.4 BRIDGE CONSTRUCTION

518.41 Bridges

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division I. General Provisions includes definition of terms, proposal requirements and conditions, award and execution of contract, scope of the work, control of the work, control of materials, legal relations and responsibility to public, prosecution and progress, and measurement and payment. Division II. Construction includes excavation and fill, sheet piles, bearing piles, concrete masonry, reinforcement, ashlar masonry, mortar rubble masonry, dry rubble masonry, brick masonry, steel structures, bronze or copper-alloy bearing and expansion plates, steel grid flooring, railings, painting metal structures, riprap, concrete cribbing, waterproofing, dampproofing, name plates, timber structures, preservative treatments for timber, timber cribbing, sectional plate pipe and arches, and wearing surfaces. Division III. Design includes general features of design, loads, distribution of loads, unit stresses, pile loads and bearing, substructures and retaining walls, structural steel design, concrete design, design of timber structures, composite beams, sectional plate pipe, sectional plate arches, and rating of existing bridges. Division IV. Materials includes cement, water for use with cement, fine aggregate, coarse aggregate, reinforcement, structural, eyebar and rivet steels, wrought iron, steel forgings, steel castings, gray-iron castings, malleable castings, bronze or copper-alloy bearing and expansion plates, steel piles, steel sheet piling, steel grid floors, paint, welding, sheet metal for water stops and general use, sectional plate pipe and arches, stone for masonry, brick, bituminous materials and joint fillers, asphalt paving blocks, premolded asphalt plank, structural timber, lumber and piling, timber preservatives, and timber connectors.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Concrete and Reinforced Concrete Railroad Bridges and Other Structures. Gives general assumptions, design loads for railway structures, summary of working stresses, direct stress in concrete, shearing stress in concrete, and stresses in reinforcement.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Rigid Frame Concrete Bridges. Gives definitions and types, design, formulas for analysis, and details of design of various items involved.

518.42 Piling

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 2—Sheet Piles. For sheet piles to be left in place so that it becomes a part of the finished structure. Gives requirements for timber sheet piles, concrete sheet piles, steel sheet piles, and measurement and payment.

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 3—Bearing Piles. Gives requirements for materials, design and condition of use, preparation for driving, methods of driving, defective piles, determination of bearing values, test piles, order lists for piling, storage and handling of timber piles, cutting off timber piles, cutting off steel or steel shell piles, capping timber piles, manufacture of precast concrete piles, storage and handling of precast concrete piles, manufacture of cast-in-place concrete piles, extensions or "Build-Ups," painting steel piles and steel pile shells, measurement and payment (methods A and B), payment for test piles, and payment for loading piles.

518.43 Parapets and Railings

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 13—Railings, Concrete. Gives general information and requirements for materials, railings cast in place, precast rails, surface finish, expansion joints, and measurement and payment.

518.46 Bridge Arches

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 23—Sectional Plate Pipe and Arches. Gives general description and requirements for materials, description of plates, forming and punching plates, field erection—pipe structures, field erection—arches, strutting, arch substructures and headwalls, workmanship, method of measurement, and basis of payment.

518.5 BUILDING CONSTRUCTION AND MATERIAL

518.50 General Items

American Institute of Architects and The Producers' Council, Inc., sponsors. American Standards Assn., A22.1-1945. Standard Basis for the Coordination of Dimensions of Building Materials and Equipment. Establishes the basis for the coordination of dimensions of building materials and equipment, and the basis for the correlation of building plans with such dimensions. Gives scope, definitions, basis for coordination, correlation of building plans, correlation of details, coordinated modular products, American standard coordinated sizes, and standard coordinated details.

American Iron and Steel Institute. Building Classification and Fire Protection Regulations, 1945. Covers classification of buildings by occupancy, types of construction, general building restrictions—fire districts, heights and areas, special occupancy requirements, fire protection requirements, approved fire resistance ratings of materials and constructions, and exit requirements.

American Iron and Steel Institute. Building Code Modernization (A Series of Reference Bulletins). V—Steel Regulations, 1946. Covers hot-rolled structural steel for buildings, other steel constructions, building code regulations (riveted, bolted, or welded construction), steel joist construction, and formed steel constructions.

American Iron and Steel Institute. Building Code Modernization (A Series of Reference Bulletins). VII—Steel Piles for Foundations of Buildings, 1946. Covers steel foundation piles, recommended building code regulations for steel piles used in foundations of buildings, safe loads, concrete-filled steel pipe piles, rolled structural steel piles, and test of piles.

American Society for Testing Materials, C177-45; 1945. Standard Method of Test for Thermal Conductivity of Materials by Means of the Guarded Hot Plate. Describes procedures to be used in the determination of the thermal conductivity of insulating, building, and other materials. Gives scope, symbols and definitions, apparatus, sampling and preparation of specimens, procedure, calculations, and report.

Associated Factory Mutual Fire Insurance Companies. Pamphlet 32; 1930. Decay of Wood in Industrial Buildings. Covers nature and spread of decay, requirements of fungi for life and activity, decay-resistant construction, natural durability of lumber, lumber suitable for preservative treatment, wood preservatives, application of wood preservatives, and appendices.

Associated Factory Mutual Fire Insurance Companies. Pamphlet 75; 1929. Salamander Fires—A Winter Construction Hazard. Salamanders may be considered as portable, open heating stoves. Discusses salamander fire causes and preventions and gives a number example of salamander fires and discusses various types of damages.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Miscellaneous Publication M179; 1945. American Standards Assn., A58.1-1945. American Standard Building Code Requirements for Minimum Design Loads in Buildings and Other Structures. Intended to govern assumptions for dead, live, and other loads in the design of buildings and other structures. Gives general requirements, dead loads, live loads, soil and hydrostatic pressures, wind loads, earthquake loads—general, earthquake loads—major earthquakes, appendix, tables, and figures.

518.51 Buildings and Dwellings

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS125-45; 1945. Prefabricated Homes. To establish a measure of quality for prefabricated homes. Provides minimum

requirements for one, one and a half, and two story prefabricated homes. Covers structural strength of the various component parts, requirements for light and ventilation, and recommended requirements for foundations, chimneys, heating, plumbing, insulation, and electrical wiring. Gives definition, general requirements, detail requirements, and recommended requirements. Initiated by the Prefabricated Home Manufacturers' Institute.

U. S. Gov., U. S. Army, Corps of Engineers Specification 80-6; 1945. Barrack, Portable, Prefabricated, 20 by 48 Ft., Steel, Channel Frame, Insulated.

U. S. Gov., U. S. Army, Corps of Engineers Specification 80-7; 1945. Barrack, Portable, Prefabricated, 20 by 48 Ft., Steel, Angle Frame, Tropical.

U. S. Gov., U. S. Army, Corps of Engineers Specification 80-8; 1945. Barrack, Portable, Prefabricated, 20 by 48 Ft., Steel, Angle Frame, Insulated.

U. S. Gov., U. S. Army, Corps of Engineers Specification 80-9; 1945. Barrack, Portable, Precut, 20 x 48 Ft., Wood, Tropical.

U. S. Gov., U. S. Army, Corps of Engineers Specification 80-10; 1945. Barrack, Portable, Precut, 20 x 48 Ft., All Wood, Insulated.

U. S. Gov., U. S. Army, Corps of Engineers Specification 80-11; 1945. Barrack, Portable, Prefabricated, 20 by 48 Ft., Steel, Channel Frame, Tropical.

518.54 Inclosures

Society of Motion Picture Engineers, sponsor. American Standards Assn., Z22.28-1946. Dimensions for Projection Rooms and Lenses for Motion Picture Theaters. Gives projection lens height, projection angle, observation port, projection lens mounting, projection lens focal length, and projection objectives, focal markings.

518.55 Chimneys for Buildings

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 7.62; 1945. Factory Chimneys—Concrete and Brick. Specifications for the erection and repair of chimneys more than 50 ft. high. Covers details for concrete chimneys, radial brick chimneys, and common brick chimneys.

518.56 Floors for Buildings

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 4.20; 1942. Making Factory Floors Watertight. Discusses wooden floors, concrete floors, general precautions, drainage, and waterproof covers. Covers adaptability, application, and limitations of hot asphalt mastic flooring, pitch mastic flooring, asphalt emulsion flooring, magnesite composition flooring, rubber membrane flooring, asphalt and membrane flooring, and lightweight surfacing.

518.57 Ceilings and Roofing for Buildings

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 7.13; 1945. Anchorage for Factory Roofs—Principles and Design Data. Includes basis of design, wind forces, sheltering effects, suggested steps for designing

roof anchorage, workmanship, foundations, calculations, suggested methods of roof anchorage, and tables of data used in designing roof anchorage.

518.59 Miscellaneous Specifications for Building Construction and Materials

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part V—Miscellaneous Standards. No. 550—Insulation for Cold Storage Rooms. Covers purpose, scope, thickness of insulation, and table showing equivalent thickness of corkboard for various room temperatures.

National Fire Protection Assn. American Standards Assn., Z20.2-1946. Standard for Grandstands, Tents, and Other Places of Outdoor Assembly. Covers the design, construction, location, maintenance, and use of grandstands, tents, and other structures and premises for use or used as places of outdoor assembly. Its purpose is to specify reasonable standards as a means to safeguard persons and property insofar as it affects public safety. Gives definitions, places of outdoor assembly—general requirements, grandstands, tents, ways of egress from places of outdoor assembly, fire protection in places of outdoor assembly, sanitary arrangements in places of outdoor assembly, and appendix.

U. S. Gov., Navy Dept. Specification 52C12b; 1945. Compound, Calking (for Metal Seams and Airports).

U. S. Gov., Navy Dept. Specification 59B4b; 1945. Blanket, Sound-Absorbing.

U. S. Gov., Treasury Dept., Procurement Div., 684; 1945. Shields; Expansion, Fiber. Covers one type and two classes—(A) lag screw and (B) wood screw. Gives requirements for material, workmanship, design, fabrication, proof loads, water resistance, rot resistance, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

518.6 DRAINAGE STRUCTURES

518.67 Sewers, Sewer Pipe, and Drain Tile

Clay Sewer Pipe Assn., Inc. Standard Vitrified Clay Pipe and Fittings, 1945. Cooperating with the National Bureau of Standards, pipe manufacturers of the Clay Sewer Pipe Assn. now classify and identify their output according to a uniform schedule of standard and special items. Specifications of physical and chemical properties and test procedures are to be found in the current standards of the A.S.T.M. Covers standard strength and extra strength clay pipe intended to be used for the conveyance of sewage, industrial wastes, and storm water. Gives figures with tables showing sizes and dimensions.

518.8 MASONRY

518.80 General Items

American Institute of Architects and The Producers' Council, Inc., sponsors. American Standards Assn., A62.2-1945. Standard Basis for the Coordination of Masonry. Establishes principles which apply to, and are sufficient for, the coordination of masonry products. Gives scope, definitions, standardization of masonry unit sizes, and figure of nominal masonry unit.

American Institute of Architects and The Producers' Council, Inc., sponsors. American Standards Assn., A62.3-1946. Standard Sizes of Clay and Concrete Modular Masonry Units. Covers unit sizes and permissible size variations for clay and concrete modular masonry units. Gives scope, definitions, clay masonry units, concrete masonry units, and appendix.

518.81 Dry Rubble Masonry

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 8—Dry Rubble Masonry. Gives description and requirements for materials, size of stone, headers, shaping stone, laying stone, copings, bridge seats and backwalls, and measurement and payment.

518.82 Cement Rubble Masonry

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 7—Mortar Rubble Masonry. Gives description and requirements for materials, size, headers, shaping stone, laying stone, copings, bridge seats and backwalls, arches, painting, and measurement and payment.

518.83 Brick Masonry

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 9—Brick Masonry. Gives description and requirements for materials, construction, copings, bridge seats and backwalls, and measurement and payment.

518.89 Miscellaneous Specifications for Masonry

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 6—Ashlar Masonry. Gives description and requirements for materials, size of stone, surface finishes of stone, dressing stone, stretchers, headers, cores and backing, mixing mortar, laying stone, leveling courses, resetting, dowels and cramps, copings, arches, pointing, and measurement and payment.

518.9 MISCELLANEOUS CONSTRUCTION WORK

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 16—Concrete Cribbing. Gives general information and requirements for construction and measurement and payment.

American Petroleum Institute, Div. of Production. Standard 4; 1944. Supplement 1; 1946. Specification for Standard Rigs, Derricks, and Accessory Equipment. Covers material, workmanship and finish, steel derrick dimensions, steel derrick strength or capacity requirements, derrick substructures, standard rig parts, capacity rating of pumper structures, allowable unit stresses, specification for bolts, rating of radial bearings, rating of flat thrust bearings, nailed wood derrick dimensions, nailed wood derrick strength or capacity requirements, marking, inspection and rejection, and appendices.

520-529

GLASS AND GLASS PRODUCTS

520. GENERAL ITEMS

American Society for Testing Materials, C162-45T; 1945. Tentative Definition of the Term Glass. Glass is an organic product of fusion which has cooled to a rigid condition without crystallizing. Gives data for various types of glass.

Underwriters' Laboratories, Inc. Bulletin of Research, 35; 1945. Tests of Some Forms of Window Protection for Minimizing the Flying-Glass Hazard Caused by Air Waves From Explosions. Information about the effectiveness of various forms of protection against the flying-glass hazard involved in air-raid bomb attacks. Covers introduction, plan of investigation, test record, conclusions, and literature references.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Miscellaneous Publication M175; 1944. Antiscatter Treatments for Glass. Reports the results of an investigation covering different materials and methods for treating glass to prevent scattering. Gives introduction, review of literature, description of apparatus, method of test, description of materials, results of burst tests, results of accelerated aging tests, discussion, summary, references, and tabulation of data.

521. FLAT GLASS

521.1 PLATE GLASS

U. S. Gov., U. S. Army, Army Air Forces Specification 75-357-A, 1945. Glass, Selected plate (Photographic).

521.6 SPECIAL QUALITY GLASS

U. S. Gov., Army Air Forces Specification 12031A, 1945. Glass; Bullet-Resistant.

U. S. Gov., Navy Dept. Specification 60G1b; 1946. Glasses, Port-Light, Evaporator.

524. LIGHTING GLOBES AND SHADES

U. S. Gov., Navy Dept. Specification 17L5h; 1945. Lenses and Globes, Electric-Light.

525. LENSES

525.2 REFLECTORS

Illuminating Engineering Society. Specifications for Testing Lighting Equipment. Section III, undated. Narrow Beam Enclosed Projectors and Asymmetric Show-Window Reflectors. Narrow beam enclosed projectors includes introduction, description of floodlight, description of lamp, procedure for making observations, computation of results, results to be reported, and appendix of constants; and asymmetric show-window reflectors includes general requirements, selection, physical measurements, output, candlepower distribution, lumen

distribution, typical show-window example, appendix, other data to be reported, remarks, and tables.

U. S. Gov., U. S. Army, Army Air Forces Specification 94-40740-A; 1945. Reflector, Reflex Taxiway Delineator.

525.3 SIGNAL LAMP LENSES

U. S. Gov., Navy Dept. Specification 17L5h; 1945. Lenses and Globes, Electric-Light.

525.9 MISCELLANEOUS LENSES

U. S. Gov., Army-Navy Aeronautical Specification AN-C-70a; 1945. Covers; Light-Transmitting (for Aeronautical Lights).

526. CHEMICAL LABORATORY AND OTHER GLASSWARE

526.1 GLASS INSULATORS

U. S. Gov., U. S. Army, Signal Corps Specification 71-4935; 1944. Insulators, Pin-Type, Lime-Glass.

526.6 WATER GAUGES

U. S. Gov., Navy Dept. Specification 13G1f; 1945. Glasses, Gage, Round (for Pressures Up to 200 Pounds).

U. S. Gov., Navy Dept. Specification 13G2f; 1945. Glasses, Gage, Round and Flat, Reflex, Under 125 Pounds Pressure.

U. S. Gov., Navy Dept. Specification 13G3h; 1945. Glasses, Gage, Flat, Plain and Reflex, Over 125 Pounds Pressure.

526.9 MISCELLANEOUS SPECIFICATIONS FOR GLASS

U. S. Gov., Joint Army-Navy Specification JAN-G-174; 1945. Glass, Optical.

U. S. Gov., Navy Dept. Specification 23G7; 1946. Glass, Fibrous (for Life Preservers).

527. MIRRORS

U. S. Gov., Army Air Forces Specification 40956; 1945. Mirror, Rear-View, Type A-1.

U. S. Gov., Navy Dept. Specification 18M8a; 1946. Mirrors, Signaling, Emergency.

U. S. Gov., U. S. Maritime Commission. Specification 18-MC-7 (Tentative); 1944. Mirrors; Signaling, Hand. Covers heliographic type for hand use in one grade and size with metal base or glass base. Gives requirements for materials, workmanship, construction, size, planarity of reflecting surface, lanyard, wiping cloth, container, and details; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

528. GLASS CLOTH

U. S. Gov., Navy Dept. Specification 32G9; 1946. Glass, Fibrous: Cloth, Tape, and Thread (for Lagging Insulation).

530-539

CLAY AND CLAY PRODUCTS

531. CLAY

531.0 GENERAL ITEMS

American Society for Testing Materials, C71-46; 1945.

Definitions of Terms Relating to Refractories. Defines bond fire clay, diaspore clay, fire clay, flint fire clay, grog fireclay mortar, ground fire clay, nodular fire clay, plastic or bond fire clay, silica fire clay, abrasion of refractories, burning (firing) of refractories, corrosion of refractories, erosion of refractories, pyrometric cone equivalent, slagging of refractories, and spalling of refractories.

American Society for Testing Materials, C180-45;

1945. Standard Method of Panel Test for Resistance to Thermal and Structural Spalling of Fireclay Plastic Refractories. Covers the procedures for determining the resistance of high heat duty and super duty fireclay plastic refractories to the separate and combined effects of structural and thermal spalling. Gives apparatus, test specimens, procedure, preheating test panels, and spalling procedure.

American Society for Testing Materials, C181-45;

1945. Standard Method of Test for Workability Index of Fireclay Plastic Refractories. Covers a procedure for obtaining the workability index of fireclay plastic refractory material by measuring the plastic deformation of a molded test specimen when subjected to impacts. Gives apparatus, test specimens and their preparation, procedure, and calculation and report.

American Society for Testing Materials, C201-45T;

1945. Tentative Method of Test for Thermal Conductivity of Refractories. For determining the comparative thermal conductivity of refractories under standardized conditions of testing. Gives apparatus, test sample and its preparation, bulk density of test specimen, procedure, record of test data, calculations, and report.

American Society for Testing Materials, C202-45T;

1945. Tentative Method of Test for Thermal Conductivity of Fireclay Refractories. Gives scope, apparatus, test sample, installation of thermocouples in test specimen, setting up back-up insulation, sample, and silicon carbide slab, procedure, record of test data, calculations, and report.

531.3 FIRE CLAY

American Society for Testing Materials, C18-45; 1945.

Methods of Chemical Analysis of Refractory Materials. Covers procedures for the chemical analysis of fireclay, silica, high-alumina, and magnesite refractories, and of chrome ore and chrome refractories. Gives reagents and special solutions required, preparation of samples for analysis, statement of analysis, blank determinations, reproducibility of results; and details for testing the various materials named above.

U. S. Gov., Navy Dept. Specification 32C6e; 1945. Clay, Fire (for Foundry Use).

531.5 CLAY PRODUCTS, PIPE, CONDUIT, ETC.

Clay Sewer Pipe Assn., Inc. Standard Vitrified Clay Pipe and Fittings, 1945. Cooperating with the National Bureau of Standards, pipe manufacturers of the Clay Sewer Pipe Assn. now classify and identify their output according to a uniform schedule of standard and special items. Specifications of physical and chemical properties and test procedures are to be found in the current standards of the A.S.T.M. Covers standard strength and extra strength clay pipe intended to be used for the conveyance of sewage, industrial wastes, and storm water. Gives figures with tables showing sizes and dimensions.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R211-45; 1945. Clay Sewer Pipe and Fittings. To simplify and standardize the sizes and varieties of pipe and fittings for regular stock purposes. Gives tables showing sizes, strength, and dimensions for standard-strength clay sewer pipe and fittings and for extra-strength clay sewer pipe and fittings. Endorsed by Clay Products Assn.

531.6 ENAMEL FOR ENAMELWARE

U. S. Gov., Army-Navy Aeronautical Specification AN-E-4a; 1945. Enamel; Porcelain.

532. CHINA AND PORCELAIN WARE

532.2 PORCELAIN PRODUCTS

532.21 Crucibles and Laboratory Porcelain Ware

U. S. Gov., Navy Dept. Specification 50C1k; 1946. Crucibles and Covers (for Foundry Use).

U. S. Gov., Navy Dept. Specification 50C4a; 1946. Crucibles (for Melting Aluminum).

532.22 Porcelain for Electrical Purposes

American Institute of Electrical Engineers, No. 41; 1944. American Standards Assn., C29.1-1944. American Standard Insulator Tests. For making tests to determine the characteristics of insulators to be used on electric power systems. Gives definitions, specimen mounting for electrical test, electrical tests, mechanical tests, galvanizing test, routine tests, and figures.

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-46; 1944. Holder, Wire, Porcelain, W/Galvanized Wood Screw.

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-53; 1944. Insulator, Porcelain, Glazed, Split Knob, Nail Type (Assembled).

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-64; 1944. Insulator, Electric, Porcelain, Glazed, Solid Knob, Nail Type (Assembled).

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-55; 1944. Cleats, Two-Wire, Porcelain, Unglazed.

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-56; 1944. Bushing, Porcelain, With Metal Clamping Ring.

532.23 Tubs, Sinks, Water-Closets, and Lavatories

- U. S. Gov., Navy Dept. Specification 30U1g; 1945. Urinals (Shipboard Use).
 U. S. Gov., Navy Dept. Specification 30W11; 1946. Water-Closets (Shipboard Use).

534. BRICK AND TILE**534.0 GENERAL ITEMS**

American Institute of Architects and the Producers' Council, Inc., sponsors. American Standards Assn., A62.3-1946. Standard Sizes of Clay and Concrete Modular Masonry Units. Covers unit sizes and permissible size variations for clay and concrete modular masonry units. Gives scope, definitions, clay masonry units, concrete masonry units, and appendix.

534.10 General Items

American Society for Testing Materials, C38-45; 1945. Method of Panel Test for Resistance to Thermal and Structural Spalling of Refractory Brick. The test is believed to give a sufficient simulation of service conditions to determine the separate or combined effects of structural and thermal spalling. Gives apparatus, test specimens, panel construction, preheating test panels, spalling procedure, dismantling test panel, and report.

American Society for Testing Materials, C71-45; 1945. Definitions of Terms Relating to Refractories. Defines bond fire clay, diaspore clay, fire clay, flint fire clay, grog fireclay mortar, ground fire clay, nodular fire clay, plastic or bond fire clay, silica fire clay, abrasion of refractories, burning (firing) of refractories, corrosion of refractories, erosion of refractories, pyrometric cone equivalent, slugging of refractories, and spalling of refractories.

American Society for Testing Materials, C107-45; 1945. Standard Method of Panel Test for Resistance to Thermal and Structural Spalling of High Heat Duty Fireclay Brick. Covers the procedure for determining the resistance of fireclay brick used for stationary boilers, malleable iron furnace bungs, and incinerator furnaces. Gives apparatus and test specimens, procedure, preheating test panels, and spalling procedure.

American Society for Testing Materials, C122-45; 1945. Method of Panel Test for Resistance to Thermal and Structural Spalling of Super Duty Fireclay Brick. Covers the procedure for determining the resistance of super duty fireclay brick to the separate and combined effects of structural and thermal spalling. Gives apparatus and test specimens, procedure, preheating test panels, and spalling procedure.

American Society for Testing Materials, C182-45T; 1945. Tentative Method of Test for Thermal Conductivity of Insulating Fire Brick. Gives scope, apparatus, test sample, installation of thermocouples in test specimen, setting up of test sample and silicon carbide slab, procedure, record of test data, calculations, and report.

534.11 Face, Common, and Vitrified Brick

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 24—Brick Wearing Surface. Gives general information and requirements for materials, preparation of subfloor, sand-cement bed, placing bedding course, laying the brick, rolling the brick, testing the surface, applying asphalt filler, surface dressing, opening to traffic, and measurement and payment.

534.12 Fire Brick and Tiles, and Fire Clay Brick

American Society for Testing Materials, C18-45; 1945. Methods of Chemical Analysis of Refractory Materials. Covers procedures for the chemical analysis of fireclay, silica, high-alumina, and magnesite refractories, and of chrome ore and chrome refractories. Gives reagents and special solutions required, preparation of samples for analysis, statement of analysis, blank determinations, reproducibility of results; and details for testing the various materials named above.

American Society for Testing Materials, C155-45T; 1945. Tentative Classification of Insulating Fire Brick. Pertains to that type of heat insulating material known as insulating fire brick. The materials included in the broad classification of insulating fire brick are divided into five specific groups. Gives methods of testing.

U. S. Gov., Federal Specification HH-B-671c; 1946. Brick; Fire-Clay. Covers five classes—(a) back-up duty, (b) low-heat duty, (c) slag-resistant duty, (d) high-heat duty, and (e) super duty. Gives requirements for material and workmanship, sizes, warpage, marking, and table showing physical characteristics; methods of sampling and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 32B2f; 1946. Brick, Fire-Clay.

U. S. Gov., Navy Dept. Specification 32B4f; 1946. Brick, Insulating, High-Temperature.

U. S. Gov., Navy Dept. Specification 32B6a; 1946. Brick, Magnesite.

U. S. Gov., Navy Dept. Specification 32B8a; 1945. Brick, Silicon-Carbide, Refractory.

U. S. Gov., Navy Dept. Specification 32R2c; 1945. Refractory, Water-Wall, Boiler.

534.2 TILE**534.25 Glazed Tile and Mosaic**

Facing Tile Institute. Affiliated with Structural Clay Products Institute. Facing Tile, 1946. Grading Rules, Physical Requirements, and Methods of Test for Structural Facing Tile—Glazed and Unglazed. Gives tolerances for face dimensions, tolerances for depth of single faced units, tolerances for depth of two faced units, tolerances for distortion of face or edge, maximum permissible chippage, absorption, compressive strength, type of units, number of cells, shell and web thickness, scoring, coring, sampling and inspection, imperviousness test, chemical resistance test, crazing

test, opacity test, absorption test, and compression test.

Facing Tile Institute. Affiliated with Structural Clay Products Institute. Facing Tile, 1946. Specifications for Ceramic Glazed, Clear Glazed, and Salt Glazed Structural Facing Tile. Gives workmanship, sizes and shapes, unit design, select quality, and standard quality.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R61-44; 1944. Clay Tiles for Floors and Walls. This recommendation covers the types, shapes, dimensions, and grading of glazed wall tile and trimmers, ceramic mosaic floor tiles, quarry tiles and trimmers, and quarry tile colors, also sizes and types of shipping containers for flat glazed tiles. Gives tables with recommended data for glazed wall tiles, glazed wall tile trimmers, shipping containers for flat glazed tiles, ceramic mosaic floor tiles, flat quarry tiles, and quarry tile trimmers. Also covers grading, labeling, and certification.

U. S. Gov., Joint Army-Navy Specification JAN-T-198; 1945. Tiles (Shipboard Use).

534.29 Miscellaneous Specifications for Tile

American Society for Testing Materials, C159-45T; 1945. Tentative Specifications for Vitrified Clay Filter Block for Trickling Filters. Covers vitrified clay filter block made from clay or shale or mixtures thereof, in two types—(I) a one-piece filter block suitable for use in constructing a single-course trickling filter floor, and (II) a two-piece filter block suitable for use in constructing a two-course trickling filter floor. Gives compressive strength, absorption, shape, permissible variations in dimensions, apertures, shell and web thickness, drainage channels, workmanship and finish, marking, rejection, expense of tests, and sampling and testing.

Facing Tile Institute. Affiliated with Structural Clay Products Institute. Facing Tile, 1946. Grading Rules, Physical Requirements, and Methods of Test for Structural Facing Tile—Glazed and Unglazed. Gives tolerances for face dimensions, tolerances for depth of single faced units, tolerances for depth of two faced units, tolerances for distortion of face or edge, maximum permissible chippage, absorption, compressive strength, type of units, number of cells, shell and web thickness, scoring, coring, sampling and inspection, imperviousness test, chemical resistance test, crazing test, opacity test, absorption test, and compression test.

Facing Tile Institute. Affiliated with Structural Clay Products Institute. Facing Tile, 1946. Specifications for Smooth Unglazed Structural Facing Tile. Colors are gray, cream buff, and manganese and iron spot. Gives workmanship, sizes and shapes, unit design, select quality, standard quality, and industrial quality.

U. S. Gov., U. S. Maritime Commission. Specification 59-MC-4; 1946. Tile; Ceramic, Non-Slip Deck Covering, and Trimmers. Covers two types—(I) non-slip deck covering tile (class A—ceramic mosaic sizes and B—paver sizes) and (II) trimmers (class C—unglazed and D—glazed). Gives requirements for materials, workmanship, colors and shades, chips, and details for each type and class; inspection, sampling, and methods of test; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Maritime Commission. Specification 59-MC-5; 1946. Tile; Ceramic, Deck Covering and Trimmers. Covers two types—(I) deck covering tile (class A—porcelain and B—natural clay and quarry tile) and (II) trimmers (class C—unglazed and D—glazed). Gives requirements for materials, workmanship, colors and shades, chips, and details for each type and class; inspection, sampling, and methods of test; and packaging, packing, and marking for shipment.

540-549

ABRASIVE MATERIALS, ASBESTOS, AND CHALK

541. ABRASIVES, NATURAL AND ARTIFICIAL

541.0 GENERAL ITEMS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R118-45; 1945. Abrasive Grain Sizes. This recommendation gives a table of allowable limits for the sizing of aluminum-oxide and silicon-carbide abrasives for polishing uses and for grinding wheel manufacture. Initiated by Abrasive Grain Assn. and Grinding Wheel Manufacturers Assn.

541.3 ABRASIVE WHEELS

U. S. Gov., Army Air Forces Specification 50487; 1945. Grinder; Two-Wheel, Belt-Driven, 6-Inch.

U. S. Gov., Navy Dept. Specification 40D8a; 1946. Disks, Abrasive-Coated; Aluminum-Oxide, and Silicon-Carbide (for Use on Portable Sanding Machines).

541.4 ABRASIVE CLOTHS AND PAPERS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R89-46; 1946. Coated Abrasive Products. This recommendation establishes a simplified list of stock varieties of coated abrasive products. Gives explanation of symbols, terms, and abbreviations; definitions; tables showing class of goods, backing, size, coating, and grade number of simplified list of flint- and emery-coated abrasives and simplified list of coated abrasives other than flint and emery; and converted shapes and sizes.

U. S. Gov., Federal Specification P-C-451; 1932. Amend. 3; 1945. Cloth; Abrasive, Aluminum-Oxide. Covers one type. Gives requirements for material (abrasive, backing, adhesive, and workmanship), form and dimensions, grade numbers, backing, tensile strength, and marking of sheets; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification P-C-458; 1946. Cloth; Crocus. Covers one type for polishing hard metals at high speeds. Gives requirements for material, workmanship, form and dimensions, fineness of abrasive, tensile strength, flexibility, and marking of sheets; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification P-C-601; 1945. Amend. 1; 1946. Cones; Paper, Garnet, Dental. Covers three classes—(A) No. 60, coarse grit, (E) No. 80, medium grit, and (C) No. 100, fine grit. Gives requirements for material, workmanship, cones, and form and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

541.6 ABRASIVE CLEANING COMPOUND

U. S. Gov., Army-Navy Aeronautical Specification AN-C-61a-1; 1945. Compound; Ceramic Spark Plug Cleaning.

541.9 MISCELLANEOUS ABRASIVES

U. S. Gov., Army Air Forces Specification 14136-1; 1945. Grit; Blasting (for Carbon Removal).

U. S. Gov., Army Air Forces Specification 14152; 1945. Compound; Abrasive (for Aircraft Walkway).

545. ASBESTOS

545.2 ASBESTOS PAPER, MILLBOARD, AND ROLL BOARD

U. S. Gov., Navy Dept. Specification 32P4b; 1945. Paper, Asbestos, Corrugated.

U. S. Gov., Treasury Dept., Procurement Div., 757; 1946. Boards; Cement-Asbestos. Covers three grades—(I) 4,500 lbs. per sq. in. modulus of rupture, (II) 3,750 lbs. per sq. in. modulus of rupture, and (III) 3,000 lbs. per sq. in. modulus of rupture. Gives requirements for material and workmanship, color, sizes, and details; methods of sampling, inspection, and test; and packing and marking for shipment.

545.3 ASBESTOS PIPE COVERING AND CEMENTS

U. S. Gov., Navy Dept. Specification 32C16; 1946. Cement, Insulation, Asbestos, Finishing.

545.4 ASBESTOS TEXTILES, YARNS, AND PACKING

U. S. Gov., Navy Dept. Specification 32C11e; 1945. Cloth, Strands, and Tape, Asbestos.

545.6 ASBESTOS CLOTHING

American Standards Assn., L18.28-1945. Specifications for Protective Occupational (Safety) Clothing—Asbestos Spats (American War Standard). It is intended that the spats specified shall afford protection from sparks, molten metal, infrared and ultraviolet rays, and limited impact forces. Gives types and sizes, pattern and design, construction, materials, methods of test, and identification.

American Standards Assn., L18.20-1945. Specifications for Protective Occupational (Safety) Clothing—Asbestos One-Finger Mittens (American War Standard). It is intended that the mitten shall afford protection from reflected or direct heat encountered where the mitten is to be worn on either hand. Gives type and size, pattern and design, construction, material, methods of test, identification, and appendix.

U. S. Gov., Navy Dept. Specification 37S10; 1945. Suits, Asbestos (Flameproof).

545.9 MISCELLANEOUS MANUFACTURERS OF ASBESTOS

U. S. Gov., Navy Dept. Specification 32F3a; 1945. Felt, Insulating, Asbestos.

546. CHALK

U. S. Gov., Federal Specification SS-C-238a; 1945. Crayons; Chalk, White. Covers three types—(I) dustless (95 percent calcium carbonate) round and hexagonal; (II) dustless (50 percent calcium carbonate) round and hexagonal; and (III) molded (90 percent calcium sulphate). Gives requirements for material and workmanship, composition, length, diameter, minimum weight, and minimum breaking strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Corps of Engineers Specification 1-44; 1944. Chalk, Carpenters.

550-559

MICA, RARE MINERALS

552. MANUFACTURED MICA

National Electrical Manufacturers Assn. Standards for Manufactured Electrical Mica, 46-117; 1946. Includes standard classification of muscovite mica splittings, standard classification of phlogopite (amber) mica splittings, standard composition, tolerance and properties of manufactured mica sheets and wrappers, tolerances for dimensions of standard sheets, tolerances for fabricated mica segments, standard composition, tolerances and

properties of manufactured round mica tubes, standard tolerances for manufactured rings, standard methods of testing pasted mica used in electrical insulation, standard methods of test for dielectric strength of electrical insulating materials at commercial power frequencies, and standard methods of testing laminated tubes used in electrical insulation.

U. S. Gov., Navy Dept. Specification 52M3a; 1946. Mica (Extender Pigment).

560-569**PRECIOUS STONES AND IMITATION STONES****560. GENERAL ITEMS**

American Gem Society, 1946. Rulings and Recommendations. Both rulings and recommendations are prepared for the guidance of members. Gives twelve rulings and seven recommendations covering diamonds, cultured pearls, rubies, cameos, and birthstones.

Grading of Diamond Powder. To provide a nationally recognized standard for grading diamond powder. Covers material, grade designations, grain size and size range, amount of "fines," or particles smaller than the minimum for each designation and impurities. Gives definitions, general requirements, detail requirements, methods of sampling and inspection, and guarantee.

561. DIAMONDS AND PEARLS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS123-45; 1945.

570-579**SULPHUR, MAGNESIA, SALT, AND GRAPHITE****572. MAGNESIA**

U. S. Gov., Federal Specification HH-M-61a; 1945 and Amend. 1; 1945. Magnesia; Block, Cement and Pipe-Covering (Molded). Covers one grade and four types—(I) standard thickness, (II) double standard thickness, (III) blocks, and (IV) cement or plaster. Shall contain not less than 85 percent of pure hydrated magnesium carbonate and not less than 10 percent long-fiber asbestos. Gives general

requirements and detail requirements for each type; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

574. GRAPHITE AND MANUFACTURES THEREOF

U. S. Gov., Army-Navy Aeronautical Specification AN-G-24; 1945. Graphite; Lubricating.

U. S. Gov., Joint Army-Navy Specification JAN-G-155; 1944. Graphite (for Use in Ammunition).

590-599**MISCELLANEOUS NONMETALLIC MINERALS****593. SILICA, DIATOMACEOUS EARTH, INFUSORIAL EARTH**

American Society for Testing Materials, C18-45; 1945. Methods of Chemical Analysis of Refractory Materials. Covers procedures for the chemical analysis of fireclay, silica, high-alumina, and magnesite refractories, and of chrome ore and chrome refractories. Gives reagents and special solutions required, preparation of samples for analysis, statement of analysis, blank determinations, reproducibility of results; and details for testing the various materials named above.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3420B; 1945. Dehydrating Agent, Silica Gel. Covers granular form in three grades. Gives composition, requirements, test procedures, packaging, packing, marking, reports, approval, and rejections. Similar specification: Army-Navy Aeronautical AN-D-6C.

U. S. Gov., Army-Navy Aeronautical Specification AN-D-6C-2; 1945. Dehydrating Agent (Activated).

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 4-504A; 1944. Diatomaceous Earth (Technical).

594. SOILS

American Society for Testing Materials, C854-45T; 1945. Tentative Method of Test for Specific Gravity of Soils. For determining the specific gravity of soils by means of a pycnometer. Gives definition, apparatus, calibration of pycnometer, sample, procedure, calculation, and report.

American Society for Testing Materials, D420-45; 1945. Standard Methods of Surveying and Sampling Soils for Highway Subgrades. Covers purpose, scope, and equipment for subgrade survey, soil profile determination, examination of soil section, for roads in service and new roads, typical survey sheets, and analysis of data.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-113; 1945. Laboratory, Soil Testing, Set No. 1.

(Except Machinery, Vehicles, and Electrical Supplies)

600-609

IRON AND STEEL

600. GENERAL ITEMS RELATING TO BOTH FERROUS AND NONFERROUS METALS

600.0 GENERAL ITEMS

American Society for Testing Materials, E55-46T; 1946. Tentative Method of Sampling Wrought Non-Ferrous Metals and Alloys for Determination of Chemical Composition. Covers the sampling of non-ferrous metals and alloys that have been reduced to their final form by mechanical working such as rolling, drawing, and extruding. Gives description of terms, selection of portion, preparation of sample, details of sampling, size of sample and storage, and resampling.

American Society for Testing Materials, E59-45; 1945. Standard Method of Sampling Steel, Cast Iron, Open-Hearth Iron, and Wrought Iron. Gives scope, sampling steel products (rolled and forged), sampling pig iron, sampling gray iron castings, sampling malleable iron, sampling wrought iron, size of sample and storage, and resampling.

600.1 TESTING OF METALS

American Society for Testing Materials, A255-45T; 1945. Tentative Method of End-Quench Test for Hardenability of Steel. Covers determination by the end-quench or Jominy test. Consists of water-quenching one end of a cylindrical test specimen 1 in. in diameter and measuring to what extent from the quenched end the steel hardens. Gives apparatus, test specimens, procedure, plotting test results, index of hardenability, report, and appendix.

American Society for Testing Materials, A279-44T; 1944. Tentative Method of Total Immersion Corrosion Test of Stainless Steels. Gives scope, apparatus, test solution, test specimens and their preparation, number of specimens, methods of cleaning specimens after test, duration of test, evaluation of results, report, and appendices.

American Society for Testing Materials, B110-45; 1945. Standard Method of Test for Dielectric Strength of Anodically Coated Aluminum. Covers the procedure for determining the dielectric strength of anodic coatings on aluminum and its alloys. Gives high-voltage transformer, electrode, test specimens, surrounding medium, condition of electrodes, position of electrode on specimen, application of voltage, and number of tests.

American Society for Testing Materials, B114-45; 1945. Method of Test for Temperature-Resistance Constants of Sheet Materials for Shunts and Precision Resistors. Applicable to materials normally used in temperature range of from 0 to 80C. Gives test specimen, terminals, preliminary treatment of manganin samples, apparatus, baths, temperature

measurement, resistance measurements, procedure, report, record, and appendix.

American Society for Testing Materials, B193-45T; 1945. Tentative Method of Test for Resistivity of Copper and Copper-Alloy Electrical Conductors. Covers the procedure for determining the electrical resistivity of copper and copper-alloy strips, rods, bars, tubes, and shapes used for electrical conductors. Gives resistivity, apparatus, test specimen, procedure, temperature correction, report, and explanatory notes.

American Society for Testing Materials, E30-45; 1945. Standard Methods of Chemical Analysis of Steel, Cast Iron, Open-Hearth Iron, and Wrought Iron. Gives scope, apparatus and reagents, precautions, sampling, and details for determining total carbon by the direct-combustion method, graphite in cast iron, manganese by the bismuthate method (absence of cobalt), manganese by the persulfate method (presence of cobalt), phosphorus by the molybdate-magnesia method, phosphorus by the alkalimetric method, sulfur by the gravimetric method, sulfur by the evolution method, selenium by the sulfurous acid-iodometric method, silicon by the sulfuric acid method, silicon by the perchloric acid method, copper by the electrolytic or gravimetric method, copper by the thiosulfate-iodide method, nickel by the dimethylglyoxime method, nickel by the cyanide titration method, chromium by the persulfate oxidation method, chromium by the colorimetric method, vanadium by the electrolytic separation method, vanadium by reduction with ferrous sulfate and titration with permanganate, molybdenum by the alpha-benzoinoxime method, molybdenum by precipitation as sulfide and weighing as oxide, molybdenum by the photometric or colorimetric method, tungsten by the acid digestion-cinchonine method, cobalt by the zinc oxide-alpha-nitroso-beta-naphthol method, titanium by the photometric or colorimetric method, zirconium by the cupferron-phosphate method, aluminum by the bicarbonate-sodium hydroxide method, lead by the sulfide-molybdate method, and columbium by hydrolysis with perchloric and sulfurous acids.

American Society for Testing Materials, E30-46T; 1946. Tentative Methods of Chemical Analysis of Steel for Sulfur by Direct Combustion and for Nitrogen. Gives scope, apparatus and reagents, precautions, sampling, and details for determining sulfur by the direct combustion-iodate method and nitrogen by the distillation-titration method.

American Society for Testing Materials, E38-42T; 1942. Tentative Methods of Chemical Analysis of Metallic Materials for Electrical Heating. Gives scope, apparatus and reagents, precautions, and details for determining nickel by the gravimetric

(dimethylglyoxime) method, nickel by the electrolytic method, chromium by the persulfate method, iron by the stannous chloride-potassium dichromate method, total carbon by the direct-combustion method, manganese by the bismuthate method, sulfur by the evolution-titration method, sulfur by the gravimetric (Meineke) method, silicon by the perchloric acid method, aluminum, titanium, and zirconium (small percentages) by the cyanide-8-hydroxyquinoline-cupferron method, calcium and magnesium by the phosphate-sulfate method, and cobalt by the zinc oxide-alpha-nitroso-beta-naphthol method.

American Society for Testing Materials, E50-46T; 1946. Tentative Recommended Practices for Apparatus and Reagents for Chemical Analysis of Metals. Covers recommendations for laboratory apparatus and reagents that are required or recommended for the chemical analysis of metals and alloys. Gives reference to these practices in standards, purity of water and reagents, concentration of reagents, glassware, precautions, details for 17 types of apparatus, details for 23 standard solutions, and details for 11 nonstandardized reagents.

American Society for Testing Materials, E52-45T; 1945. Tentative Industrial Radiographic Terminology for Use in Radiographic Inspection of Castings and Weldments. Discusses gas holes, shrinkage, heterogeneities, sharp discontinuities, miscellaneous, dispersed defects, and welds.

American Society for Testing Materials, E60-46T; 1946. Tentative Recommended Practice for Photometric Methods for Chemical Analysis of Metals. Gives scope, reference to this practice in standards, standard terminology, theory, general requirements for photometers, types of photometers, light source, filters and monochromators, absorption cells, photocells, current measuring devices, principle of method, concentration range, stability of color, interfering elements, calibration curve or chart, procedure, blanks, and precision and accuracy.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2615; 1945. Pressure Testing—Hydraulic, As Specified. To detect leaks in castings, machined parts, assemblies, or where applicable. Gives procedure and disposition.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2640B; 1946. Magnetic Particle Inspection. To detect the presence of small grinding or quenching cracks, seams, non-metallic inclusions, and other defects on and immediately below the surfaces of magnetizable materials. Gives requirements for application, wet process, dry process, procedure, marking, disposition, and check of equipment and procedure. Similar specification: Army-Navy Aeronautical AN-I-32.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2650; 1945. Fluoroscopic X-Ray Inspection. To detect and evaluate defects in light alloy castings. Gives application, limitation, procedure, marking, reports, precautionary measures, notes, and figures.

U. S. Gov., Army Air Forces Specification 40142; 1945. Durometer; Portable, Hand (Soft Metals and Plastics).

U. S. Gov., Army-Navy Aeronautical Specification AN-I-26-1; 1945. Inspection; Radiographic.

U. S. Gov., Army-Navy Aeronautical Specification AN-I-30a; 1946. Inspection; Fluorescent Penetrant Method of.

U. S. Gov., Army-Navy Aeronautical Specification AN-I-31-1; 1945. Inspection Equipment; Horizontal Magnetic Particle.

U. S. Gov., Army-Navy Aeronautical Specification AN-I-32; 1945. Inspection Process; Magnetic Particle.

U. S. Gov., Federal Specification QQ-M-151a; 1936. Amend. 3; 1945. Metals; General Specification for Inspection of. Covers requirements which are common to all detail Federal Specifications for metals unless specifically excepted in the detail specification. It does not describe the material or article but provides means for determining whether the material or article conforms to the detail requirements. Individual requirements for the material or article are given in the detail specification.

600.3 COATING OF METALS

American Society for Testing Materials, A166-45T; 1945. Tentative Specifications for Electrodeposited Coatings of Nickel and Chromium on Steel. For use where both appearance and protection against corrosion of the base metal are important. Gives manufacture, thickness of coatings, continuity of coatings, significant surfaces, selection of samples, number of tests, tests for thickness of coating, salt spray test for continuity of coating, acceptance and rejection, retest, cost of tests, and appendices.

American Society for Testing Materials, A219-45T; 1945. Tentative Methods of Test for Local Thickness of Electrodeposited Coatings. For coatings of copper, nickel, chromium, lead, zinc, or cadmium by microscopic and other tests. Gives test specimens, procedure, and alternative tests for the microscopic test; test specimen, reagent, procedure, and calculation for spot test method for chromiums; and appendices.

American Society for Testing Materials, B136-45; 1945. Standard Method of Test for Sealing of Anodically Coated Aluminum. For determining whether anodic coatings on aluminum and its alloys have been sealed or made nonadsorptive. Gives special solution required and procedure.

American Society for Testing Materials, B137-45; 1945. Standard Method of Test for Weight of Coating on Anodically Coated Aluminum. For determining the weight of coating on anodically coated aluminum and its alloys, Gives reagent, test specimen, procedure, and report.

American Society for Testing Materials, B141-45; 1945. Standard Specifications for Electrodeposited Coatings of Nickel and Chromium on Copper and Copper-Base Alloys. For a final coating of nickel or chromium where both appearance and protection against corrosion of the base metal are important.

Gives manufacture, thickness of coatings, significant surfaces, selection of samples, number of tests, tests for thickness of coating, acceptance and rejection, retest, cost of tests, and appendices.

American Society for Testing Materials, B142-45T; 1945. Prepared jointly by American Electroplaters' Society, National Bureau of Standards, and American Society for Testing Materials. Tentative Specifications for Electrodeposited Coatings of Nickel and Chromium on Zinc and Zinc-Base Alloys. Cover requirements for three types of electroplated coatings on zinc articles, including a final coating of nickel or chromium where both appearance and protection against corrosion of the base metal are important. Gives manufacture, thickness of coating, continuity of coatings, significant surfaces, selection of samples, number of tests, test for thickness of coating, salt spray test for continuity of coating, acceptance and rejection, retest, cost of tests, and appendices.

American Society for Testing Materials, B177-45T; 1945. Tentative Recommended Practice for Chromium Plating on Steel for Engineering Use. Intended as an aid to such platers and engineers who, although familiar with ordinary electroplating practice, are confronted with new problems inherent in the electrodeposition of chromium for engineering use. Gives nature of steel, cleaning, etching, racks and anodes, chromium plating, treatments of chromium coating, repair of chromium coating, and methods of testing.

American Society for Testing Materials, B200-45T; 1945. Tentative Specifications for Electrodeposited Coatings of Lead on Steel. Cover six types of coatings on steel articles that are required to withstand corrosion. Gives manufacture, thickness of coatings, continuity of coatings, significant surfaces, selection of samples, number of tests, tests for thickness of coating, salt spray test for continuity of coating, acceptance and rejection, retest, cost of tests, and appendix.

American Society for Testing Materials, B201-45T; 1945. Tentative Specifications for Chromate Finishes on Electrodeposited Zinc, Hot-Dipped Galvanized, and Zinc Die-Cast Surfaces. Cover only the protective value of the supplemental films and not the other properties or their composition or method of application. Gives manufacture, protective value of coatings, significant surfaces, selection of samples, salt spray test for quality of coating, and acceptance and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2400E; 1946. Cadmium Plating. To protect metal parts against corrosion. Gives preparation, procedure, thickness, thickness determinations, quality, application, and rejections. Similar specification: Army-Navy Aeronautical AN-P-61, Type I, 1945.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2402B, 1945. Zinc Plating. To protect metal parts against corrosion. Gives preparation, procedure, thickness, thickness

determinations, quality, application, and rejections. Similar specification: Army-Navy Aeronautical AN-P-32a, 1944.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2410; 1945. Silver Plating—Nickel Strike, High Bake. Gives procedure, thickness, quality, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2412; 1945. Silver Plating—Copper Strike, Low Bake. Gives procedure, thickness, quality, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2415; 1945. Lead and Indium Plating. To improve the performance and prevent corrosion where applicable. Gives preparation, lead plating, indium plating, thickness, quality, application, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2475A, 1945. Protective Treatments for Magnesium Base Alloys. To increase corrosion resistance and provide surfaces which will insure maximum paint adherence. Gives preparation, dichromate, chrome-pickle, and precautions. Similar specification: Army-Navy Aeronautical AN-M-12; 1943.

U. S. Gov., Army-Navy Aeronautical Specification AN-M-12a-2; 1946. Magnesium Alloy; Processes for Corrosion Protection of.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-61-2; 1946. Plating; Cadmium.

U. S. Gov., Navy Dept. Specification 51-I-2a, 1945. Inhibitors, Pickling.

U. S. Gov., Navy Dept. Specification 51-1-3a; 1946. Indicator, Corrosion-Control.

U. S. Gov., Navy Dept. Specification 51-I-11; 1945. Inhibitor, Corrosion.

U. S. Gov., U. S. Army, Army Air Forces Specification 3-100-J; 1945. Protective Coatings and Finishes for Aircraft and Aircraft Parts, General Specification for.

600.5 HEAT TREATMENT OF METALS

American Society for Testing Materials, A225-45T; 1945. Tentative Method of End-Quench Test for Hardenability of Steel. Covers determination by the end-quench or Jominy test. Consists of water-quenching one end of a cylindrical test specimen 1 in. in diameter and measuring to what extent from the quenched end the steel hardens. Gives apparatus, test specimens, procedure, plotting test results, index of hardenability, report, and appendix.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 6315C; 1945. Steel—1.8 Ni, .25 Mo (.38-.43 C), Heat Treated (105,000 TS). For bars, billets, forgings, or as ordered. Gives composition, grain size, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 4640.

U. S. Gov., Army-Navy Aeronautical Specification AN-H-25-3; 1946. Heat Treatment of Magnesium Alloy Castings; Process for.

U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-H-186a-1; 1945. Heat Treatment of Aluminum Alloys; Process for.

600.6 PLUMBING

Western Plumbing Officials Assn. Uniform Plumbing Code, 1946. Covers administrative, responsibility of plumbers, permits, inspections and tests, definition of terms, quality and weights of materials, general regulations, soil, waste and vent pipes, house drains, special wastes, traps, joints and connections, plumbing fixtures, water distribution, private sewage disposal systems, and gas fitting and water heaters.

600.8 IMPREGNATION OF METALS

U. S. Gov., Army-Navy Aeronautical Specification AN-I-36-1; 1946. Impregnation of Aluminum Alloy and Magnesium Alloy Castings; Process for.

601. ORES, PIG IRON, AND SCRAP

601.2 PIG IRON

601.20 General Items

American Iron and Steel Institute. Steel Products Manual, Section 1; 1941. Revised, 1945. Pig Iron and Ferroalloys. Gives standard grades of pig iron, sampling of pig iron, and ferroalloys including spiegeleisen, ferromanganese, ferrosilicon, silicomanganese, ferrochromium, high-nitrogen ferrochromium, ferrovanadium, ferrotungsten, zirconium alloys, ferrocolumbium, ferromolybdenum, ferrotitanium, and ferrophosphorus.

601.23 Foundry Pig Iron

American Society for Testing Materials, A43-45T; 1945. Tentative Specifications for Foundry Pig Iron. Gives scope, manufacture, standard grades and compositions, non-standard grades and compositions, elements in pig iron, other than silicon, sulfur, phosphorus, and manganese, sampling, chemical analysis, referee analysis, and rejection.

U. S. Gov., Navy Dept. Specification 46-I-1g; 1946. Iron, Pig, Foundry and Low-Phosphorus.

602. CRUDE AND SEMIFINISHED IRON AND STEEL

602.2 STEEL BARS AND BILLETS

U. S. Gov., Federal Specification QQ-S-671; 1941. Amend. 2; 1945. Steel; Carbon and Alloy, Bars. Covers carbon and alloy steel bars of several types and compositions, in seven conditions—as-rolled (hot-rolled or forged), annealed, normalized, normalized-and-tempered, quenched-and-tempered, cold-rolled or cold-drawn, and cold-rolled or cold-drawn-and-stress-relief-annealed. Gives requirements for material and workmanship, condition and finish, heat treatment, chemical composition, physical properties, special requirements, and dimensions and tolerances; methods of inspection and tests; and packing and marking for shipment.

U. S. Gov., Navy Dept. Specification 46S18e; 1946. Steel, Corrosion-Resisting: Bars and Forgings (Except for Reforging).

U. S. Gov., Navy Dept. Specification 46S32b; 1946. Steel: Bars and Billets (for Carburizing).

603. IRON AND STEEL BARS, RODS, AND WIRE

603.0 GENERAL ITEMS

National Assn. of Silo Manufacturers. Proper Spacing of Reinforcing Steel Hoops for Silos, 1940. Gives U. S. Dept. of Agriculture chart showing "Silo Investigations," also tables for spacing of 9/16 in. hoops with oversize threads for stave silos and spacing of 9/16 in. hoops for stave silos showing distance of hoop below top for various diameters of silos for corn silage, grass silage, and hay and molasses silage.

603.1 WROUGHT IRON BARS AND RODS

U. S. Gov., Navy Dept. Specification 18B5a; 1946. Bars, Flinders.

603.2 CARBON STEEL BARS AND RODS

603.20 General Items

Rail Steel Bar Assn. Standard Permissible Variations in the Size and Length of Rail Steel Bars, 1944. Covers manufacturers' standard practice for permissible variations in size, length, and weight of rail steel bars and shapes. Gives data covering angles, square and round edge flats, rounds and squares (merchant bars only), octagons and hexagons, channels, tees, all bars and shapes except angles, angles, camber, and weight variation.

603.21 Steel Stock for Bolts, Nuts, Rivets, and Screws

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Emergency Specification E-M-122-44; 1944. Changed A.A.R. Specification M-122-37, Commercial Bar Steels—Hot Rolled and Cold Finished, section 6 (check analysis), section 7 (permissible variations), table I (grades and chemical composition), eliminating tables II, III, and IV, and new table II superseding table V for information only.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Structural and Rivet Steel. Gives process, chemical composition, ladle analyses, check analyses, rolled base plates, physical properties, modification in elongation, yield point, speed of testing machine, bend tests, test specimens, number of tests, retests, finish, permissible variations in weight and thickness, permissible variations in diameter, identification marks, and inspection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 5010B; 1946. Steel, Screw Stock. Covers cold drawn bars. Gives requirements

for composition, condition, quality, tolerances, reports, and rejections. Similar specifications: Federal QQ-S-871, FS No. 1112; Army 57-107D, W.D. Steel No. 1112; Navy 46S17c, Class B; SAE 1112. U. S. Gov., Navy Dept. Specification 46S17d; 1946. Steel, Cold-Rolled or Cold-Drawn (Screw Stock).

603.23 Commercial Grade Steel Bars and Rods

American Iron and Steel Institute. Steel Products Manual, Section 9; 1940. Revised, 1945. Cold-Finished Steel Bars and Shafting. Covers general definitions and manufacturing practices, methods of manufacture, general definitions, manufacturing practices, shafting, and special shapes; standard manufacturing tolerances; standard steels—carbon and alloy, nonstandard steels—ranges and limits, permissible variations for check analyses, and methods of sampling; and packaging and loading.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2231; 1945. Tolerances—Carbon Steel Bars. To publish established manufacturing tolerances. Gives application, diameter or thickness, width, length, straightness, flatness, and special tolerances.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-4a-1; 1945. Steel; Carbon (1035) Bar and Rod.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-5a-1; 1945. Steel; Carbon (1095) Bar and Rod.

U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-846a-1; 1945. Steel; Carbon (1020, 1022, and 1025) Bar and Rod.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R222-46; 1946. Hot-Rolled Carbon Steel Bars and Bar-Size Shapes (Produced From Billets or Blooms). This recommendation directs attention to those nominal sizes of hot-rolled carbon steel bars and bar-size shapes that currently are in general use and demand. Gives definition, tolerances, arrangement, and tables showing sizes for various types. Sponsored by the American Iron and Steel Institute.

U. S. Gov., Federal Specification QQ-S-871; 1941. Amend. 2; 1945. Steel; Carbon and Alloy, Bars. Covers carbon and alloy steel bars of several types and compositions, in seven conditions—as-rolled (hot-rolled or forged), annealed, normalized, normalized-and-tempered, quenched-and-tempered, cold-rolled or cold-drawn, and cold-rolled or cold-drawn-and-stress-relief annealed. Gives requirements for material and workmanship, condition and finish, heat treatment, chemical composition, physical properties, special requirements, and dimensions and tolerances; methods of inspection and tests; and packing and marking for shipment.

U. S. Gov., Joint Army-Navy Specification JAN-R-359; 1946. Rods, Earth, Blast-Driven, Set No. 1.

603.24 Steel for Shafts, Axles, and Forgings

American Iron and Steel Institute. Steel Products Manual, Section 9; 1940. Revised, 1945. Cold-Finished Steel Bars and Shafting. Covers general definitions and manufacturing practices, methods of manufacture, general definitions, manufacturing practices, shafting, and special shapes; standard manufacturing tolerances; standard steels—carbon

and alloy, nonstandard steels—ranges and limits, permissible variations for check analyses, and methods of sampling; and packaging and loading.

U. S. Gov., Navy Dept. Specification 46S13d, 1946. Steel, Machinery, Cold-Rolled or Cold-Drawn: Bars and Rods.

603.26 Steel Bars and Rods for Welding

American Society for Testing Materials, A233-45T; 1945. Tentative Specifications for Iron and Steel Arc-Welding Electrodes. Cover light-coated and heavy-covered metal arc-welding electrodes for the welding of carbon and low alloy steels. Gives manufacture, standard sizes and lengths, chemical composition, general test requirements, all-weld-metal tension test, usability tests, guided-bend test, fillet-weld test, permissible variations in dimensions, electrode coverings, workmanship and finish, packing, marking, guarantee, and appendix.

U. S. Gov., Navy Dept. Specification 17E4b, 1945. Electrodes, Welding (Covered), Nickel-Copper-Alloy.

U. S. Gov., Navy Dept. Specification 46R2d, 1945. Rods, Welding (Oxyacetylene), Steel (Corrosion-Resisting, 18-8 Type) (Columbium Bearing) (Aircraft Use).

U. S. Gov., Navy Dept. Specification 46R4d, 1946. Rods and Wire, Welding, Iron and Steel (for Gas Welding).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 57-203-4; 1946. Rods, Welding, Cast-Iron; (for) Gas-Welding.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 57-203-6; 1945. Electrodes, Welding, Steel, Covered (Austenitic), (for Welding of Corrosion-Resistant Steels).

603.27 Steel Bars and Rods for Automotive and Railway Use

Society of Automotive Engineers, Inc. Aeronautical Material Specification 5132A; 1946. Steel; High Carbon. For rods, bars, or as ordered. Gives requirements for composition, condition, decarburization, quality, tolerances, reports, and rejections.

603.3 SPRING AND TOOL STEEL BARS AND RODS

603.32 Hand, High-Speed, and Machine Tool Steels

American Iron and Steel Institute. Steel Products Manual, Section 25; 1945. Tool Steel Tolerances. Gives tables showing rounds, squares, octagons, hexagons, flat width, and thickness for hot-rolled bars and hammered bars.

U. S. Gov., Navy Dept. Specification 46S37d; 1946. Steel, Tool, High-Speed.

U. S. Gov., Navy Dept. Specification 46S40b, 1945. Steel, Tool, Carbon.

603.33 Spring Steel Bars and Rods

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-112-45; 1945. Steel Bars, Carbon, for Railway Springs. Covers manufacture, chemical properties and tests, permissible variations in dimensions,

rounds and squares, finish, marking, and inspection and rejection.

603.34 Spring Steel Strips

U. S. Gov., U. S. Army, Ordnance Dept. Specification 57-136-10; 1945. Steel; Spring, Strip (for Mechanical Time Fuze).

603.4 IRON AND STEEL WIRE

603.41 Bare and Coated Iron and Steel Wire

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division IV, Section 5—Reinforcement. Gives requirements for bar reinforcement, wire and wire mesh, bar mat reinforcement, and structural shapes.

American Iron and Steel Institute. Steel Products Manual, Section 16; 1945. Carbon-Steel Wire. Gives general definitions and manufacturing practices including designation by size of wire and size of coil, physical and chemical properties, general classifications, classes and finishes of coarse round wire, rope wire, mechanical spring wire, galvanized wire, straightened and cut wire, fine round wire, general inspection and rejection, and wire gages in use; standard steels including introduction, system of identification, numerical designations of grades, standard ranges and limits for chemical composition, sampling, and methods of analysis; and glossary.

American Society for Testing Materials, A233-45T; 1945. Tentative Specifications for Iron and Steel Arc-Welding Electrodes. Cover light-coated and heavy-covered metal arc-welding electrodes for the welding of carbon and low alloy steels. Gives manufacture, standard sizes and lengths, chemical composition, general test requirements, all-weld-metal tension test, usability tests, guided-bend test, fillet-weld test, permissible variations in dimensions, electrode coverings, workmanship and finish, packing, marking, guarantee, and appendix.

American Standard Assn., C52.3-1945. Straight and Offset Resistance-Welding Electrodes and Electrode Holders (American War Standard). For straight and offset electrodes of 1/2 in. and greater diameter and electrode holders commonly used in spot welding and in some applications of projection welding and electro-brazing. Covers definitions, copper-base alloys, spot-welding electrodes, spot-welding electrode holders, and offset spot-welding electrode holders together with fourteen figures and dimensional tables.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 5112C; 1946. Music Wire, Best Quality. Covers cold-drawn wire supplied as coils of wire or as finished springs. Gives requirements for composition, condition, quality, tests, tolerances, finished springs, reports, identification, and rejections. Similar specifications: AN-W-17; ASTM A228-41.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-13-3; 1945. Wire; Aircraft Stitching.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal Spraying.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-22; 1945. Wire; Zinc-Coated Soft Steel.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-25; 1945. Wire; Zinc Coated High Strength Steel.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS132-46; 1946. Hardware Cloth. To provide a nationally recognized minimum standard of quality for hardware cloth. Covers materials, workmanship, and dimensional requirements for commercial standard hardware cloth, customarily used for window guards, screen door guards, tree guards, rat proofing, grain bins, industrial machinery guards and numberless other home, farm, and industrial purposes. Gives definitions, materials and workmanship, detail requirements, labeling, and guarantee. Initiated by Hardware Cloth and Poultry Netting Institute.

U. S. Gov., Federal Specification QQ-W-414; 1941. Amend. 1; 1945. Wire, Steel; Bookbinders'. Covers two types—(I) flat, coppered, tinned, liquor-finished, or zinc-coated; and (II) round, coppered, tinned, or liquor-finished. Gives material, workmanship, general requirements, chemical composition, sizes, tensile strength, finish coatings, spools and cores, and kinking; methods of inspection, sampling, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification QQ-W-461; 1941. Amend. 1; 1945. Wire, Steel (Carbon); Bare and Zinc-Coated. Covers four grades—FS 1010, FS 1020, FS 1035, and FS 1045; and three weights—(A) medium, (B) heavy, and (C) extra-heavy. Gives requirements for tempers, finishes, sizes, material, workmanship, chemical composition, diameter, tensile strength, ductility, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification QQ-W-470; 1942. Amend. 1; 1946. Wire, Steel (Carbon); Spring, Music. Covers one grade of round music spring wire intended for the manufacture of springs. Gives requirements for material and workmanship, chemical composition, tensile properties, coiling, wrapping, and permissible variations in diameter; methods of inspection and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Joint Army-Navy Specification Jan-C-320; 1946. Concertina, Wire (Barbed), Roll.

U. S. Gov., U. S. Army, Corps of Engineers Specification 48-47; 1945. Wire, Barbed, Jungle, With 1,000-Ft. Reel.

U. S. Gov., U. S. Army, Corps of Engineers Specification 48-48; 1945. Wire, Flying, Barrage Balloon, Very Low Altitude, Steel, High Tensile Strength, Galvanized, .072 in. Diameter, 2,100 Ft. Coil.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 48-41; 1944. Wire, Steel, Carbon, for Valve Springs.

603.42 Bare and Coated Wire Rope

American Petroleum Institute, Div. of Production. Standard 9-A; 1944. Supplement 1; 1946. Specification for Wire Rope. To provide wire rope of uniform quality in the minimum number of grades of material and types of construction to adequately meet the requirements of the petroleum industry. Covers material, grades of material, properties and tests for wire and wire rope, manufacture and tolerances, type of lines, torpedo lines, well

measuring wires, galvanized wire guy strand, packing and marking, inspection and rejection, and appendices.

- U. S. Gov., Army-Navy Aeronautical Specification AN-S-23b; 1946. Shackles; Cable.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-26a-1; 1946. Thimbles; Wire-Cable.
- U. S. Gov., Army-Navy Aeronautical Specification AN-RR-C-43-2; 1946. Cable; Steel (Carbon), Flexible, Performed.
- U. S. Gov., Federal Specification RR-R-571a; 1945. Rope; Wire. Covers about 43 types. Gives definitions and general requirements for wires, strands, centers, cores, lubrication, marline, diameter of wire rope, preforming, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 12S14a; 1945. Sockets, Wire-Rope.
- U. S. Gov., Navy Dept. Specification 12T9c; 1946. Thimbles, Rope (Fiber and Wire).
- U. S. Gov., Navy Dept. Specification 22R31; 1945. Rope, Wire.
- U. S. Gov., Navy Dept. Specification 22R4a; 1945. Rope, Spring-Lay (Alternate Fiber Strands and Steel-Wire Strands Around a Fiber Core).
- U. S. Gov., Navy Dept. Specification 23L2; 1946. Lines, Steel, Safety (for Oxygen Breathing Apparatus).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 48-35A; 1938. Cable, Steel; Extra-Flexible (Pre-Formed Type).
- U. S. Gov., U. S. Army, Signal Corps Specification 48-10-C; 1945. Wire, Messenger, Galvanized (Wires WS-3/U, WS-4/U, W-90, W-115, and W-116).

603.43 Manufactures of Iron and Steel Wire

- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5112C; 1946. Music Wire, Best Quality. Covers cold-drawn wire supplies as coils of wire or as finished springs. Gives requirements for composition, condition, quality, tests, tolerances, finished springs, reports, identification, and rejections. Similar specifications: AN-W-17; ASTM A228-41.
- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS133-46; 1946. Woven Wire Netting. To provide a nationally recognized minimum standard of quality of woven wire netting. Covers materials, workmanship, and dimensional requirements for various types and kinds of galvanized carbon steel woven wire netting ordinarily employed for poultry runs and pens, domestic animal pens, fur-bearing animal pens, crab traps, and stucco reinforcement. Gives definitions, materials and workmanship, general specifications, tables, roll length, measurement of mesh sizes, wire diameter of gage, tolerances, labeling, and guarantee. Sponsored by the Hardware Cloth and Poultry Netting Institute.
- U. S. Gov., Federal Specification RR-C-451a; 1934. Amend. 5; 1946. Cloth; Wire, Screen. Covers eight types including copper, bronze, iron or steel, copper-nickel, corrosion-resisting steel, and aluminum alloy wire. Gives requirements for material

and workmanship, number of meshes per inch, diameter of wire, permissible variations, length, width, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking.

- U. S. Gov., Federal Specification RR-C-596; 1938. Amend. 1; 1945. Cord; Picture-Wire. Covers three classes—(A) gilt, (B) tinned, and (C) zinc-coated; gilt cord in sizes 10, 11, 12, 13, 14, 15, 16, 17, and 18; and tinned and zinc-coated cord in sizes 0, 1, 2, 3, 4, 5, 6, 7, and 8; either twisted or braided, and be circular in cross-section. Gives requirements for material, workmanship, strands, breaking strength, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification RR-G-123; 1945. Gauze; Wire (for Laboratory Use). Covers one type and three grades—(I) corrosion-resisting steel, (II) carbon steel, and (III) iron. Gives requirements for material, workmanship, description, mesh, and asbestos center; methods of sampling and inspection; and packaging, packing, and marking for shipment.
- U. S. Gov., Joint Army-Navy Specification JAN-N-262; 1945. Nets, Cargo (Wire Rope).
- U. S. Gov., Marine Corps Specification, 1944. Trap, Fly, Prefabricated (Collapsible).
- U. S. Gov., U. S. Army, Corps of Engineers Specification 39-11; 1944. Netting, Camouflage, Wire, Steel, Garnished With Chicken or Turkey Feathers.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 39-14A; 1945. Netting, Camouflage, Straight Line Woven Steel Wire, Galvanized.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 39-17; 1944. Garlands, Camouflage, Prefabricated.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 39-18; 1944. Netting, Cover Shade, Wire, Steel, Galvanized, Garnished With Mineral Fiber.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 39-31; 1945. Netting, Camouflage, Wire, Welded-Fabric.

603.5 CHAINS AND ATTACHMENTS

603.52 Short Link, Straight-Link Chains

- U. S. Gov., Navy Dept. Specification 6C3d; 1946. Chains, Boat.

603.55 Straight and Twisted Link Vehicle Chains

- U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-107; 1945. Chains, Tire, Military Type.

603.57 Chain Attachments

- U. S. Gov., Navy Dept. Specification 6L1; 1945. Links, Detachable, Steel (for Anchor Chain).

603.59 Miscellaneous Chains

- U. S. Gov., U. S. Army, Quartermaster Corps Specification 29-97A; 1945. Chains, Tie-In, for Range, Field, M-1937.

604. IRON AND STEEL PLATES AND SHEETS

604.1 IRON AND STEEL PLATES

604.11 Steel Plates for Pressure Vessels

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-115-45; 1945. Steel, Carbon and Carbon Silicon, Boiler and Firebox, for Locomotives, Stationary Boilers, and Other Pressure Vessels. Covers carbon steel and carbon-silicon steel. Gives manufacture, chemical properties and tests, physical properties and tests, permissible variations in weight and thickness, finish, marking, and inspection and rejection.

U. S. Gov., Navy Dept. Specification 46S19c; 1946. Steel, Staybolt (Boiler).

U. S. Gov., Navy Dept. Specification 47S23a; 1946. Steel, Molybdenum-Alloy: Plates, Boiler.

604.19 Miscellaneous Iron and Steel Plates

U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-676-2; 1945. Steel; Carbon-and-Alloy, Low, Plate, Sheet, and Strip.

U. S. Gov., Navy Dept. Specification 47S18c, 1945. Steel: Plates and Sheets, Floor, Rolled.

U. S. Gov., Navy Dept. Specification 47S22a; 1946. Steel, Corrosion-Resisting, Plate and Sheet, Floor, Rolled.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 57-137; 1946. Steel; Plate and Disk, for Cartridge Cases for Artillery Ammunition.

604.2 IRON AND STEEL SHEETS**604.20 General Items**

American Iron and Steel Institute. Steel Products Manual, Section 11; 1946. Carbon Steel Sheets. Covers definitions, classifications and manufacturing practices for uncoated and coated sheets; chemical practices; gage-weight data for uncoated sheets; standard allowable variations; and standard methods for packaging, loading, and shipping flat and coiled sheets.

604.22 Iron and Steel Strips, Bands, and Hoops

American Iron and Steel Institute. Steel Products Manual, Section 12; 1945. Hot-Rolled Carbon-Steel Strip. Gives definitions and manufacturing practices, standard carbon steels, ranges and limits for nonstandard steels, permissible variations for check analysis, methods of sampling, manufacturing tolerances, glossary of manufacturing terms, methods for packaging, loading and shipping, and glossary of packaging and loading terms.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2232; 1945. Tolerances—Carbon Steel Sheet and Strip. To publish established manufacturing tolerances. Gives application, thickness, width, length, camber, flatness, and special tolerances.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 5042C, 1945. Steel Sheet and Strip—Forming, Low Carbon. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-S-636, Condition No. 4; ASTM A109-38, Grade No. 4; SAE 1010.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 5044A, 1945. Steel Sheet and Strip—Low Carbon, Half Hard. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-S-636; ASTM A109-38, Grade No. 2; SAE 1010.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 5045; 1945. Steel Sheet and Strip—Low Carbon, Hard Temper. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specification: ASTM A109, Temper 1.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-11-1; 1945. Steel; Sheet and Strip Carbon (1020 and 1025).

U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-666-2; 1945. Steel; Carbon (1095), Sheet-and-Strip.

U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-676-2; 1945. Steel; Carbon-and-Alloy, Low, Plate, Sheet, and Strip.

U. S. Gov., Federal Specification QQ-S-781a; 1942. Amend. 3; 1945. Strapping, Flat; Steel. Covers two types—(I) nailless and (II) nailon; and three classes—(A) coated finish, (B) galvanized (zinc coated), and (C) uncoated. Gives requirements for sizes, material, workmanship, finish, ductility, applicability, breaking strength, tolerances, coils, and cut lengths; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 47S11f, 1945. Steel and Iron: Sheets and Strips for Flanging, Cupping, and Drawing.

604.23 Iron and Steel Sheets for Drawing and Forming

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2232; 1945. Tolerances—Carbon Steel Sheet and Strip. To publish established manufacturing tolerances. Gives application, thickness, width, length, camber, flatness, and special tolerances.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 5042C, 1945. Steel Sheet and Strip—Forming, Low Carbon. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-S-636, Condition No. 4; ASTM A109-38, Grade No. 4; SAE 1010.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 5044A, 1945. Steel Sheet and Strip—Low Carbon, Half Hard. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-S-636; ASTM A109-38, Grade No. 2; SAE 1010.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 5045; 1945. Steel Sheet and Strip—Low Carbon, Hard Temper. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specification: ASTM A109, Temper 1.

U. S. Gov., Navy Dept. Specification 47S11f, 1945. Steel and Iron: Sheets and Strips for Flanging, Cupping, and Drawing.

U. S. Gov., Navy Dept. Specification 47S16a, 1945. Steel, Sheet, for the Manufacture of Metal Furniture.

604.24 Spring and Tool Steel Sheets

Society of Automotive Engineers, Inc. Aeronautical Material Specification 5120A; 1946. Steel Sheet and Strip (Spring-Annealed). Gives requirements for composition, condition, quality, tolerances, reports, and rejections. Similar Specifications: Army Air Forces 10242; SAE 1070.

604.25 Iron and Steel Sheets for Automotive and Railway Use

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-117-45; 1945. Steel Sheets and Thin Plates, Carbon. Covers all uncoated carbon steel sheets for locomotives, freight and passenger equipment cars. Gives manufacture, chemical properties and tests, physical properties and tests, permissible variations in weight, thickness and size, marking, finish, and inspection and rejection.

604.3 TIN COATED AND ZINC COATED SHEETS

604.31 Tin Coated Sheets (Roofing Tin Terneplate)

American Iron and Steel Institute. Steel Products Manual, Section 14; 1945. Tin Mill Products—Tin Plate, Terne Plate, and Black Plate. Gives historical, manufacturing processes, classifications and practices, general standard practices, and packaging practices.

604.32 Zinc-Coated (Galvanized) Steel Sheets

U. S. Gov., Navy Dept. Specification 47S29c, 1945. Steel, Sheet, Zinc-Coated (Galvanized).

605. STRUCTURAL IRON AND STEEL

605.0 GENERAL ITEMS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R216-46; 1946. Hot-Rolled Carbon Steel Structural Shapes. To establish voluntary lists of those structural shapes that have the greatest usage. Gives 19 tables covering the nominal sizes and weights per linear foot of wide-flange sections, light beams, stanchions, joists, standard beams, H-beams, wide-flange bearing piles, channels, and tees, with angles being shown in thickness. Sections and angles used in carbuilding and shipbuilding are also included. Initiated by the American Iron and Steel Institute.

605.1 STRUCTURAL SHAPES AND PLATES, NOT FABRICATED

605.11 Structural Steel for Bridges

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads.

Manual for Railway Engineering, 1946. Structural and Rivet Steel. Gives process, chemical composition, ladle analyses, check analyses, rolled base plates, physical properties, modification in elongation, yield point, speed of testing machine, bend tests, test specimens, number of tests, retests, finish, permissible variations in weight and thickness, permissible variations in diameter, identification marks, and inspection.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Structural Silicon Steel. Gives process, discard, chemical composition, ladle analyses, check analyses, physical properties, modification in ductility, yield point, bend tests, test specimens, number of tests, retests, permissible variation in weight and thickness, finish, identification marks, inspection, and rejection. Identical with the requirements for the same material in ASTM Standard A94.

U. S. Gov., Federal Specification QQ-S-741; 1942. Amend. 3; 1946. Steel, Structural (including Welding) and Rivet; (for) Bridges and Buildings. Covers two types—(I) for riveted structures and (II) for welded structures; two grades—(A) bridge steel and (B) building steel; and two classes—(1) noncopper steel and (2) copper-bearing steel. Gives material, workmanship, general requirements, manufacture, chemical composition, manufacturer's analyses, tensile properties, modification in elongation, and bending; methods of sampling, inspection, and tests; and packing and marking.

605.12 Structural Steel for Buildings

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Structural Silicon Steel. Gives process, discard, chemical composition, ladle analyses, check analyses, physical properties, modification in ductility, yield point, bend tests, test specimens, number of tests, retests, permissible variation in weight and thickness, finish, identification marks, inspection, and rejection. Identical with the requirements for the same material in ASTM Standard A94.

Steel Joist Institute. Steel Joist Construction, Specifications, Loading Tables and Properties, 1946. Standard Specifications for Steel Joist Construction. Gives requirements for scope, definition of steel joist, materials, connections, methods of design and stresses, span, spacing, erection, bridging, floor and ceiling protection of steel joist construction, decks and top slabs, deflection, factor of safety, and roof decks.

U. S. Gov., Federal Specification QQ-S-741; 1942. Amend. 3; 1946. Steel, Structural (including Welding) and Rivet; (for) Bridges and Buildings. Covers two types—(I) for riveted structures and (II) for welded structures; two grades—(A) bridge steel and (B) building steel; and two classes—(1) noncopper steel and (2) copper-bearing steel. Gives material, workmanship, general requirements, manufacture, chemical composition, manufacturer's analyses, tensile properties, modification in elongation, and bending; methods of sampling, inspection, and tests; and packing and marking.

605.13 Structural Steel for Cars and Locomotives

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Sill, Center, Steel, Section for. Dimensional drawing for 25 3/4 and 26 3/4 in. center plate height cars.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-116-45; 1945. Steel, Structural, Shapes, Plates and Bars. Covers carbon structural steel shapes, plates, and bars, for use in the construction of locomotives and cars. Gives manufacture, chemical and physical properties and tests, permissible variations in weights and dimensions, finish, marking, and inspection and rejection.

605.14 Structural Steel for Machinery

U. S. Gov., U. S. Army, Corps of Engineers Specification 57-114-2; 1944. Steel; Structural, Low-Alloy (High Tensile) for Welded Engineer Equipment.

605.15 Structural Iron and Steel for Ships

U. S. Gov., Navy Dept. Specification 46S1j, 1945. Steel: Bars and Shapes (for Hull Construction).

U. S. Gov., Navy Dept. Specification 48S5f, 1945. Steel, Plate, Hull, Structural, Black (Uncoated), and Zinc-Coated (Galvanized).

605.19 Miscellaneous Structural Steel

U. S. Gov., Army Air Forces Specification 40643B, 1945. Beam, Dual Wheel Jacking (Aircraft 30 Ton).

U. S. Gov., Navy Dept. Specification 47S34; 1946. Steel, Sheet, Black, Structural.

605.2 STRUCTURAL SHAPES AND PLATES, FABRICATED**605.20 General Items**

American Institute of Steel Construction, Inc. Code of Standard Practice for Steel Buildings and Bridges, 1946. Covers general requirements, classification, invoicing, drawings and specifications, stock material, inspection and delivery, erection, delays in prosecution of work, extra work, proposals and contracts, and standard documents.

American Institute of Steel Construction, Inc. Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings (Riveted, Bolted and Arc-Welded Construction), 1946. Covers administrative provisions and technical provisions including material, loads and stresses, unit stresses, design, and fabrication.

American Iron and Steel Institute. Building Code Modernization (A Series of Reference Bulletins). V—Steel Regulations, 1946. Covers hot-rolled structural steel for buildings, other steel constructions, building code regulations (riveted, bolted, or welded construction), steel joist construction, and formed steel constructions.

American Iron and Steel Institute. Building Code Modernization (A Series of Reference Bulletins). VII—Steel Piles for Foundations of Buildings, 1946. Covers steel foundation piles, recommended building code regulations for steel piles used in

foundations of buildings, safe loads, concrete-filled steel pipe piles, rolled structural steel piles, and test of piles.

605.21 Steel Bridges and Railway Turntables

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division I.—General Provisions includes definition of terms, proposal requirements and conditions, award and execution of contract, scope of the work, control of the work, control of materials, legal relations and responsibility to public, prosecution and progress, and measurement and payment. Division II.—Construction includes excavation and fill, sheet piles, bearing piles, concrete masonry, reinforcement, ashlar masonry, mortar rubble masonry, dry rubble masonry, brick masonry, steel structures, bronze or copper-alloy bearing and expansion plates, steel grid flooring, railings, painting metal structures, riprap, concrete cribbing, waterproofing, dampproofing, name plates, timber structures, preservative treatments for timber, timber cribbing, sectional plate pipe and arches, and wearing surfaces. Division III.—Design includes general features of design, loads, distribution of loads, unit stresses, pile loads and bearing, substructures and retaining walls, structural steel design, concrete design, design of timber structures, composite beams, sectional plate pipe, sectional plate arches, and rating of existing bridges. Division IV.—Materials includes cement, water for use with cement, fine aggregate, coarse aggregate, reinforcement, structural, eyebar and rivet steels, wrought iron, steel forgings, steel castings, gray-iron castings, malleable castings, bronze or copper-alloy bearing and expansion plates, steel piles, steel sheet piling, steel grid floors, paint, welding, sheet metal for water stops and general use, sectional plate pipe and arches, stone for masonry, brick, bituminous materials and joint fillers, asphalt paving blocks, premolded asphalt plank, structural timber, lumber and piling, timber preservatives, and timber connectors.

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 10—Steel Structures, Erection. Gives requirements for erection of structure, plans, plant, delivery of materials, handling and storing materials, falsework, methods and equipment, bearings and anchorage, straightening bent material, assembling steel, riveting, bolted connections, pin connections, misfits, removal of old structure and falsework, and payment.

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 10—Steel Structures, Fabrication. Gives requirements for quality of workmanship, storage of materials, straightening material, finish, rivet holes, punched holes, reamed or drilled holes, subpunching, reaming and shop assembly, accuracy of punched and subdrilled holes, accuracy of reamed and drilled holes, shop assembly, camber diagram, drifting of holes, match-marking, rivets, field rivets, bolts and bolted connections, riveting, edge planing, flame cutting, facing of bearing

surfaces, abutting joints, end connection angles, lacing bars, finished members, web plates, bent plates, fit of stiffeners, eyebars, annealing, pins and rollers, boring pin holes, pin clearances, welds, screw threads, pilot and driving nuts, notice of beginning of work, facilities for inspection, inspector's authority, mill orders, weighing of members, and marking and shipping.

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 12—Steel Grid Flooring. Gives general information and requirements for materials, arrangement of sections, provision for camber, field assembly, connection to supports, welding, repairing damaged galvanized coatings, concrete filler, painting, and method of measurement and basis of payment.

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 13—Railings, Metal. Gives general information and requirements for materials, line of grade, construction, painting, and measurement and payment.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Steel Railway Bridges (for Fixed Spans Not Exceeding 400 Feet in Length). Includes specific and detailed rules for the design and manufacture of bridges. Gives requirements for proposals and drawings, general features of design, loads and stresses, unit stresses, details of design, workmanship, eye-bars, weighting, and shipping.

605.22 Steel Buildings and Metal Parts of Buildings

American Welding Society. Standard Code for Arc and Gas Welding in Building Construction, D1.0-46; 1946. Gives general provisions, design of welded connections, filler metal, workmanship, inspection, qualification, definitions, welding symbols, welded joints, qualifications of welding procedures and operators, and illustrations of acceptable and defective weld profiles.

605.23 Steel Tanks, Towers, and Flumes

American Petroleum Institute, Div. of Production. Standard 12-B; 1944. Supplement 1; 1946. Specification for Standard Bolted Tanks. Provides the industry with a standard series of bolted steel tanks, comprising an adequate range and variety of sizes to meet oil field requirements, built in accordance with modern manufacturing practice so that decks, bottoms, and individual staves as supplied by any manufacturer will be readily interchangeable with those supplied by any other. Covers scope, material, fabrication and erection, cleanouts for production tanks, walkways and stairways, piping flanges and relief valves, marking, inspection and rejection, and appendices.

American Petroleum Institute, Div. of Production. Standard 12-C; 1946. Specification for All-Welded Oil Storage Tanks. This specification covers all welded steel tanks for oil storage, including

allowable plate and joint stresses, qualification procedures for welding, and chemical and physical properties of material, including welding rods. Covers design, fabrication, erection, standard appurtenances, testing joints by sectioning methods, qualification procedure, marking, and appendices.

American Petroleum Institute, Div. of Production. Standard 12-D; 1944. Supplement 1; 1946. Specification for All-Welded Production Tanks (Tentative). This specification covers sizes, materials, plate thicknesses, and design factors for light-weight all-welded steel production tanks. Covers material, design, cleanouts, walkways and stairways, bolting patterns for thief hatches and relief valves, threaded connections, marking, and adjustments.

American Society of Mechanical Engineers. Boiler Construction Code. API-ASME Code for Unfired Pressure Vessels, 1943 With 1944 Supplement. Applies to unfired pressure vessels constructed of carbon steel for petroleum liquids and/or gases within the limits prescribed in the Code. Rules cover the design and construction of vessels subjected to external pressure, fusion-welded, riveted, and integrally forged vessels, periodic inspection; and repair. A list of approved materials is given, also suggestions regarding internal structures, corrosion allowances, and protective linings; and examples of computations covering reinforcement of shell openings.

American Society of Mechanical Engineers. Boiler Construction Code. Unfired Pressure Vessel Code, 1943 With 1944-1945 Addenda. Pressure containers for which construction rules are established include vessels subjected to external pressure, and those for gases or liquids at temperatures of -20°F and below. Requirements cover materials, working pressures, welding, nozzle openings, and hydrostatic tests. Methods of computing shell openings are included, as well as examples of the computation.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-252; 1941. Towers, Steel Skeleton, Four Post, Form 7-A, for Airways Beacons.

U. S. Gov., U. S. Army, Corps of Engineers Specification 87-15; 1945. Tank, Steel, Water, Vertical, Bolted Type, Open Top, Painted.

605.25 Steel for Concrete Reinforcement

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division IV, Section 5—Reinforcement. Gives requirements for bar reinforcement, wire and wire mesh, bar mat reinforcement, and structural shapes.

American Concrete Institute. ACI Standards-1945. Recommended Practice for Use of Metal Supports for Reinforcement, ACI 319-42. Gives general requirements, supports, number and location of supports, and responsibility; tables showing one-way slab construction, ordinary beam and joist construction, heavy beam and girder construction, and flat slabs; and types of devices.

American Public Works Assn. Specification for Portland Cement Concrete Pavement, FI-44; 1944. Includes

reinforcement. Shall be either cold-drawn steel wire fabric or steel bars. Gives requirements for wire fabric bars, bar mats, dowel and tie bars, and deformed metal joint.

Rail Steel Bar Assn. Rail Steel for Concrete Reinforcing, undated. Covers adequate for all design; specification including manufacture, tensile properties, and bending properties; standard sizes; design standards; industry history; and standard production methods.

U. S. Gov., Federal Specification QQ-B-71a; 1938. Amend. 2; 1945. Bars; Reinforcement, (for) Concrete. Covers four types—(A) plain, (B) deformed, (C) hot-twisted, and (D) cold-twisted; and seven grades—(1) structural, billet-steel; (2) intermediate, billet-steel; (3) intermediate, car-axle-steel; (4) hard, billet-steel; (5) hard, rail-steel; (6) structural, car-axle-steel; and (7) hard, car-axle-steel. Gives requirements for material, workmanship, twisted bars, permissible variations, chemical composition, manufacturer's analyses, tensile properties, modification in elongation, and bending; methods of sampling, inspection, and tests; and packaging, packing, and marking.

605.27 Steel Scaffolds and Grandstands

National Fire Protection Assn. American Standards Assn., Z20.2-1946. Standard for Grandstands, Tents, and Other Places of Outdoor Assembly. Covers the design, construction, location, maintenance, and use of grandstands, tents, and other structures and premises for use or used as places of outdoor assembly. Its purpose is to specify reasonable standards as a means to safeguard persons and property insofar as it affects public safety. Gives definitions, places of outdoor assembly—general requirements, grandstands, tents, ways of egress from places of outdoor assembly, fire protection in places of outdoor assembly, sanitary arrangements in places of outdoor assembly, and appendix.

606. RAILWAY TRACK MATERIAL

606.0 GENERAL ITEMS

American Mining Congress. Coal Division Committee Recommendations, 1945. Construction and Maintenance of Main Haulage Roads in Coal Mines. Covers roadbed and track construction, rail and track accessories, track inspection and maintenance, specifications for main haulage ties, wood switch tie sets for turnouts, steel tie spacing for turnouts, guard rails for turnouts, elevation of outside rail on curves, safe rail loads for various tie spacing, and crossover dimensions for single and double entries.

606.1 STEEL RAILS, TEE, AND GIRDER

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Open-Hearth Steel Rails. Gives inspection, chemical requirements, physical requirements, and details of manufacture.

606.2 RAIL JOINT PLATES AND TIE PLATES

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Designs of Tie Plates for RA-A and RE Rail Sections. Gives table showing tie plates appropriate for use with various rail sections and under various service conditions, and drawings of various tie plates.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Soft and Medium Steel Tie Plates. Gives requirements for manufacture, chemical properties and tests, physical properties and tests, workmanship and finish, marking, and inspection.

U. S. Gov., U. S. Army, Corps of Engineers Specification 43-3A; 1945. Bar, Splice, Railroad.

U. S. Gov., U. S. Army, Corps of Engineers Specification 43-6A; 1945. Plate, Steel, Railway Tie.

606.3 SWITCHES AND SPECIAL TRACK WORK

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1945. Specifications for One, Two, Three, and Four-Track Overhead Metal Warning and Metal Side Warning. Covers the design, materials, and erection of metal overhead warnings. Gives footing; materials including base casting and pipe cap, iron pipe and fittings including collars, straps and hanger clamps, galvanized steel pipe and fittings, steel guy and messenger strand, galvanized cable clamps and thimbles, hook and eye galvanized turnbuckles, wood lash bars and fingers, teltales for overhead warnings, spring finger for side warning, spring for side warning brackets, bolts, and steel bar; erection; and painting.

606.4 TRACK BOLTS, NUTS, AND WASHERS

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Heat-Treated Carbon-Steel and Alloy-Steel Track Bolts. Gives scope, manufacture, chemical properties and tests, physical requirements, design and tolerance, and marking and inspection.

607. TUBULAR PRODUCTS AND FITTINGS, COCKS, AND VALVES

607.0 GENERAL ITEMS

American Petroleum Institute, Div. of Production. Code 5-C-2; 1944. Supplement 2; 1946. Performance Properties of Casing and Tubing. Gives minimum performance properties for casing and tubing. The values shown herein for casings are final, and are based mainly upon tests; and the values for tubing are tentative, and are calculated. Gives tables showing outside diameter, nominal weight, inside diameter, wall thickness, drift diameter, collapse resistance, internal yield pressure, and joint strength for various sizes.

American Petroleum Institute, Div. of Production. Standard 7-B; 1944. Supplement 1; 1946. Specification for Rotary Drilling Equipment. Gives final dimensional standards, including gages, for regular and full-hole rotary drilling tool joints, tentative standards for internal-flush rotary drilling tool joints, and standards on auxiliary equipment. Covers material, workmanship and finish, marking, rotary drilling tool joints, drill collars, girth stems, couplings, and subs, bits, gaging practice, swivel gooseneck connections and rotary hose, rotary table, brake blocks, slush pumps, recommended practice on measurement, inspection and rejection, gages, and appendices.

American Society of Mechanical Engineers and American Gas Association, joint sponsors. American Standards Assn., B2.1-1945. Pipe Threads. Covers outline of procedure followed in the development of this standard and brief historical note, form of thread and basic formulas, limits on crest and root of external and internal taper pipe threads, specifications for plug and ring gages for taper pipe threads, method of gaging and manufacturing tolerances for threaded product, basic dimensions, American Standard taper pipe threads, dimensions of threaded plug and ring gages, specifications for dryseal pressure-tight joints, specifications for rail fitting joints, specifications for straight pipe threads, mechanical joints, and locknut connections, and appendices.

Manufacturers Standardization Society of the Valve and Fittings Industry. By-Pass Size Standard, SP-5; 1944. Covers fabricated by-pass equipment for cast iron and steel valves for all pressures. Gives by-pass sizes for main valve size from 4 to 24 inches, and by-pass locations.

Manufacturers Standardization Society of the Valve and Fittings Industry. Standard Marking System for Valves, Fittings, Flanges, and Unions, SP-25; 1936. Addendum 2; 1940. Applies to the various classes of valves (including cocks), flanges, fittings and unions, hereinafter termed "products," of whatever material made, which manufacturers recognize as regular available patterns and which are specifically covered by the tables in this standard. Gives general requirements, rules for marking, and 30 tables of data for various valves, fittings, and unions.

Manufacturers Standardization Society of the Valve and Fittings Industry. Drain Tapping Standard; SP-28; 1945. A method of designating location of tapped holes in valves and fittings. Gives scope, location designating symbols, designating outlets of reducing fittings, standard drain sizes, reducing fittings, tappings, tables showing standard drain sizes and minimum thread length, and numerous drawings showing method of designating location of tapped holes when specified and method of designating outlets of reducing fittings in specifications.

National Board of Boiler and Pressure Vessel Inspectors. Safety Valve Capacity Tests, 1946. Gives detailed data on the capacities of safety valves as manufactured by the leading companies and certified by the N.B.B.P.V.I. Capacities determined in

accordance with the rules formulated by the A.S.M.E. Boiler Code Committee.

U. S. Gov., Army Air Forces Specification 41050; 1945. Screw-Threads; Standard Fire Hose Equipment Fittings (American National Form Symbol NH).

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R207-45; 1945. Pipes, Ducts, and Fittings for Warm-Air Heating and Air Conditioning. Comprises a list of sizes of pipes, ducts, and fittings for regular stock purposes, which was developed by a simplification committee of the furnace fittings industry. Gives tables showing recommended pre-fabricated warm-air heating and air-conditioning pipes, ducts, and fittings for furnace pipe and fittings—gravity type, and ducts and fittings for forced-air heating and air conditioning.

U. S. Gov., Joint Army-Navy Specification JAN-P-3; 1945. Packaging and Packing for Overseas Shipment of Valves, Fittings, and Flanges for Piping.

607.1 CAST-IRON PIPE, FITTINGS, AND CONNECTIONS

607.14 Cast-Iron Pipe Fittings and Connections

U. S. Gov., Federal Specification WW-P-401; 1935. Amend. 2; 1945. Pipe and Pipe-Fittings; Soil, Cast-Iron. Covers two grades—(A) extra-heavy and (B) victory-weight, 2 in. to 15 in., in 5 ft. lengths. Gives material and workmanship, general requirements, laying length, tolerance, straightness, dimensions of hubs and spigots, weight of pipe and fittings, dimensions of fittings, and physical and chemical requirements; methods of inspection and tests; and packing and marking of shipments.

U. S. Gov., Federal Specification WW-P-471; 1945. Amend. 1; 1946. Pipe-Fittings (Bushings, Plugs, and Locknuts); Bronze and Ferrous (Screwed). Covers one class and three types—(I) black (uncoated ferrous metal), (II) zinc-coated (galvanized ferrous metal), and (III) bronze. Gives requirements for materials and workmanship, marking, threading, plug squares and hexagons, details, and tables showing sizes and dimensions for the various fittings; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification WW-P-491a; 1945 and Amend. 1; 1946. Pipe-Fittings; Cast-Iron, Drainage. Covers three types—(I) uncoated, (II) coated, painted or varnished, and (III) zinc-coated. This specification covers couplings, crosses, elbows, increasers, roof connections, tees and basin tees, traps, tucker connections, and Y-branches. Gives requirements for material and workmanship, marking, threading, tolerances, details, and tables showing sizes and dimensions for the various fittings; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification WW-P-501b; 1945. Pipe-Fittings; Cast-Iron (Screwed) 125- and 250-Pound. Covers two types—(I) black uncoated and (II) zinc-coated; and two classes—(A) 125 pound and (B) 250 pound. This specification covers caps, crosses, elbows, reducers, return bends, sprinkler fittings, tees, and Y-branches. Gives requirements

for material and workmanship, marking, threading, details, and tables showing the sizes and dimensions for the various fittings; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

607.2 MALLEABLE IRON PIPE, FITTINGS, AND CONNECTIONS

Manufacturers Standardization Society of the Valves and Fittings Industry. 300 Lb. SP Malleable Iron Screw Fittings Standard, SP-31; 1944. Gives pressure ratings, size, marking material, metal thickness tolerance, threading, ribs, face bevel, fitting dimensions, and tables showing data for various sizes and types of fittings.

U. S. Gov., Federal Specification WW-P-404; 1944. Amend. 1; 1945. Pipe; Steel and Ferrous Alloy (for) Bending, Flanging, etc. (Iron-Pipe Size). Covers black and coated pipe in three types—(I) steel; carbon, welded and seamless; (II) steel; copper-bearing, welded and seamless; (III) open-hearth iron; copper-molybdenum, welded; and three classes—(A) standard weight, (B) extra strong, and (C) double extra strong. Gives requirements for material and workmanship, marking, lengths, diameter and thickness, weight tolerances, black pipe, zinc-coated pipe, pipe ends and couplings, pipe threads, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification WW-P-406; 1944. Amend. 1; 1945. Pipe; Steel and Ferrous Alloy (for) Ordinary Uses (Iron-Pipe Size). Covers black, coated, or line pipe in three types—(I) steel; carbon, welded and seamless; (II) steel; copper-bearing, welded and seamless; and (III) open-hearth iron; copper-molybdenum, welded; and three classes—(A) standard weight, (B) extra strong, and (C) double extra strong. Gives requirements for material and workmanship, marking, lengths, diameter and thickness, weight tolerances, black pipe, zinc-coated pipe, cement lined pipe, pipe ends and couplings, pipe threads, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification WW-P-471; 1945. Amend. 1; 1946. Pipe-Fittings (Bushings, Plugs, and Locknuts); Bronze and Ferrous (Screwed). Covers one class and three types—(I) black (uncoated ferrous metal), (II) zinc-coated (galvanized ferrous metal), and (III) bronze. Gives requirements for materials and workmanship, marking, threading, plug squares and hexagons, details, and tables showing sizes and dimensions for the various fittings; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification WW-P-521b; 1945. Pipe Fittings; Malleable Iron (Screwed) 150-Pound. Covers two types—(I) black uncoated and (II) zinc-coated. This specification covers caps, couplings, crosses, elbows, reducers, return bends, tees, and Y-branches. Gives requirements for material and workmanship, marking, threading, details, and tables showing sizes and dimensions for the various

fittings; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 45U3e; 1945. Unions, Iron (Malleable) or Steel, 250-Pound.

U. S. Gov., Navy Dept. Specification 45U6b, 1945. Unions, Iron (Malleable) or Steel, 300-Pound.

607.3 WROUGHT-IRON PIPE, FITTINGS, AND CONNECTIONS

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part V—Miscellaneous Standards. No. 580—Steel and Wrought Iron Pipe. Covers purpose, scope, minimum centers for bending, painting of coils, hangers, exposed threads, pipe joints, welding flanges to pipe, test pressures, cleaning of pipe, and figures.

American Petroleum Institute, Div. of Production. Standard 5-A; 1945. Supplement 1; 1946. Specification for Casing, Drill Pipe, and Tubing. Covers material, manufacture, chemical properties and tests, physical properties and tests, dimensions, weights, lengths, threads, couplings, marking, inspection and rejection, tables, gaging practice, gages—certification, gages—specification, and appendices.

American Petroleum Institute, Div. of Production. Standard 5-L; 1945. Supplement 1; 1946. Specification for Line Pipe. This specification covers chemical and physical properties and processes of manufacture of line pipe, with dimensions on diameter, thicknesses, lengths, threads, etc., and master gages. Gives material, manufacture, chemical properties and tests, physical properties and tests, dimensions, weights, and lengths, threads, couplings, marking, inspection and rejection, tables, gaging practice, gages, and appendices.

American Society for Testing Materials, A72-45; 1945. A.S.M.E. Boiler Construction Code Specification, SA-72. Welded Wrought-Iron Pipe. Covers standard weight, extra strong, and double extra strong pipe, both black and galvanized. Gives process, chemical composition, check analysis, tensile properties, hydrostatic tests, fracture tests, bending properties, micrographic examinations, galvanized pipe, weight of coating, weight of coating test, test specimens, number of tests, retests, standard weights, permissible variations in weight and diameter, lengths, workmanship, finish, inspection, and rejection.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 123-44; 1945. One-Inch Welded Wrought Iron Pipe. For the operation of units mechanically operated. Gives drawings, material, chemical properties, physical properties and tests, pipe ends, threads, couplings, galvanizing, lengths, plugs, rivets, finish, assembly, inspection, and packing.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS5-46; 1946. Pipe Nipples; Brass, Copper, Steel, and Wrought-Iron. This standard covers steel, ferrous-alloy, and wrought-iron nipples, black- and zinc-coated (hot dip galvanized), in iron-pipe sizes from 1/8 to

12 in., of standard lengths; and brass and copper nipples in standard sizes 1/8 to 6 in. Covers material, general requirements, detail requirements, packaging, labeling, and gives tables showing sizes and lengths for standard weight and extra strong pipe nipples. Initiated by National Assn. of Pipe Nipples Manufacturers, Inc.

U. S. Gov., Federal Specification WW-P-471; 1945. Amend. 1; 1946. Pipe-Fittings (Bushings, Plugs, and Locknuts); Bronze and Ferrous (Screwed). Covers one class and three types—(I) black (uncoated ferrous metal), (II) zinc-coated (galvanized ferrous metal), and (III) bronze. Gives requirements for materials and workmanship, marking, threading, plug squares and hexagons, details, and tables showing sizes and dimensions for the various fittings; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

607.4 STEEL PIPE, FITTINGS, AND CONNECTIONS

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part V—Miscellaneous Standards. No. 580—Steel and Wrought Iron Pipe. Covers purpose, scope, minimum centers for bending, painting of coils, hangers, exposed threads, pipe joints, welding flanges to pipe, test pressures, cleaning of pipe, and figures.

American Petroleum Institute, Div. of Production. Standard S-A; 1945. Supplement 1; 1946. Specification for Casing, Drill Pipe, and Tubing. Covers material, manufacture, chemical properties and tests, physical properties and tests, dimensions, weights, lengths, threads, couplings, marking, inspection and rejection, tables, gaging practice, gages—certification, gages—specification, and appendices.

American Petroleum Institute, Div. of Production. Standard S-L; 1945. Supplement 1; 1946. Specification for Line Pipe. This specification covers chemical and physical properties and processes of manufacture of line pipe, with dimensions on diameter, thicknesses, lengths, threads, etc., and master gages. Gives material, manufacture, chemical properties and tests, physical properties and tests, dimensions, weights, and lengths, threads, couplings, marking, inspection and rejection, tables, gaging practice, gages, and appendices.

American Society for Testing Materials, A106-45T; 1945. Tentative Specifications for Seamless Carbon-Steel Pipe for High-Temperature Service. Cover pipe suitable for bending, flanging, and similar forming operations for steam service pressures of 400 psi. and over and high temperatures or other applications where a superior grade of pipe is required. Gives process, chemical composition, check analysis, tensile properties, bending properties, flattening tests, hydrostatic test, test specimens, number of tests, retests, dimensions, permissible variations in weight and dimensions, lengths, ends, finish, marking, inspection, rejection, and supplementary requirements.

American Society for Testing Materials, A157-44; 1944. A.S.M.E. Boiler Construction Code Specification SA-157. American Standards Assn., G36.1-1944. Standard Specifications for Alloy-Steel

Castings for Valves, Flanges, and Fittings for High-Temperature Service. Includes nine ferritic and two austenitic grades, selection dependent on design and service conditions, physical properties, and the high-temperature characteristics. Gives process, heat treatment, temperature control, chemical composition, ladle analysis, check analysis, tensile properties, bending properties, hydrostatic tests, magnetic particle testing, test specimens, number of tests, retests, radiographic or destruction tests, workmanship, finish, marking, inspection, rejection, and reheating. A.S.T.M. Emergency Alternate Provision EA-A 157; 1944, affected section 10, hydrostatic tests.

American Society for Testing Materials, A158-44T; 1944. A.S.M.E. Boiler Construction Code Specification SA-158. Tentative Specifications for Seamless Alloy-Steel Pipe for High-Temperature Service. Includes eight ferritic and three austenitic steels, selection dependent on design and service. Gives process, discard, heat treatment, chemical composition, ladle analysis, check analysis, tensile properties, bending properties, flattening test, hydrostatic test, test specimens, number of tests, retests, retreatment, permissible variations in weight and dimensions, lengths, ends, finish, marking, inspection, rejection, and supplementary requirements. A.S.T.M. Emergency Alternate Provision, EA-158a; 1944, affected section 1, scope; and table 1, chemical requirements.

American Society for Testing Materials, A182-44; 1944. A.S.M.E. Boiler Construction Code Specification, SA-182. American Standards Assn., G37.1-1944. Standard Specifications for Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service. Includes seven ferritic and three austenitic steels, selection dependent on design and service. Gives process, discard, manufacturing practice, heat treatment, chemical composition, ladle analysis, check analysis, tensile properties, hydrostatic tests, test specimens, number of tests, retests, macro-etch tests, workmanship, finish, marking, inspection, rejection, and reheating.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 122-44; 1945. One-Inch Welded Steel Pipe. For the purpose of providing welded steel pipe for the operation of units mechanically operated. Gives drawings, chemical properties, physical properties and tests, ends, threads, couplings, plugs, rivets, galvanizing, lengths, material and workmanship, and inspection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2253A, 1945. Tolerances—Carbon and Alloy Steel Tubing. To publish established manufacturing tolerances. Gives application, diameter, wall thickness, length (all types), straightness, flatness, and special tolerances.

U. S. Gov.; Army-Navy Aeronautical Specification AN-C-140-1; 1946. Clamps; Hose.

U. S. Gov., Army-Navy Aeronautical Specification AN-WW-T-846-2; 1945. Tubing; Steel, Carbon (1025), Seamless.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS5-46; 1946. Pipe Nipples; Brass, Copper, Steel, and Wrought-Iron. This standard covers steel, ferrous-alloy, and wrought-iron nipples, black- and zinc-coated (hot dip galvanized), in iron-pipe sizes from 1/8 to 12 in., of standard lengths; and brass and copper nipples in standard sizes 1/8 to 6 in. Covers material, general requirements, detail requirements, packaging, labeling, and gives tables showing sizes and lengths for standard weight and extra strong pipe nipples. Initiated by National Assn. of Pipe Nipples Manufacturers, Inc.

U. S. Gov., Federal Specification WW-P-404; 1944. Amend. 1; 1945. Pipe; Steel and Ferrous Alloy (for) Bending, Flanging, etc. (Iron-Pipe Size). Covers black and coated pipe in three types—(I) steel; carbon, welded and seamless; (II) steel; copper-bearing, welded and seamless; (III) open-hearth iron; copper-molybdenum, welded; and three classes—(A) standard weight, (B) extra strong, and (C) double extra strong. Gives requirements for material and workmanship, marking, lengths, diameter and thickness, weight tolerances, black pipe, zinc-coated pipe, pipe ends and couplings, pipe threads, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification WW-P-406; 1944. Amend. 1; 1945. Pipe; Steel and Ferrous Alloy (for) Ordinary Uses (Iron-Pipe Size). Covers black, coated, or lined pipe in three types—(I) steel; carbon, welded and seamless; (II) steel; copper-bearing, welded and seamless; and (III) open-hearth iron; copper-molybdenum, welded; and three classes—(A) standard weight, (B) extra strong, and (C) double extra strong. Gives requirements for material and workmanship, marking, lengths, diameter and thickness, weight tolerances, black pipe, zinc-coated pipe, cement lined pipe, pipe ends and couplings, pipe threads, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 45J1a; 1946. Joints, Steel, Flexible (for Temporary Pipe Connections).

U. S. Gov., Navy Dept. Specification 44T34b; 1946. Tubing, Steel, Seamless, Diesel-Engine-Fuel-Injection.

U. S. Gov., Navy Dept. Specification 44T41b, 1945. Tubing, Steel, Resistance-Welded (for Oil, Steam, or Water).

U. S. Gov., Navy Dept. Specification 45F7f, 1945. Flanges, Steel, for Steel Tubing, 300 Pounds W.S.P.

U. S. Gov., Navy Dept. Specification 45F15b, 1945. Flanges, Steel, for Steel Tubing, 150 Pounds W.S.P.

U. S. Gov., Navy Dept. Specification 66C9; 1945. Coils, Cooling, Fin-Tube, Dichlorodifluoromethane (F-12) (Shipboard Use).

607.5 SHEET IRON AND STEEL PIPE

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Roadway. Specifications for Bituminous Coated Corrugated

Metal Pipe and Arches. Gives scope, materials and manufacture, sampling, and tests.

U. S. Gov., Joint Army-Navy Specification JAN-P-236-1; 1946. Pipe; Culvert, Iron or Steel, Nestable (for Overseas Use).

607.6 VALVES, COCKS, AND HYDRANTS, FERROUS AND NONFERROUS

American Petroleum Institute, Div. of Production. Standard 5-F; 1945. Supplement 1; 1946. Specification for Threads in Valves, Fittings, and Flanges (Tentative). Covers material, basic specifications for threads, finish and threading, manufacturing tolerance for threaded product, gaging practice for line pipe threads, gaging practice for casing threads, gaging practice for tubing threads, gaging practice for drill pipe threads, marking, gages and gage tolerances, inspection and rejection, and appendix.

American Petroleum Institute, Div. of Production. Standard 5-G-1; 1946. Standard on Iron and Steel Flanged Gate, Plug, and Check Valves for Pipe Line Service (Tentative). Includes stipulations on chemical and physical properties of materials, covers major dimensions for flanged pipe line valves, and provides maximum interchangeability of units between the products of different manufacturers. Gives general requirements, materials, design and fabrication, dimensions, testing, marking, inspection and rejection, and shipping instructions.

American Petroleum Institute, Div. of Production. Standard 5-G-2; 1946. Standard on Steel Flanged Gate and Plug Valves for Drilling and Production Service (Tentative). Includes physical properties of materials for and major dimensions of flanged drilling-through and flanged flow-line (Christmas tree) gate and plug valves that are used in drilling for and producing oil. To provide maximum interchangeability of units between the products of different manufacturers. Gives general requirements, material, design and fabrication, dimensions, testing, marking, inspection and rejection, shipping instructions, and auxiliary equipment.

American Society for Testing Materials, A157-44; 1944. A.S.M.E. Boiler Construction Code Specification SA-157. American Standards Assn., G36.1-1944. Standard Specifications for Alloy-Steel Castings for Valves, Flanges, and Fittings for High-Temperature Service. Includes nine ferritic and two austenitic grades, selection dependent on design and service conditions, physical properties, and the high-temperature characteristics. Gives process, heat treatment, temperature control, chemical composition, ladle analysis, check analysis, tensile properties, bending properties, hydrostatic tests, magnetic particle testing, test specimens, number of tests, retests, radiographic or destruction tests, workmanship, finish, marking, inspection, rejection, and reheating. A.S.T.M. Emergency Alternate Provision EA-A 157; 1944, affected section 10, hydrostatic tests.

American Society for Testing Materials, A182-44; 1944. A.S.M.E. Boiler Construction Code Specification, SA-182. American Standards Assn., G37.1-1944.

- Standard Specifications for Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service. Includes seven ferritic and three austenitic steels, selection dependent on design and service. Gives process, discard, manufacturing practice, heat treatment, chemical composition, ladle analysis, check analysis, tensile properties, hydrostatic tests, test specimens, number of tests, retests, macro-etch tests, workmanship, finish, marking, inspection, rejection, and reheating.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Globe and Angle Valves for Steam Locomotives for 300 Lb. Pressure, Recommended Practice. Materials for valves to follow A.S.T.M. Specification B-61, except stem for outside screw type, seat rings, discs, gland, handwheel nut, handwheel, and bonnet bushing hand nut. Gives detailed drawings and tables for globe and angle valves, valve parts, and marking.
- Compressed Gas Manufacturers' Assn., Inc. Standard Compressed Gas Cylinder Valve Outlets—United States and Canada, 1946. Covers personnel, procedure, introductory, shape of nipple, seat angle, seat diameter, the four thread divisions, foolproof thread sizes, the threads and their sizes, spacing of diameters of valve outlet threads, guide sheet to establish principles of design, NGO thread standards, dimensions of outlet threads, gases and their outlets, valve outlets, every outlet for its purpose, every gas in its place, C.G.M.A. standards, and standard sheets for various types of gas.
- Manufacturers Standardization Society of the Valve and Fittings Industry. Drain Tapping Standard; SP-28; 1945. A method of designating location of tapped holes in valves and fittings. Gives scope, location designating symbols, designating outlets of reducing fittings, standard drain sizes, reducing fittings, tappings, tables showing standard drain sizes and minimum thread length, and numerous drawings showing method of designating location of tapped holes when specified and method of designating outlets of reducing fittings in specifications.
- Manufacturers Standardization Society of the Valve and Fittings Industry. 125 Pound SP Bronze Gate Valves, SP-37; 1943. Covers three types in sizes from 1/4 in. to 3 in.—(I) wedge disc, non-rising stem gate valves; (II) double disc, rising stem, inside screw gate valves; and (III) wedge disc, rising stem, inside screw gate valves. Gives pressure temperature ratings, marking, general design, detail design, materials, and inspection and tests.
- Manufacturers Standardization Society of the Valve and Fittings Industry. 100 Pound SP Bronze Gate Valves, SP-38; 1943. Covers the minimum requirements for 100 lb. bronze gate valves of the wedge disc non-rising stem type in sizes 1/4 in. to 2 in. Gives pressure temperature ratings, marking, general design, detail design, materials, and inspection and tests.
- Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 342; 1945. Valve Envelope, Hydraulic Relief, 3,000 Psi. Gives drawings, notes, and table showing dimensions.
- U. S. Gov., Army Air Forces Specification 40386A, 1945. Valve; Oxygen Line (Low Pressure).
- U. S. Gov., Army Air Forces Specification 40779-3; 1945. Valve; Purge (Manifold Pressure Gage Line).
- U. S. Gov., Army Air Forces Specification 40920; 1945. Valve; Three-Way, Vacuum Selector.
- U. S. Gov., Army Air Forces Specification 40996; 1945. Valve; Oral Inflation.
- U. S. Gov., Army Air Forces Specification 41001; 1945. Valve; Oxygen Welding Equipment Safety.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-71b; 1945. Cores; High Pressure Air Valve.
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-1a-1; 1946. Valves; Hydraulic Pressure Relief.
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-4a; 1945. Valves; Hydraulic Directional Control.
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-5c-1; 1946. Valves; Hydraulic Check.
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-9a; 1945. Valves; Hydraulic Controllable Check.
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-10a-1; 1945. Valves; Static Pressure Selector.
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-15-2; 1945. Valves; Low Pressure Oxygen Check.
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-16b; 1946. Valves; Oil Dilution and Separately Mounted Priming Solenoid.
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-21-2; 1946. Valves; Air Pump Suction Relief.
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-22-1; 1945. Valves; Air Vacuum Regulating (Throttling).
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-24-2; 1946. Valves; Vacuum Restrictor.
- U. S. Gov., Army-Navy Aeronautical Specification AN-V-28-1; 1946. Valves; Hydraulic Thermal Expansion Relief.
- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R183-46; 1946. Brass or Bronze Valves (Gate, Globe, Angle, and Check). Applies to brass or bronze valves (gate, globe, angle, and check) used for steam, water, oil, gases, and liquids. Gives definitions, connections, abbreviations, and a table showing recommended primary service ratings, types, and sizes of these valves.
- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R219-46; 1946. Automatic Regulating Valves. This recommendation applies to automatic regulating valves made of steel, iron, and bronze. Its purpose is to establish as a useful standard of practice the simplified list of pressure ratings and sizes of valves listed in table 1. Gives definitions, exceptions, primary pressure ratings, sizes, materials and construction, connections, abbreviations, and table showing primary pressure ratings and sizes of steel body, iron body, and bronze body automatic regulating valves.
- U. S. Gov., Federal Specification WW-V-51a; 1946. Amend. 1; 1946. Valves, Bronze; Angle, Check and Globe, 125- and 150-Pound, Screwed and Flanged (for Land Use). Covers four types—(I) globe, (II) angle, (III) lift check (horizontal), and (IV) swing check; and two classes—(A) 125-pound and (B) 150-pound. Gives requirements for workmanship,

castings, copper alloy, finish, marking, stem packing, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification WW-V-54; 1946. Amend. 1; 1946. Valves, Bronze, Gate; 125- and 150-Pound, Screwed and Flanged (for Land Use). Covers three types—(I) wedge disc (nonrising stem), (II) wedge disc (rising stem, inside screw), and (III) double disc (rising stem, inside screw); and two classes—(A) 125-pound and (B) 250-pound. Gives requirements for workmanship, castings, copper alloy, finish, marking, stem packing, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification WW-V-58; 1945. Amend. 1; 1946. Valves, Cast-iron, Gate; 125- and 250-Pound, Screwed and Flanged (for Land Use). Covers two types—(I) wedge disc and (II) double disc; and two classes—(A) 125-pound and (B) 250-pound. Gives requirements for service, construction, sizes, workmanship, castings, cast iron, copper alloy, finish, marking, stem packing, and details; methods of sampling, inspection, and tests; and packing and marking for shipment.
- U. S. Gov., Joint Army-Navy Specification JAN-V-189; 1945. Valves, Radiator (Shipboard Use).
- U. S. Gov., Navy Dept. Specification 40R1b, 1945. Reseating-Outfits, Valve (Globe, Angle, and Cross), Steam.
- U. S. Gov., Navy Dept. Specification 45C5c, 1945. Cocks, Ground-Key.
- U. S. Gov., Navy Dept. Specification 45V9f; 1946. Valves, Bronze, 100 W.S.P.; Angle, Cross, and Globe.
- U. S. Gov., Navy Dept. Specification 45V14a; 1946. Valves, Bronze, 300 W.S.P., Threaded, Angle, and Globe.
- U. S. Gov., Navy Dept. Specification 45V15; 1946. Valves, Composition, Angle and Globe, Flared-End (200 Pounds Working Pressure; 425° F. Maximum Temperature) (for 1/4- to 1/2-Inch O.D. Copper Tubing).
- U. S. Gov., Navy Dept. Specification 45V21; 1946. Valves, Water, Pressure-Reducing, 150 Pounds (for Shipboard Use).
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-128; 1945. Faucets, Bag, Water.

607.7 METALLIC HOSE, FERROUS AND NONFERROUS

- U. S. Gov., Army-Navy Aeronautical Specification AN-WW-C-561a-3; 1945. Conduit; Flexible, Shielded.

608. NAILS, SCREWS, BOLTS, NUTS, AND RIVETS

608.0 GENERAL ITEMS

American Standards Assn. B1.4-1945. Sponsored by Society of Automotive Engineers and American Society of Mechanical Engineers. Screw Threads for High-Strength Bolting. For use with pressure vessels, steel pipe flanges, fittings, and valves, and other services. Covers form of thread, screw thread series, screw thread fit, definitions, detail specifications, gaging, and gives tables showing limiting dimensions and tolerances for threads on screws and nuts.

American Standards Assn., B1.5-1945, Acme Threads (American War Standard). Covers general and historical specifications for Acme form of thread, Acme thread series, classification and tolerances of Acme threads, limiting dimensions of Acme threads, symbols, gages for Acme threads, illustrations, and tables.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Bolt Heads, Nuts, Castle or Slotted Nuts, and Screw Threads, Standard. The standards of the A.A.R. are the American Standards Assn. standards.

National Board of Boiler and Pressure Vessel Inspectors. Rules for Riveted Patches, 1946. Covers design, calculations, material, workmanship, hydrostatic test, tables, drawings, and solution of problems by means of the tables including design of a patch for an H.T. boiler, pressure allowance on an existing patch, and design of a patch for A.W.T. boiler.

608.1 NAILS, BRADS, STAPLES, AND TACKS

608.11 Nails

American Society for Testing Materials, D249-45T; 1945. Tentative Specifications for Asphalt Roofing Surfaced With Coarse Mineral Granules. Cover asphalt roofing in sheet form surfaced with colored mineral granules, either 36 or 32 in. in width, composed of roofing-felt saturated and coated on both sides with asphalt and surfaced on the weather side with granulated slate or equivalent mineral material. Gives manufacture, character of felt, character of saturant and coatings, character of saturated felt, surface finish, physical properties, freedom from defects, pliability and stickiness, packing, marking, nails and lap-cement, sampling and testing, inspection, and basis of rejection. A.S.T.M. Emergency Alternate Provision EA-D 249c; 1945, affected table I, physical requirements of asphalt roofing, section 10, packing, and section 12, nails and lap-cement.

608.2 SCREWS

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 212, 214, 215, 216, 217, 218, and 219; 1944, and NAS 213, Revised 1945. Screws—100° Flush Head, Frearson Recess, Aluminum Alloy, Bronze and Alloy Steel. Gives drawings with dimensions and notes for 8-32, 10-32, 1/2-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, and 9/16-18. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 221, 222, 223, 224, 225, 226, and 227; 1944, and NAS 220, Revised 1945. Screws—Brazier Head, Phillips Recess, Aluminum Alloy, Bronze and Alloy Steel. Gives drawings with dimensions and notes for 8-32, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, and 9/16-18. Developed by National Aircraft Standards Committee.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-24b; 1946. Screws; Self-Tapping Steel.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-52a, 1945. Screws; Machine, Cap and Set.

U. S. Gov., Navy Dept. Specification 42S11, 1945. Screws; Wood, Lag or Coach, and Hanger.

608.3 BOLTS AND NUTS, EXCEPT RAILWAY TRACK BOLTS

608.31 Bolts

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 144, 145, 146, 147, 148, 149, 150, 152, 154, 156, and 158, Revised 1945. Bolts—Internal Wrenching—Steel. Gives drawings with dimensions and notes for 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14, 1-14, and 1 1/8-12. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 159, Revised 1945. Specification for Bolt—Internal Wrenching—Aircraft. Gives grade, types, and sizes; material, workmanship, and marking; general requirements; detail requirements; drawings; and tables giving bolt size, radius, threads per inch, tensile strength, and shear strength. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 172, 174, 176, Revised 1945. Bolt—Internal Wrenching—Steel. Gives drawings with dimensions and notes for 1 1/4-12, 1 3/8-12, and 1 1/2-12. Developed by National Aircraft Standards Committee.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1946. Specification for Bolts, Nuts, and Threads. The recommended specifications are current American Standards B18.2 (Wrench-Head Bolts and Nuts and Wrench Openings) and B1.1 (Screw Threads) issued by A.S.A. Unless otherwise specified, bolts and nuts shall be of steel, hot-rolled or cold-finished, in accordance with S.A.E. current Specification 1020 and 1120.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Specification M-125-44; 1944. Machine Bolts and Nuts. Covers all common standard machine bolts and nuts used in locomotive and car construction or for miscellaneous purposes. Gives manufacture, chemical properties and tests, physical properties and tests, dimensions and threading, workmanship and finish, oiling, packing and marking, and inspection and rejection.

Manufacturers Standardization Society of the Valve and Fittings Industry. Carbon Steel Machine Bolts and Nuts for Flanged Products, SP-39; 1945. Covers carbon steel machine bolts and nuts, sizes 2 1/4 in. and smaller, for use with champion flanges, flanged fittings, and valve parts, where service temperatures do not exceed 500°F. Gives scope, process, fabrication, stress relieving, chemical composition, check analysis, tensile strength, tensile test, bond test, stripping test, hardness test, number of tests, retests, finish, threads, dimensions, and tolerances, marking, certification, inspection, and rejection.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R23-45; 1945. Plow Bolts. Shows the recommended stock-production types and sizes of plow bolts. Gives five tables showing over-all length of bolts and nominal diameter of regular head and repair head for key-head, round-head, round-head square-neck countersunk, square-head countersunk, and round-head reverse-key countersunk plow bolts.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R189-45; 1945. Bolts and Nuts (Stock-Production Sizes). This recommendation establishes a simplified schedule of stock-production types and nominal sizes of machine, carriage, lag, step, elevator, and tire bolts; and sizes of regular, heavy, and light nuts, machine-screw and stove-bolt nuts, and milled studs. Gives tables showing the various sizes and dimensions. Sponsored by the American Institute of Bolt, Nut, and Rivet Manufacturers.

U. S. Gov., Navy Dept. Specification 1B2d, 1945. Bolts and Clips (Alloy-Steel) and Nuts (Carbon-Steel), Holding-Down (for Ordnance Mounts).

U. S. Gov., Navy Dept. Specification 43B2e; 1946. Bolts and Nuts, Deck.

U. S. Gov., Navy Dept. Specification 43B11d, 1946. Bolts, Nuts, Studs, and Tap-Rivets (and Material for Same).

U. S. Gov., Navy Dept. Specification 43B15; 1945. Bolts, Anchor, Boiler-Refractory-Brick.

608.32 Nuts

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1946. Specification for Bolts, Nuts, and Threads. The recommended specifications are current American Standards B18.2 (Wrench-Head Bolts and Nuts and Wrench Openings) and B1.1 (Screw Threads) issued by A.S.A. Unless otherwise specified, bolts and nuts shall be of steel, hot-rolled or cold-finished, in accordance with S.A.E. current Specification 1020 and 1120.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Specification M-125-44; 1944. Machine Bolts and Nuts. Covers all common standard machine bolts and nuts used in locomotive and car construction or for miscellaneous purposes. Gives manufacture, chemical properties and tests, physical properties and tests, dimensions and threading, workmanship and finish, oiling, packing and marking, and inspection and rejection.

Manufacturers Standardization Society of the Valve and Fittings Industry. Carbon Steel Machine Bolts and Nuts for Flanged Products, SP-39; 1945. Covers carbon steel machine bolts and nuts, sizes 2 1/4 in. and smaller, for use with champion flanges, flanged fittings, and valve parts, where service temperatures do not exceed 500°F. Gives scope, process, fabrication, stress relieving, chemical composition, check analysis, tensile strength, tensile test, bond test, stripping test, hardness test, number of tests, retests, finish, threads,

dimensions and tolerances, marking, certification, inspection, and rejection.

- U. S. Gov., Army Air Forces Specification 25533A-1; 1945. Nut; Sheet Spring.
- U. S. Gov., Army-Navy Aeronautical Specification AN-N-2a-1; 1946. Nuts; Aircraft.
- U. S. Gov., Army-Navy Aeronautical Specification AN-N-5a-2; 1946. Nuts; Self-Locking.
- U. S. Gov., Army-Navy Aeronautical Specification AN-N-10; 1945. Nuts; High-Temperature Self-Locking.
- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R169-45; 1945. Bolts and Nuts (Stock-Production Sizes). This recommendation establishes a simplified schedule of stock-production types and nominal sizes of machine, carriage, lag, step, elevator, and tire bolts; and sizes of regular, heavy, and light nuts, machine-screw and stove-bolt nuts, and milled studs. Gives tables showing the various sizes and dimensions. Sponsored by the American Institute of Bolt, Nut and Rivet Manufacturers.

608.4 RIVETS, IRON OR STEEL

- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 177 and 178; 1945. Pin-100°C Sunk Head H1-Shear Rivet; and Pin-Flat Head H1-Shear Rivet. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 179, revised 1945. Collar; H1-Shear Rivet. Gives drawing with dimensions and notes. Developed by National Aircraft Standards Committee.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 7225A, 1945. Steel Rivets. Gives composition, condition, quality, and rejections.
- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R221-46; 1946. Steel Rivets (Stock-Production Sizes). The purpose of this recommendation is to establish, as a useful standard of practice in production, distribution, and use, the types and sizes of rivets set forth in the seven tables herein. Rivets of the following kinds are covered: small rivets having round heads, flat heads, truss or wagon-box heads, and countersunk heads; belt rivets; tinners' and coopers' rivets; and large rivets with button heads. Sponsored by the American Institute of Bolt, Nut, and Rivet Manufacturers.

608.5 PINS AND SHAFT KEYS

608.50 General Items

- American Gear Manufacturers Assn. Standard 261.01; 1946. Keyways for Holes in Gears for General Industrial Practice. Gives depth of keyways, drawings, and tables giving dimensions for diameter of holes, keyways width and depth, and key stock.

608.51 Pins, Cotter, Dowel, Rod End Pins, Etc.

- Society of Automotive Engineers, Inc. Aeronautical Material Specification 7210A, 1945. Cotter Pins—

Corrosion-Resistant Steel. Gives composition, condition, quality, shape, tolerances, sizes, reports, and rejections. Similar specifications: Federal FF-P-386; SAE 30915; AISI 302.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 7212A, 1945. Steel Cotter Pins, Zinc-Coated—Low-Carbon. Gives composition, condition, quality, shape, tolerances, reports, and rejections. Similar specification: Federal FF-P-386a, Type B, Amendment 2.

- U. S. Gov., Navy Dept. Specification 42P6c, 1945. Pins, Steel, Taper.
- U. S. Gov., Navy Dept. Specification 42P7e, 1945. Pins, Cotter, Split.

608.6 WASHERS

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 143, revised 1945. Washers—X4130 or Equivalent, 125,000 to 145,000 PSI, Countersunk and Plain Types. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

American Society of Mechanical Engineers and Society of Automotive Engineers, sponsors. American Standards Assn., B27.1-1944. Spring Lock Washers (Carbon Steel). Intended for automotive and general industrial application. Covers washer section, finish, coiling, quality and finish, material and hardness, size specification or designation of washers, temper test, toughness test, and table showing dimensions of spring washers.

- U. S. Gov., Army-Navy Aeronautical Specification AN-W-7a-2; 1946. Washers; Spring Lock.
- U. S. Gov., Navy Dept. Specification 43W1f, 1945. Washers, Iron and Steel.
- U. S. Gov., Navy Dept. Specification 43W2e, 1945. Washers, Brass.

608.7 TURNBUCKLES

- U. S. Gov., Army-Navy Aeronautical Specification AN-T-19b, 1945. Turnbuckles; Aircraft.
- U. S. Gov., Navy Dept. Specification 12T11a, 1945. Turnbuckles (for Wire Rope).

608.8 SNAPS AND FASTENERS

- U. S. Gov., U. S. Army, Quartermaster Corps Specification 29-104; 1945. Snaps, for Equipage and Leather Items.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-31; 1945. Fasteners, Slide.

608.9 MISCELLANEOUS MANUFACTURES

- U. S. Gov., Treasury Dept., Procurement Div., 736; 1945. Rings and Ringers; Hog. Covers three classes of rings—(A) flat wire, (B) regular round wire, and (C) round wire with bar; and three classes of ringers—(A) nonadjustable with two pairs of jaws, (B) nonadjustable with one pair of jaws, and (C) adjustable. Gives requirements for material, workmanship, and details for rings and ringers; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

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IRON AND STEEL MANUFACTURES

611. CASTINGS AND FORGINGS

611.1 GRAY IRON CASTINGS

611.18 Cast-Iron Wheels

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Limit Wear Gages for Condemning A.A.R. Wheel Gages, Standard Revised, 1942. Dimensional diagram.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Specification M-403-44; 1944. Wheels; Cast Iron, for Locomotives, Tenders, and Cars. Covers 33-inch cast iron wheels for four loadings. Gives manufacture, chemical composition and tests, design, dimensions and weights, physical properties and tests, inspection, rejection, and reheating, with dimensional drawings.

Assn. of Manufacturers of Chilled Car Wheels. Manual of Inspection, 1939. Revised 1945. Railway Car Wheels. To establish a uniformity of foundry practices which are deemed essential to the manufacture of wheels which will withstand all of the stresses imposed in service and insure long life to the wheels. Gives code of practice for pouring, annealing, and testing; inspection recommended practice; wheel defects; specifications for AAR-X wheels; specifications for testing U. S. Army wheels; association forms; recommended practice for molding; and recommended cupola and annealing practice.

611.19 Miscellaneous Manufactures of Gray Cast Iron

U. S. Gov., Joint Army-Navy Specification JAN-S-227; 1945. Sinkers, Sounding-Machine (Navigational).

611.2 MALLEABLE IRON CASTINGS

611.21 Malleable Cast Iron

Society of Automotive Engineers, Inc. Aeronautical Material Specification 7310A, 1945. Rings, Piston—Cast Iron. Gives composition, condition, hardness, microstructure, quality, finish, circularity, light-tightness of periphery, flatness, corrosion prevention, approval, reports, and rejections.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-402-45; 1945. Malleable Iron Castings. Gives manufacture, physical properties and tests, workmanship and finish, marking, and inspection and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 7312; 1945. Rings, Piston—Centrifugally Cast, Alloy Cast Iron. Gives composition, condition, physical properties, microstructure, quality, finish, circularity, light-tightness of periphery, flatness, heat stability, corrosion prevention, approval, reports, and rejections.

611.22 Journal Boxes

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Journal Boxes, Standard Method of Packing, Standard, 1945. Gives requirements for materials used in making up journal packing, preparation of the packing, journal boxes, application of packing, handling of packing removed, cleaning and applying bearings, wedge, and figures.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-120-46; 1946. Journal Box Lids. Covers all lids for use on A.A.R. standard integral and separable journal boxes C, D, E, F, and G. Gives requirements for material, functions, required construction features, desirable construction features, new designs, inspection, and drawing.

611.4 STEEL CASTINGS

611.41 Cast Steel

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Steel Castings. Gives process, annealing, temperature control, chemical composition, ladle analyses, check analyses, tension tests, test specimens, number of tests, retests, workmanship, finish, marking, inspection, rejection, and reheating. Chemical and physical requirements are identical with, and other requirements are similar to, ASTM A27.

American Society for Testing Materials, A216-44T; 1944. A.S.M.E. Boiler Construction Code Specification SA-216. Tentative Specifications for Carbon-Steel Castings Suitable for Fusion Welding for High-Temperature Service. For valves, flanges, fittings, or other pressure containing parts. Includes two grades, selection dependent on design and service. Gives process, heat treatment, temperature control, chemical composition, ladle analysis, check analysis, tensile properties, bending properties, hydrostatic tests, magnetic particle testing, test specimens, number of tests, retests, workmanship, finish, marking, inspection, rejection, and reheating. A.S.T.M. Emergency Alternate Provision EA-A 216a; 1944, affected section 1, number of grades; section 5, chemical composition; section 8, tensile properties; section 10, hydrostatic tests; and section 16, finish.

American Society for Testing Materials, A281-45T; 1945. Tentative Specifications for Mild to Medium-Strength Carbon-Steel Castings for General Application. Cover castings for general application as distinguished from carbon-steel and alloy-steel castings requiring a tensile strength in excess of 70,000 psi. Gives process, heat treatment, temperature regulation, chemical composition, ladle analysis, check analysis, tensile properties, test specimens, number of tests, retests, radiographic

inspection, magnetic particle inspection, workmanship, finish, marking, inspection, rejection, and reheating.

American Society for Testing Materials, A282-45T; 1945. Tentative Specifications for High-Strength Steel Castings for Structural Purposes. Cover carbon-steel and alloy-steel castings that are to be subjected to high mechanical stresses. Gives process, heat treatment, temperature regulation, chemical composition, ladle analysis, check analysis, tensile properties, test specimens, number of tests, retests, radiographic inspection, magnetic particle inspection, workmanship, finish, marking, inspection, rejection, and reheating.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-201-45; 1945. Steel Castings. Covers six classes of annealed, normalized, normalized and tempered, and quenched and tempered carbon and alloy steel castings. Gives manufacture, chemical properties and tests, physical properties and tests, workmanship and finish, marking, variation in weight, and inspection and rejection.

611.44 Railway Couplers, Cast Steel and Forged Steel

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. A.A.R. Tentative Standard Tight Lock Coupler Operating Mechanism Type No. 6. Gives detail drawings with dimensions and notes.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. A.A.R. Tentative Standard Type "H" Tight Lock Coupler and Parts for Passenger Equipment Cars. Gives detail drawings with dimensions and notes.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. A.A.R. Tentative Standard Type "H" Tight Lock Coupler Contour. Gives detail drawings with dimensions and notes.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. A.A.R. Tentative Standard Type "H" Tight Lock Coupler Yoke, Radial Connection Casting and Fittings for Passenger Equipment Cars. Gives detail drawings with dimensions and notes.

611.5 STEEL FORGINGS

611.51 Forged Steel

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Steel Forgings. Gives process, discard, prolongations for tests, annealing, chemical composition, ladle analyses, check analyses, physical properties, yield point, tension test specimens, number of tests, retests, finish, identification marks, inspection, and rejection. Requirements are identical with ASTM Standard A18.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-126-45; 1945. Carbon Steel Forgings. Covers six classes of untreated, annealed or normalized, normalized and tempered, quenched and tempered, and normalized, quenched, and tempered. Gives manufacture, chemical requirements, physical requirements, workmanship and finish, marking, inspection and rejection, and supplementary requirements.

611.52 Axles, Shafts, and Similar Forgings

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Axles, Standard Revised, 1946. Designations based on load carrying capacity by letter A, B, C, D, E, and F. Gives dimensional drawing of axle with journal sizes.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Journal Dimensions for A.R.R. Passenger Car Axle When Used With Roller Bearings, Standard Revised, 1946. Gives detail drawings with dimensions and notes.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. New Passenger Car Axles, Standard Revised, 1946. Dimensional diagrams for six classes of axles and load limits up to and including 85 m.p.h. and for load limits 86 to 100 m.p.h.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-101-45; 1945. Axles, Carbon Steel, for Cars and Locomotive Tenders. Covers three grades of axles; includes forged, annealed, and normalized and tempered. Gives manufacture, chemical and physical properties and tests, workmanship and finish, permissible variations and weights, marking and storing, and inspection and rejection.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Trailer Truck Axles, Sizes and Dimensions of, for Trailer Trucks of the Two-Wheel Type, Recommended Practice. Gives drawings with dimensions and notes.

611.53 Wheels and Tires, Steel

American Iron and Steel Institute. Steel Products. Manual, Section 20; 1946. Wrought Steel Wheels. Covers manufacture, wheel specifications and designs, selection of wheels for railroad service, wheel tread failures, and computation of stresses in wheel treads.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Circumference Measure (Tape) for Steel, Steel Tired and Cast Iron Wheels, 1945. Covers instructions for the use of measure to insure that wheels mounted on the same axle are of the same diameter. Gives dimensional drawings and tolerances.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard

- and Recommended Practice, 1946. Limit Wear Gages for Condemning A.A.R. Wheel Gages, Standard Revised, 1942. Dimensional diagram.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Section of Tire, Standard, 1942. Gives dimensional drawing of section showing radii and taper, for steel tired engine, tender truck and trailer wheels, and flanged driving tires of locomotives.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-103-46; 1946. Wheels, One-Wear Wrought Carbon Steel. Covers class 1 and class 2 one-wear wrought steel wheels for freight cars. Gives design, manufacture, chemical properties and tests, mating, permissible variations in dimensions, finish, marking, and inspection and rejection.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-107-46; 1946. Wheels, Multiple-Wear Wrought Carbon Steel, Untreated and Treated. Covers multiple-wear wrought carbon steel wheels for locomotives, tenders, and cars. Gives manufacture, chemical properties and tests, mating, permissible variations in dimensions, finish, marking, and inspection and rejection.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Standardization of Wrought Steel Wheels, adopted, 1946. This standard comprising 23 standard designs of wrought steel wheels in diameters ranging from 30 to 50 in. These standard wheels provide for the majority of existing equipment, locomotives, tenders, and cars and should be used in the design of all new equipment. Because of the necessity of providing replacement wheels for existing equipment, there are listed 54 designs in addition to the standard designs. For each of the 23 and 54 designs there is a drawing with a table showing dimensions and tolerances. Also, there is data for permissible variations in dimensions not shown by tolerances on individual design sheets.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Steel Tires of Locomotive Wheels, Shrinkage Allowances for, Standard, 1933. Covers sizes from 20 to 78 in. exact center diameter with shrinkage allowance and exact bore.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Symbols for Marking Defective Cast Iron and Cast Steel Wheels, Recommended Practice Revised, 1945. Specifies number to mark on defective part for various types of classified defects.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Symbols for Marking Defective Multiple-Wear, Two-Wear, and One-Wear Wrought Steel and Steel Tired Wheels, Recommended Practice Revised, 1945. Specifies number to mark on defective part for various types of classified defects.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Tread and Flange Contours for All Steel-Tired Wheels, Standard Corrected to, 1944. Dimensional drawing showing radii and taper of tread and flange, also limit of wear groove.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Tread and Flange Contour for Cast Iron, One-Wear Wrought and One-Wear Cast Steel Wheels, Standard Revised, 1945. Gives drawing with dimensions and notes.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Tread and Flange Contour for Multiple and Two-Wear Wrought and Cast Steel Wheels on Cars, Tenders, Diesel and Electric Locomotives, Trailer and Engine Truck Wheels, Standard Revised, 1942. Gives drawing with dimensions and notes.
- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Wheels, Steel Tired, Tire Fastening for, Recommended Practice Corrected to, 1940. Gives drawings with dimensions and notes.
- Assn. of Iron and Steel Engineers. Standard Designs for Crane Track Wheels, 1943. To standardize the double flanged wheels used on mill type cranes. Gives basis of standards, contours, specifications, mounting practice, method of ordering wheels, and drawings with tables of dimensions.

611.55 Pinions and Gears

- American Gear Manufacturers Assn. Standard 206.02; 1946. Fine Pitch Straight Bevel Gears; tentative. Covers introduction, scope, general specifications, nomenclature and symbols, 90-degree axis bevel gears, and angular bevel gears.
- American Gear Manufacturers Assn. and American Society of Mechanical Engineers, sponsors. Standards 231.01, 232.01, and 233.01; 1946. American Standards Assn., B6.6-1946. Gear Tolerances and Inspection. Section 1—Spur and Helical Gears. Covers scope, diameter range, pitch range, classes and speeds, types of errors, pitch error, accumulated error, profile error, and lead error. Section 2—Bevel and Hypoid Gears. Covers scope, diameter range, pitch range, classes and speeds, types of errors, runout, pitch error, accumulated error, and required tooth contact. Section 3—Backlash in Gears. Covers definition, purpose of backlash, determining proper amount of backlash, providing

backlash, control of backlash, measurement, recommended backlash, and table showing suggested backlash when assembled.

American Gear Manufacturers Assn. Standard 235.01; 1945. Gear Inspection and Tolerances. Section 5—Master Gears. Covers scope, definitions, spur and helical gears, worms and worm gears, straight gears, spiral gears, zerol bevel gears, hypoid gears, tolerances, spur and helical ground master gear tolerances, and footnotes.

American Gear Manufacturers Assn. Standard 236.01; 1946. Fine Pitch Gears Inspection and Tolerances, tentative. Covers general requirements, spur and helical gears, worms and worm gears, bevel gears, backlash in gears, and comparator layouts.

American Gear Manufacturers Assn. Standard 321.02; 1946. Helical and Herringbone Mill Gears, tentative. Covers scope, rating of gears, service factors, design of gears and shafts, lubrication, marking, and figure showing variation of Wh with differential in hardness between pinion and gear.

American Gear Manufacturers Assn. Standard 430.01; 1945. Bevel and Combination Bevel-Helical or Bevel-Herringbone Gear Speed Reducers, tentative. Covers scope and responsibility, rating of gears, service factors, design of gearing, design of speed reducer, thermal capacity, lubrication, marking, references, and figures.

American Gear Manufacturers Assn. Standard 460.02; 1945. Concentric and Parallel Shaft Gearmotors. Covers gearmotors only and is applicable to helical, herringbone, spur and planetary gearmotors of single, compound, double, and triple reduction types. Gives rating of gears, design of gearing, application practice, design of gearmotor, lubrication, standard speeds, marking, table giving applicable classification, and figures showing variation of allowable intensity of shock with frequency and duration of peak loads.

611.59 Miscellaneous Manufactures of Steel Forgings

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Draft Gear Key, Retainer, and Key Slot in Center Sills, Standard, 1941. Gives drawings with dimensions and notes.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Draft Key Retainer, Alternate Standard, 1932 and Draft Key Retainer Lock, Alternate Standard, 1945. Gives dimensional drawings with dimensions and notes.

U. S. Gov., Joint Army-Navy Specification JAN-F-38; 1944. Forgings, Gun, for the U. S. Army and Navy.

612. CUTLERY, HOLLOW WARE, AND OTHER HOUSEHOLD UTENSILS

612.1 CUTLERY, EXCEPT TOOLS

612.12 Razors and Razor Blades

U. S. Gov., Treasury Dept., Procurement Div., 741; 1945. Razors, Razor Blades, and Cases; Safety. Covers hoe design razors in two types—(I) single

cutting and (II) double cutting; and two classes—(A) non-separable and (B) separable. Blades shall be two types—(I) for type I razors (style 1, single edge and style 2, double edge), and (II) double edge for type II razors. Safety razor units shall be various combinations of razors and blades. Gives requirements for material, razors, blades, cases, markings, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

612.14 Table and Kitchen Cutlery

U. S. Gov., Joint Army-Navy Specification JAN-F-284; 1945. Forks, Knives, and Spoons, M-1926.

U. S. Gov., Joint Army-Navy Specification JAN-S-294; 1946. Spoons; Basting, Straining, and Mixing.

U. S. Gov., Navy Dept. Specification 6485c, 1945. Skimmers.

612.15 Pins and Needles

U. S. Gov., U. S. Army, Quartermaster Corps Specification 78-24; 1945. Pin, Net, Laundry, 5 Inch.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 78-25; 1945. Pins, Marking, Laundry.

612.2 HOLLOW AND STAMPED WARE, IRON AND STEEL

612.22 Hotel and Household Hollow and Stamped Ware

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard C8134-46; 1946. Cast Aluminum Cooking Utensils (Metal Composition). This standard is to establish standard specifications and methods of test for the chemical composition of cast aluminum cooking utensils covered herein to minimize staining and corrosion under conditions of normal use. Gives scope, general requirements, detail requirements, methods of test, marking, and labeling.

U. S. Gov., Federal Specification RR-P-55; 1941. Amend. 3; 1945. Pans, Bake and Roasting; Steel. Covers three types—(I) plain (with handles and steel ears and without bottom straps), (II) with steel handles, ears, and bottom straps, and (III) deep fat frying, with handles and ears and without bottom straps. Gives requirements for material, workmanship, folds, construction, handles, bottom straps and handle ears, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification RR-P-58; 1943. Amend. 1; 1945. Pans, Bread. Covers two types—(I) individual pans and (II) multiple pans, (B) three individual pans, (C) four individual pans, and (D) five individual pans. Classes C and D include two or more sizes. Gives requirements for material, workmanship, body material, wire bead, finish, shape, pan construction, and details for each type and class; methods of sampling and inspection; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification RR-P-86; 1939. Amend. 3; 1945. Pans, Fry; Corrosion-Resisting-Steel-Clad (3-Ply). Covers one type, one grade,

- and seven sizes. Gives requirements for material, workmanship, construction, finish, and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification RR-P-401; 1939. Amend. 1; 1945. Plates, Pie. Covers one type, one grade, two classes—(1) tinned steel and (2) uncoated iron or steel, and two sizes—10 in. and 9 in. outside diameter at top of plate. Gives requirements for material, workmanship, tin plate gage and tolerance, weight of tin coating, tin coating, finish, and rust preventive; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification RR-T-806; 1942. Amend. 2; 1945. Turners; Cake. Covers three types—(I) vitreous enameled steel, (II) plain steel, and (III) corrosion-resisting steel. Gives requirements for material, workmanship, construction, marking, and sizes and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Marine Corps Specification, 1944. Bowl, Soup (for Chest, Mess).
- U. S. Gov., Marine Corps Specification, 1944. Bowl, Sugar, w/Cover (for Chest, Mess).
- U. S. Gov., Marine Corps Specification, 1945. Pans, Sauce; with Covers.
- U. S. Gov., Marine Corps Specification, 1944. Pitcher, Cream (for Chest, Mess).
- U. S. Gov., Marine Corps Specification, 1944. Plate, Dinner (for Chest, Mess).
- U. S. Gov., Marine Corps Specification, 1944. Plate, Soup, 9 Inch (for Chest, Mess).
- U. S. Gov., Marine Corps Specification, 1944. Platter, Meat (for Chest, Mess).
- U. S. Gov., Marine Corps Specification, 1944. Saucer (for Chest, Mess).
- U. S. Gov., Navy Dept. Specification 63L1b; 1946. Linings, Baking-Dish, Corrosion-Resisting Steel.
- U. S. Gov., Navy Dept. Specification 63P1a, 1945. Pitchers, Water.
- U. S. Gov., Navy Dept. Specification 63P2b; 1946. Platters, Corrosion-Resisting-Steel.
- U. S. Gov., Navy Dept. Specification 63T7c; 1946. Tureens, Corrosion-Resisting-Steel.
- U. S. Gov., Navy Dept. Specification 64B4f; 1946. Boilers, Coffee.
- U. S. Gov., Navy Dept. Specification 64C8b; 1946. Colanders.
- U. S. Gov., Navy Dept. Specification 64L2c; 1946. Ladles, Galley.
- U. S. Gov., U. S. Army, Medical Dept. Specification 28-32A; 1945. Pot, Tea or Coffee, Individual (Corrosion-Resisting Steel).
- U. S. Gov., U. S. Army, Medical Dept. Specification 28-58B; 1946. Bowls, Mixing.
- U. S. Gov., U. S. Army, Medical Dept. Specification 28-74A; 1946. Pot, French Fry.
- U. S. Gov., U. S. Army, Medical Dept. Specification 28-82A; 1945. Strainer, Chinese.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-46A; 1945. Graters, Large, Small, and Nutmeg.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-131; 1945. Shakers, Salt and Pepper, Cooks.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-134; 1946. Tray, Food, 6-Compartment, Metal.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-136; 1946. Pans, Food, Rectangular.
- U. S. Gov., U. S. Maritime Commission. Specification 64-MC-44a; 1946. Ladles. Covers one type with either solid bowl or perforated bowl; three grades—(A) corrosion-resisting steel (graded), (B) corrosion-resisting steel (ungraded, two piece construction), and (C) tinned steel (style 1 with pouring lips and style 2 without pouring lips). Gives requirements for materials, workmanship, construction, marking, and details for each type; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission. Specification 64-MC-45a; 1946. Skimmers. Covers one type and three grades—(A) corrosion-resisting steel, graded; (B) corrosion-resisting steel, ungraded; and (C) tinned steel. Gives requirements for sizes, materials, workmanship, construction, marking, and details for each type; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission. Specification 64-MC-46a; 1946. Spoons; Basting and Mixing. Covers one type; two grades—(A) corrosion-resisting steel and (B) tinned steel; and two classes—(1) graded and (2) ungraded. Gives requirements for sizes, materials, workmanship, construction, and details for each grade and class; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission Specification 64-MC-51; 1945. Pans, Baking and Roasting; Corrosion-Resisting Steel. Covers one grade and two types—(I) without bottom strap runners and (II) with bottom strap runners. Gives requirements for materials, workmanship, body, handles and lugs, welding, finish, marking, and details; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission Specification 64-MC-52; 1945. Buckets, Batter; Corrosion-Resisting Steel. Covers one type and one grade. Gives requirements for materials, workmanship, construction, body, handle, cover, spout, capacity, finish, and marking; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission Specification 64-MC-54; 1945. Bowls, Mixing; Corrosion-Resisting Steel. Covers one type and one grade. Gives requirements for materials, workmanship, bowl, suspension ring and lug, and finish; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission Specification 64-MC-55; 1945. Colanders; Corrosion-Resisting Steel. Covers two types—(I) heavy duty and (II)

- light duty. Gives requirements for materials, workmanship, perforations, finish, markings, and details; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission Specification 64-MC-56; 1945. Pots, Bain-Marie; Corrosion-Resisting Steel. Covers one type and two classes—(I) with cover and (II) without cover. Gives requirements for materials, workmanship, construction, capacity, material composition for pots, finish, marking, and details; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission Specification 64-MC-57; 1945. Pans, Pudding; Corrosion-Resisting Steel. Covers one type and one grade. Gives requirements for materials, workmanship, pan, capacities, finish, and marking; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission. Specification 64-MC-58; 1946. Pans; Sauce, Corrosion-Resisting Steel. Covers one grade; two types—(I) flared wall and (II) vertical wall (class A—deep, B—medium, and C—shallow). Gives requirements for materials, workmanship, finish, marking, and details for each type and class; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission. Specification 64-MC-59; 1946. Pots; Sauce, 3-Ply, Corrosion-Resisting Steel. Covers one grade and three types—(I) deep sauce pot, (II) medium sauce pot, and (III) shallow sauce pot. Gives requirements for materials, workmanship, body, cover, handles, finish, marking, and details for each type; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Maritime Commission. Specification 64-MC-60; 1946. Pots; Stock, 3-Ply, Corrosion-Resisting Steel with Covers. Covers one type, grade and two classes—(A) without faucets and (B) with faucets. Gives requirements for materials, workmanship, body, cover, handles, finish, marking, and details for each class; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- Retinned Steel. Covers one type and two classes—(A) black iron or steel and (B) retinned steel in 14, 20, and 30 qt. capacities. Gives requirements for material, workmanship, body, handles, finish, cleaning, marking, and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Marine Corps Specification, 1944. Cup, Coffee (for Chest, Mess).
- U. S. Gov., Marine Corps Specification, revised 1945. Dish, Butter, w/Cover (for Chest, Mess).
- U. S. Gov., Marine Corps Specification, 1944. Dish, Vegetable (for Chest, Mess).
- U. S. Gov., Navy Dept. Specification 42W3; 1946. Washbasins, Hand (Shipboard Use).
- U. S. Gov., Navy Dept. Specification 64P20; 1945. Pots, Sauce, Rectangular, with Covers (for Submarine Ranges).
- U. S. Gov., Treasury Dept., Procurement Div., 753; 1946. Pans; Dust, Long-Handle. Covers one type. Gives requirements for material, workmanship, construction, pan proper, handle, finish, marking, and performance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-124-2; 1946. Cup, Canteen, Aluminum.
- U. S. Gov., U. S. Maritime Commission Specification 64-MC-53; 1945. Dippers. Covers three compositions—(A) corrosion-resisting steel, (B) aluminum, and (C) tinned steel (class 1, sheet steel and class 2, tin plate). Gives requirements for materials, workmanship, construction, marking, and details; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

612.3 MISCELLANEOUS HOUSEHOLD UTENSILS

- U. S. Gov., Navy Dept. Specification 64C1b; 1946. Cutters, Butter.
- U. S. Gov., Navy Dept. Specification 64M8d; 1946. Machines, Vegetable-Cubing-and-Slicing, Hand-Operated.
- U. S. Gov., Navy Dept. Specification 66M15, 1945. Machines, Steak-Cubing (Shipboard Use).
- U. S. Gov., U. S. Army, Medical Dept. Specification 28-76A; 1945. Sieve, Flour, with Crank.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-135; 1946. Opener, Can, Folding.
- U. S. Gov., U. S. Maritime Commission Specification 64-MC-50; 1945. Measures, Coffee; Corrosion-Resisting Steel. Covers one type and one grade with a fluid capacity of four quarts. Gives requirements for material, workmanship, construction, material composition, body, handle, finish, and marking; sampling, inspection, and methods of tests; and packaging, packing, and marking for shipment.

612.23 Water-Closets and Sinks

- U. S. Gov., Navy Dept. Specification 30S2e, 1945. Sinks, Galley and Pantry (Shipboard Use).
- U. S. Gov., Navy Dept. Specification 45S2; 1946. Sinks, Service (Slop) (Shipboard Use).

612.29 Miscellaneous Hollow and Stamped Ware

- U. S. Gov., Federal Specification RR-P-66; 1939. Amend. 3; 1945. Pans, Dish; Corrosion-Resisting Steel. Covers one type, one grade, and five capacities—12, 15, 20, 24, and 36 qts. Gives material, workmanship, chemical requirements, finish, cleaning, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification RR-P-70; 1942. Amend. 1; 1945. Pans, Dish; Plain Steel and

613. METAL FURNITURE AND FIXTURES

613.1 BEDS, BED SPRINGS, COTS

- U. S. Gov., Navy Dept. Specification 26B4a; 1946. Bottoms, Pipe-Berth, Wire.
- U. S. Gov., Navy Dept. Specification 26S3b; 1946. Springs, Berth (Built-In), Open-Box.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 32-54; 1946. Adapters; Cot, Folding, Steel, Double-Decking.

U. S. Gov., U. S. Maritime Commission. Specification 26-MC-8b; 1946. Berths; Stanchion Supported. Covers one grade and shall comply with Specification No. MN 5000. Gives general requirements and detail requirements; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Maritime Commission Specification 27-MC-34a; 1945. Mattresses; Innerspring. Shall be type I—all wire spring unit, free-end oil construction; type II—all wire spring unit, knotted-end coil construction; and shall be of but one grade. Gives requirements for sizes, felt, ticking, sheeting, sewing thread, tufting tape, spring wire, workmanship, seams and stitches, casing, tufting, mattress construction, spring unit, labels, identification and marking, and details for each type; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

613.3 CHAIRS AND STOOLS

U. S. Gov., Navy Dept. Specification 26C6h, 1945. Chairs and Stools, Steel (Shipboard Use).

613.4 DESKS

U. S. Gov., Federal Specification AA-D-191; 1931. Amend. 2; 1946. Desks; Steel. Covers seven types—flat-top, single pedestal; flat-top, double-pedestal; flat-top, double; typewriter, drop-center, single-pedestal, flat-top; typewriter, drop-center, double-pedestal, flat-top; typewriter, double-pedestal, pedestal device, flat-top; and roll-top, double-pedestal. Gives requirements for material and workmanship, sizes, construction, finish, hardware, drawers, fittings, tops, sliding shelves, legs, panels, curtains or rolls, and typewriter beds; method of inspection and tests; and packing and marking.

613.5 LOCKERS AND SAFES

Underwriters' Laboratories, Inc. Standard for Delayed Action Timelocks, Subject 887; 1945. Covers delayed action timelocks designed for attachment on the doors of safes, chests, vaults, and the like. Gives scope, general requirements, design and construction, practicability, durability, operation, uniformity, marking, and inspection of listed product.

U. S. Gov., Navy Dept. Specification 26F5; 1945. Furniture and Accessories, Steel (Shipboard Use).

U. S. Gov., Navy Dept. Specification 26F6; 1945. Furniture and Accessories, Aluminum (Shipboard Use).

U. S. Gov., Navy Dept. Specification 26S4b; 1946. Safes, Burglar-Resisting.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1375A; 1944. Chest CH-76.

U. S. Gov., U. S. Maritime Commission. Specification 28-MC-9a; 1946. Lockers, Clothes, Steel, for Marine Use. Covers one grade, two types—(I) single

locker, single tier—with or without legs (class A—double door and class B—single door); and (II) double locker, double tier—with legs. Gives requirements for materials, workmanship, general requirements, construction, doors, number plates, finish, and details for each type; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

613.6 TABLES

U. S. Gov., U. S. Army, Quartermaster Corps Specification 32-53; 1946. Table, Bedside, Metal.

613.9 MISCELLANEOUS METAL FURNITURE AND FIXTURES

Steel Kitchen Cabinet Institute. Institute Standards for Steel Kitchen Cabinets, 1946. To protect specifiers, distributors, and the public alike against substandard merchandise. Covers streamlined design, durable construction, lasting finish, easy installation, trouble-free operation, no service cost, low cost, recommendations for architects, and approved standard architectural dimensions for wall cabinets and base cabinets; and gives test requirements to win the seal of approval including body, 3-point test, squeeze tests, drawers, weight test for hinges, load test, unequal load weight test, door catches and hinges, and weatherometer test.

U. S. Gov., Joint Army-Navy Specification JAN-F-243; 1945. Furniture and Accessories; Steel (Shipboard Use).

614. STOVES AND FURNACES, EXCEPT ELECTRIC

614.0 GENERAL ITEMS

American Gas Assn. American Standards Assn., Z21.13-1945. Approval Requirements for Central Heating Gas Appliances. Includes—part I, construction requirements for use with all gases; part II, performance requirements gas boilers for use with natural and manufactured gases; part III, performance requirements gas boilers for use with liquefied petroleum gases; part IV, performance requirements gas boilers for use with butane-air gas; part V, construction requirements gas warm-air furnaces for use with all gases; part VI, performance requirements gas warm-air furnaces for use with natural and manufactured gases; part VII, performance requirements gas warm-air furnaces for use with liquefied petroleum gases; part VIII, performance requirements gas warm-air furnaces for use with butane-air gas; part IX, construction requirements gas floor furnaces for use with all gases; part X, performance requirements gas floor furnaces for use with natural and manufactured gas; part XI, performance requirements gas floor furnaces for use with liquefied petroleum gases; part XII, performance requirements gas floor furnaces for use with butane-air gas; part XIII, construction requirements gas-fired humidifiers for use with all gases; part XIV, performance requirements gas-fired humidifiers for use with natural and manufactured gases;

part XV, performance requirements gas-fired humidifiers for use with liquefied petroleum gases; part XVI, performance requirements gas-fired humidifiers for use with butane-air gas; and appendix on definitions, arrangement of apparatus for testing, types of lock seams considered acceptable on furnace heating elements, and shield design for determining allowable air temperature in a floor furnace.

Institute of Boiler and Radiator Manufacturers. I-B-R Installation Guide No.2; 1946. One Pipe Steam Heating Systems. For buildings having a heating loss not exceeding 92,640 B.t.u. per hour (equal to 386 sq. ft. of steam radiation). Covers recommended installation practice, calculation and design, construction, heat loss factors, square feet steam radiation for quantities shown, equivalent square feet of radiation, capacities of pipe in square feet of radiation, and suggested control arrangements.

Institute of Boiler and Radiator Manufacturers. I-B-R Installation Guide No.3; 1946. Indirect Water Heaters. For selection and installation of heaters submerged in water for use in small homes. Covers selection of heater, storage heaters, tankless heaters, installation details, suggested installation diagrams, suggested control arrangements for steam heating systems, and suggested control arrangements for water heating systems.

614.1 COAL STOVES AND RANGE BOILERS

U. S. Gov., Navy Dept. Specification 45-I-2d, 1945. Indicating-Systems, Tank-Level (Static-Head).

614.2 GAS STOVES, RANGES, AND WATER HEATERS

American Gas Assn. American Standards Assn., Z21.1-1942, Addenda 1945. Approval Requirements for Domestic Gas Ranges. Includes—part I, construction requirements, domestic ranges for use with all types of gases; part II, performance requirements, domestic ranges for use with natural and manufactured gases; part III, performance requirements, domestic gas ranges for use with liquefied petroleum gases; part IV, performance requirements, domestic ranges for use with butane-air gas; and appendix on definitions, classifications, arrangement of apparatus for determining strength of gas range bodies, and stability of pilot and by-pass flames.

American Gas Assn. American Standards Assn., Z21.10-1944, Addenda 1945. Approval Requirements for Gas Water Heaters. Includes—part I, construction requirements for all types of water heaters; part II, performance requirements for use with natural and manufactured gases; part III, performance requirements for use with liquefied petroleum gases; part IV, performance requirements for use with butane-air gas; and appendix on definitions, arrangement of apparatus for testing, and suggested dimensions of ovens for testing automatic pilots.

American Gas Assn. American Standards Assn., Z21.11-1942, Addenda 1945. Approval Requirements for Gas Space Heaters. Includes—part I, construction requirements for use with all gases; part II, performance requirements for use with natural and manufactured gases; part III, performance requirements for use with liquefied petroleum gases; part

IV, performance requirements for use with butane-air gas; and appendix on definitions and hose-end nozzle.

U. S. Gov., U. S. Army, Corps of Engineers Specification 83-19; 1945. Boilers, Range, Welded, Steel.

614.3 OIL AND GASOLINE STOVES, RANGES, AND WATER HEATERS

U. S. Gov., Navy Dept. Specification 65R3b; 1946. Ranges, Navy-Standard, Oil-Burning, Light-Weight (for Cruisers, Destroyers, and Other High-Speed Craft).

U. S. Gov., U. S. Army, Army Air Forces Specification 94-40853; 1945. Heater, Lubricating Oil, Type K-1 (Servicing).

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-307; 1940. Heaters; Space, 50,000 B.T.U., Oil or Kerosene Fired.

614.4 HOUSE HEATING BOILERS, RADIATORS, AND HOT-WATER TANKS

American Gas Assn. American Standards Assn., Z21.13-1945. Approval Requirements for Central Heating Gas Appliances. Includes—part I, construction requirements for use with all gases; part II, performance requirements gas boilers for use with natural and manufactured gases; part III, performance requirements gas boilers for use with liquefied petroleum gases; part IV, performance requirements gas boilers for use with butane-air gas; part V, construction requirements gas warm-air furnaces for use with all gases; part VI, performance requirements gas warm-air furnaces for use with natural and manufactured gases; part VII, performance requirements gas warm-air furnaces for use with liquefied petroleum gases; part VIII, performance requirements gas warm-air furnaces for use with butane-air gas; part IX, construction requirements gas floor furnaces for use with all gases; part X, performance requirements gas floor furnaces for use with natural and manufactured gas; part XI, performance requirements gas floor furnaces for use with liquefied petroleum gases; part XII, performance requirements gas floor furnaces for use with butane-air gas; part XIII, construction requirements gas-fired humidifiers for use with all gases; part XIV, performance requirements gas-fired humidifiers for use with natural and manufactured gases; part XV, performance requirements gas-fired humidifiers for use with liquefied petroleum gases; part XVI, performance requirements gas-fired humidifiers for use with butane-air gas; and appendix on definitions, arrangement of apparatus for testing, types of lock seams considered acceptable on furnace heating elements, and shield design for determining allowable air temperature in a floor furnace.

Institute of Boiler and Radiator Manufacturers. I-B-R Testing and Rating Code for Low Pressure Heating Boilers, 1945. To provide a reliable and uniform procedure for measuring the performance of all cast iron heating boilers, regardless of design, heating surface, grate area, and other dimensional variations. Covers rating of boilers, testing of hand-fired boilers, computations for hand-fired boiler tests, testing of oil-fired boilers, computations

for oil-fired boiler tests, procedure for obtaining I-B-R ratings, definitions of terms used in this code, and I-B-R license together with various figures, tables, and forms.

Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 145; 1945. Boiler, Steam Type System. To generate steam for use as a medium in heating an airplane cabin. Covers tubular type and core and shell type. Gives requirements for material and workmanship, design, inspection, tests, and marking.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS104-46; 1946. Warm-Air Furnaces Equipped With Vaporizing Pot-Type Oil Burners. This standard is provided as a basis for certification of the quality and performance of warm-air furnaces equipped with vaporizing pot-type oil burners as covered herein and applies to furnaces arranged with either gravity or forced-air circulation. It does not include floor furnaces. Covers definitions, general requirements, furnace design and construction, performance, test codes, publication of furnace ratings, informative labeling, and guarantees.

U. S. Gov., Federal Specification WW-T-696; 1934. Amend. 3; 1945. Traps; Radiator, Thermostatic, Brass or Bronze, Low-Pressure, 100-Square Foot-Size (for Land Use). Covers type without bypass (either hot water or steam type) up to and including 100 sq. ft. cast iron direct actual radiation; and shall be the angle, offset corner, or offset straightway pattern. Gives requirements for material and workmanship, marking, threads, machining, thermostatic members, adjustment, and details; methods of inspection and tests; and packaging, packing, and marking.

U. S. Gov., U. S. Army, Corps of Engineers Specification 83-22; 1946. Generators, Hot-Water.

614.9 MISCELLANEOUS HEATING AND COOKING EQUIPMENT

American Gas Assn. American Standards Assn., Z21.36-1945. Listing Requirements for Low Water Cut-Off Devices. Covers low water cut-off devices for low-pressure boiler for use with all gases. Includes part I, construction requirements covering general, provisions for cleaning, adjustments, piping and fittings, bolts and screws, general construction, electrical wiring, devices and equipment, and marking; and performance requirements covering water, accuracy of operation, continuance in open position, and leakage.

U. S. Gov., Joint Army-Navy Specification JAN-H-272; 1945. Heaters, Water, Steam-Type (Shipboard Use).

U. S. Gov., Joint Army-Navy Specification JAN-H-281; 1945. Heaters, Fin-Tube (Shipboard Use).

U. S. Gov., Navy Dept. Specification 65-O-3, 1945. Ovens, Bake, Navy-Standard, Oil-Burning, Lightweight.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-117; 1945. Furnace, Oil Fired, Drill Steel.

615. HAND TOOLS, METAL-WORKING

615.1 CHISELS, DRILLS, PUNCHES, REAMERS, TAPS, AND DIES

615.12 Drills, Bits, and Countersinks

U. S. Gov., Federal Specification GGG-C-613; 1945. Countersinks; Steel (Carbon and High-Speed). Covers five types—(I) back; (II) bitstock shank (class A—regular, B—rose, C—snail ("S"), and D—stepped body); (III) countersink-and-drill combined; (IV) straight shank (class A—center reamer pattern and B—1/2 in. diameter shank pattern); and (V) taper shank (Morse). Gives requirements for material, workmanship, design, heat treatment, finish, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 41D11b, 1945. Drills, Twist.

615.14 Reamers

U. S. Gov., Navy Dept. Specification 41R7d, 1945. Reamers, Carbon-Steel, and High-Speed-Steel; and Arbors, Shell-Reamer.

615.15 Taps and Dies

U. S. Gov., Navy Dept. Specification 41T15h, 1945. Taps, Dies, Tap-Wrenches, and Diestocks.

615.2 HAMMERS AND SLEDGES

615.21 Hammers

U. S. Gov., Federal Specification GGG-H-86; 1942. Amend. 3; 1946. Hammers, Mauls, and Sledges. Covers 24 types of hammers, 3 types of mauls, and 2 types of sledges. Gives requirements for materials, workmanship, weight, forged heads, shape of head, striking faces, peens, eyes, handles, wedges, steel heads, hardness, finishes, corrosion protective coating, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

615.22 Sledge Hammers

U. S. Gov., Federal Specification GGG-H-86; 1942. Amend. 3; 1946. Hammers, Mauls, and Sledges. Covers 24 types of hammers, 3 types of mauls, and 2 types of sledges. Gives requirements for materials, workmanship, weight, forged heads, shape of head, striking faces, peens, eyes, handles, wedges, steel heads, hardness, finishes, corrosion protective coating, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

615.3 PINCERS, PLIERS, PLIER CUTTERS, AND SHEARS

615.39 Miscellaneous Cutting Tools

U. S. Gov., Navy Dept. Specification 41C25c, 1945. Cutters, Cable, Hand-Power (for Electric Cable) (Shipboard Use).

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-71; 1944. Grinder, Detachable Drill Steel Bit, Air Motor Driven.

615.4 VISES, WRENCHES, AND VISE CLAMPS

615.42 Wrenches

Society of Automotive Engineers, Inc. Aeronautical Standard 351; 1946. Wrench—Propeller Shaft (Shaft Sizes No. 40—50—60). Gives drawings with dimensions and notes.

Society of Automotive Engineers, Inc. Aeronautical Standard 352; 1946. Wrench—Propeller Shaft (Shaft Sizes No. 10—20—30). Gives drawings with dimensions and notes.

Society of Automotive Engineers, Inc. Aeronautical Standard 353; 1946. Handle—Propeller Shaft Wrench. Gives drawings with dimensions and notes.

Society of Automotive Engineers, Inc. Aeronautical Standard 354; 1946. Pin—Propeller Shaft Wrench. Gives drawing with dimensions and notes.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R220-46; 1946. Open-End and Box Wrenches. To establish, as a useful standard of practice in production, distribution, and use, the list of types and sizes of open-end and box wrenches set forth herein. Gives tables showing nominal sizes of wrench openings (inches) for various types of open-end wrenches, box wrenches, and combination box and open-end wrenches; and table showing sizes of bolts and nuts for which wrenches of nominal sizes listed are intended.

U. S. Gov., Federal Specification GGG-W-636; 1942. Amend. 1; 1945. Wrenches, Bolt and Nut; Nonadjustable (Open-End and Box). Covers twelve types. Gives requirements for sizes, material, workmanship, design, test loads, marking, and details for each type; methods of inspection, sampling, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GGG-W-641a; 1945. Wrenches, Bolt and Nut; Socket. Covers one type consisting of detachable sockets and drive tools. Gives requirements for drives, deep sockets, sizes, sets, material, workmanship, sockets, drive tangs of tools, test loads, boxes for sets, finish, and marking; details for sockets, adapters, extensions, ratchets, screw-driver bits, slide rods, sliding T-handles, speeders, universal joints, and universal sockets; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GGG-W-651a; 1938. Amend. 4; 1945. Wrenches; Pipe. Covers six types—(I) adjustable, normal duty; (II) adjustable, heavy duty; (III) chain; (IV) girth; (V) strap; and (VI) adjustable, angle style. Gives material, workmanship, general requirements, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 41W11, 1945. Wrenches, Torque, Indicator.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-118; 1945. Wrench, Pneumatic, Reversible, Impact-Type.

615.5 ANVILS, BELLOWS, HARDIES, AND FORGES**615.55 Miscellaneous Blacksmith Tools**

U. S. Gov., U. S. Army, Quartermaster Corps Specification 17-209; 1945. Tool-Set (Complete-With-Tools), Horseshoers', No.2.

615.6 FILES, RASPS, HACK SAWS, AND SCRIBERS**615.61 Files**

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R6-45; 1945. Files and Rasps (American Pattern and Curved-Tooth Milled Files). Covers general notes, tolerances and description of types for files, rasps, and curved-tooth milled files. Gives tables showing length, width, thickness, and teeth per inch for mill files, including flat, square, round, half-round, three-square, knife, hand, hand-finishing, warding, pillar, double-ender, taper, hand-saw, band-saw, pit-saw, cant-saw, cross-cut, aluminum, foundry, brass, lead float, and long-angle lathe; rasps including wood, cabinet, horse, and shoe; and curved-tooth milled files.

615.62 Hack Saws

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R90-46; 1946. Hack-Saw Blades. Gives definitions, general provisions, and tables showing catalog dimensions, number of teeth per inch, and actual dimensions for carbon type blades, standard type blades, molybdenum type blades, 18-4-1 type blades, coarse tooth molybdenum and 18-4-1 type blades, and broach blades. Sponsored by Hack Saw Manufacturers Assn.

U. S. Gov., Navy Dept. Specification 41B11e, 1945. Blades, Hacksaw.

615.63 Rasps

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R6-45; 1945. Files and Rasps (American Pattern and Curved-Tooth Milled Files). Covers general notes, tolerances and description of types for files, rasps, and curved-tooth milled files. Gives tables showing length, width, thickness, and teeth per inch for mill files, including flat, square, round, half-round, three-square, knife, hand, hand-finishing, warding, pillar, double-ender, taper, hand-saw, band-saw, pit-saw, cant-saw, cross-cut, aluminum, foundry, brass, lead float, and long-angle lathe; rasps including wood, cabinet, horse, and shoe; and curved-tooth milled files.

615.7 TINNERS' AND COPPERSMITHS' TOOLS**615.71 Soldering Coppers**

U. S. Gov., U. S. Army, Signal Corps Specification 71-3218; 1946. Soldering Iron TL-321() /U.

615.8 MEASURING TOOLS**615.81 Calipers and Dividers**

U. S. Gov., Federal Specification GGG-C-98; 1945. Calipers; Jointed (Lock, Spring, and Firm) and Slide. Covers twelve types—(I) lock-joint, inside; (II) lock-joint, outside; (III) lock-joint, transfer, inside; (IV) lock-joint, transfer, outside; (V) spring, inside; (VI) spring, outside; (VII) spring, inside, thread; (VIII) spring, outside, thread; (IX) firm-joint, inside; (X) firm-joint, outside; (XI) firm-joint, hermaphrodite; and (XII)

slide, pocket, English. Gives requirements for material and workmanship, sizes, finish, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GGG-C-106; 1945. Calipers and Depth-Gages; Micrometer. Covers eight types of micrometer calipers and depth gage micrometers measuring 1,000ths inch, 10,000ths inch, and 100ths millimeter. Gives requirements for material and workmanship, size and range, frames, micrometer screw spindle, measuring faces, barrel and thimble, graduations, spindle lock nut or clamp ring, ratchet or friction stop, adjustments, accuracy, finish, marking, and details for each type; method of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 41C22b, 1945. Calipers.

615.82 Gages, Dimension

American Petroleum Institute, Div. of Production. Standard 5-A; 1945. Supplement 1; 1946. Specification for Casing, Drill Pipe, and Tubing. Covers material, manufacture, chemical properties and tests, physical properties and tests, dimensions, weights, lengths, threads, couplings, marking, inspection and rejection, tables, gaging practice, gages—certification, gages—specification, and appendices.

American Petroleum Institute, Div. of Production. Standard 5-L; 1945. Supplement 1; 1946. Specification for Line Pipe. This specification covers chemical and physical properties and processes of manufacture of line pipe, with dimensions on diameter, thicknesses, lengths, threads, etc., and master gages. Gives material, manufacture, chemical properties and tests, physical properties and tests, dimensions, weights, and lengths, threads, couplings, marking, inspection and rejection, tables, gaging practice, gages, and appendices.

American Petroleum Institute, Div. of Production. Standard 7-B; 1944. Supplement 1; 1946. Specification for Rotary Drilling Equipment. Gives final dimensional standards, including gages, for regular and full-hole rotary drilling tool joints, tentative standards for internal-flush rotary drilling tool joints, and standards on auxiliary equipment. Covers material, workmanship and finish, marking, rotary drilling tool joints, drill collars, grief stems, couplings, and subs, bits, gaging practice, swivel gooseneck connections and rotary hose, rotary table, brake blocks, slush pumps, recommended practice on measurement, inspection and rejection, gages, and appendices.

Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 179; 1945. Involute Spline Gages. Covers general discussion, gage tooth nomenclature, basic gage tooth proportions, tolerances, dimensions for gages, and nine figures with tables giving dimensions.

Society of Automotive Engineers, Inc. Aeronautical Standard 361; 1946. Wear Gage. Gives drawing with dimensions and notes.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard (Emergency) CS(E)L24-45; 1945. Master Disks. To provide minimum essential requirements for master disks described herein. Covers the major essential requirements for master disks (American Gage Design) from above 0.105 in. to and including 8.010 in. Gives general requirements, detail requirements, methods of test, packing, and marking.

615.9 MISCELLANEOUS METAL—WORKING TOOLS

U. S. Gov., Navy Dept. Specification 41E3; 1945. Extractors, Screw.

U. S. Gov., Navy Dept. Specification 41S34c, 1945. Stakes and Plates (Bench); Coppersmiths', Tin-smiths', and Sheet-Metal-Workers'.

616. HAND TOOLS OTHER THAN METAL—WORKING TOOLS

616.1 EDGE TOOLS

616.11 Adzes, Axes, and Hatchets

U. S. Gov., Federal Specification GGG-H-131a; 1946. Hatchets. Covers six types—(A) axe pattern (hunter's), (B) claw, (C) half, (D) lathing, (E) shingling, and (F) broad. Gives requirements for material, workmanship, manufacture and design, bits, eye, top of head, hickory wood handles, marking, finish, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

616.15 Knives

U. S. Gov., Federal Specification GGG-K-471a; 1945. Knives; Drawing. Covers two types—(A) fixed handle and (B) folding handle. Gives requirements for material, workmanship, markings, sizes, shanks, handles and ferrules, and blades; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Marine Corps Specification, revised 1944. Knife, Hospital Corps.

616.17 Saws

U. S. Gov., U. S. Army, Corps of Engineers Specification 56-80-1; 1944. Saw, Band, Metal Cutting, Motor Driven, 220-Volt 60-Cycle AC, 14-Inch.

616.2 AWLS, PUNCHES, AND SCREWDRIVERS

616.21 Awls

U. S. Gov., Federal Specification GGG-A-891; 1939. Amend. 2; 1946. Awls. Covers five types—(I) belt, (II) bent-point, (III) brad, (IV) saddlers' (class A—collar, B—harness, C—pad-or-seat, D—pegging, E—sewing-and-stitching, automatic, and F—sewing-and-stitching, common), and (V) scratch. Gives requirements for material, workmanship, handles and hafts, blades, tolerances, marking, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

616.23 Screwdrivers

U. S. Gov., U. S. Army, Ordnance Dept. Specification 17-208; 1945. Screwdrivers, for Cross-Recessed-Head Screws.

616.3 LEVELING AND MEASURING TOOLS**616.33 Rules**

U. S. Gov., U. S. Army, Corps of Engineers Specification 42-82; 1945. Rule, Steel, Beveled, English, Graduated in Inches. End Inch in 100ths, 24 Inch.

616.34 Squares

U. S. Gov., Federal Specification GGG-S-656; 1941. Amend. 2; 1945. Squares; Carpenters', Die-Makers', and Machinists'. Covers nine types. Gives requirements for sizes, material, workmanship, marking, design, graduations, scale accuracy of individual blades, figures, level glasses, full length grooves, interchangeability, finish, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

616.35 Tapes

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Dimensions of Ball Tapes for Measuring Agricultural Rims Having 5° Tapered Bead Seats. Gives drawing and table showing nominal rim diameter, specified rim diameter, tape mandrel diameter, and tape mandrel circumference for 5/16 in. diameter balls and 5/8 in. diameter balls.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Dimensions of Ball Tapes for Measuring Rims Shown in This Handbook Having 5° Tapered Bead Seats. Gives table showing nominal rim diameter, specified rim diameter, tape mandrel diameter, and tape mandrel circumference.

Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Dimensions of Ball Tapes for Measuring Rims Shown in This Handbook Having 5° Tapered Bead Seats. Gives drawing with table showing nominal rim diameter, specified rim diameter, tape mandrel diameter, and tape mandrel circumference for 5/16 in. and 5/8 in. diameter balls.

U. S. Gov., Federal Specification GGG-T-106; 1943. Amend. 1; 1946. Tapes; Measuring, General-Use. Covers three types—(I) linen, (II) steel, and (III) woven, metallic; and of classes and sizes as listed. Gives requirements for material, workmanship, marking, graduations and figures, finish, ribbon, reel, handle, case, and accuracy; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 18T33; 1946. Tapes, Gaging, Metallic; and Reel-Assembly (for Tanks).

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-137A; 1946. Tape, Measuring, Tree, Steel, U. S. 20-Foot.

616.4 HOOKS AND PULLERS**616.42 Nail Pullers**

U. S. Gov., U. S. Army, Corps of Engineers Specification 28-45; 1944. Lifter, Tack, with Pointer File and Handle, 6-Inch.

616.5 TOOLS FOR LINE CONSTRUCTION MEN

U. S. Gov., U. S. Army, Corps of Engineers Specification 17-129A; 1945. Hook, Cant.

U. S. Gov., U. S. Army, Signal Corps Specification 29-7-B, 1945. Climbers, Lineman's and Tree.

616.6 SOIL WORKING TOOLS**616.62 Hoes, Rakes, and Forks**

U. S. Gov., U. S. Army, Corps of Engineers Specification 17-200; 1944. Fork, Stone, D-Handle.

616.7 HARVESTING, PRUNING, AND TRIMMING TOOLS**616.72 Shears, Grass and Hedge Cutting**

U. S. Gov., Treasury Dept., Procurement Div., 729; 1945. Shears: Steel, Grass and Hedge. Covers three types—(I) scissor-type for grass, (II) sheep-shear-type for grass, and (III) hedge. Gives requirements for sizes, material, workmanship, design, blades, hardness of blades, toughness of blades, handgrips, finish, marking, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

616.8 TRACK TOOLS

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications and Plans for Track Tools. Gives requirements for workmanship and finish, marking, inspection and tests, acceptance, shipment or delivery, and manufacturer's guarantee; and drawings. Includes clay pick, tamping pick, spike mauls, track wrenches, lining bar, rail tongs, tie tongs, timber tongs, spike puller, rail fork, claw bar, track adze, carpenters adze, sledge, tamping bar, track chisel, tie plug punch, track gage, track shovel, ballast fork, rail tongs for use with crane, track gage with wood rod, and track tool handles.

U. S. Gov., Federal Specification GGG-H-86; 1942. Amend. 3; 1946. Hammers, Mauls, and Sledges. Covers 24 types of hammers, 3 types of mauls, and 2 types of sledges. Gives requirements for materials, workmanship, weight, forged heads, shape of head, striking faces, peens, eyes, handles, wedges, steel heads, hardness, finishes, corrosion protective coating, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

616.9 MISCELLANEOUS HAND TOOLS OTHER THAN METAL-WORKING**616.91 Jacks, Levers, and Leverage Bars**

U. S. Gov., Army Air Forces Specification 40415C; 1945. Jack; Tripod, 6 Ton.

U. S. Gov., Army Air Forces Specification 40417D; 1945. Jack; Tripod, 20 Ton.

U. S. Gov., Army Air Forces Specification 40954; 1945. Jack; Tripod (30 Ton).

U. S. Gov., Federal Specification GGG-B-101; 1932. Amend. 4; 1945. Bars, Chisel, Crow, Pinch, and Wrecking. Covers five types—(A) chisel; (B) crow, pinch point; (C) pinch, offset; (D) wrecking, goose-neck, claw and pinch point; and (E) wrecking, offset,

claw and pinch point. Gives requirements for material, workmanship, marking, tolerances, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Army Air Forces Specification 40281E, 1945. Jack; Axle, General Specification for.

616.99 Hand Tools Not Elsewhere Classified

U. S. Gov., Army-Navy Aeronautical Specification AN-D-17; 1946. Drawings, Tool Lists, and Sample Tools for Aeronautical and Associated Equipment.

U. S. Gov., Navy Dept. Specification 17P6b; 1946. Pullers, Fuse.

U. S. Gov., Navy Dept. Specification 40T2e; 1945. Tools, Pneumatic, Portable.

U. S. Gov., Navy Dept. Specification 41T27a; 1945. Tools, Nonsparking.

U. S. Gov., Navy Dept. Specification 74W1a; 1945. Whistles, Signaling.

U. S. Gov., U. S. Army, Corps of Engineers Specification 17-201; 1944. Tool, Crosscut Saw.

U. S. Gov., U. S. Army, Corps of Engineers Specification 17-202; 1944. Peavy, Handled.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-15; 1944. Wringer, Roll, 12 Inch, with Vat, Portable.

U. S. Gov., U. S. Army, Corps of Engineers Specification 41-11; 1945. Wedges, Steel.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-65; 1944. Nail Driver, Pneumatic.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-13B; 1944. Crimper, Cap, with Fuse Cutter, M-2.

U. S. Gov., U. S. Army, Medical Dept. Specification 28-83A; 1945. Tongs, Ice.

U. S. Gov., U. S. Maritime Commission. Specification 41-MC-5 (Tentative) 1942. Snakes; Plumbers. Covers one grade; two types—(I) spring and (II) tape; and three sizes—(1) 1/4 inch, (2) 3/8 inch, and (3) 1/2 inch. Gives requirements for materials, workmanship, marking, tolerances, and details; sampling, inspection, and methods of test; and packaging, packing and marking.

617. FURNITURE HARDWARE, BUILDERS HARDWARE, AND PLUMBING

617.0 GENERAL ITEMS

U. S. Gov., U. S. Army, Quartermaster Corps Specification 29-103; 1945. Finishes, for Equipment Hardware.

617.1 HANGERS, HINGES, HASPS, AND STAPLES

617.13 Hasps and Staples

U. S. Gov., Navy Dept. Specification 42H39f; 1946. Hasps, Hinged; and Staples.

617.4 CHECKS, CATCHES, AND FASTENERS

617.42 Catches

U. S. Gov., Navy Dept. Specification 42C11d, 1945. Catches, Cupboard or French-Window.

617.6 BOLT LOCKS, BRACKETS, AND HOOKS

617.63 Hooks

U. S. Gov., Navy Dept. Specification 42H28e, 1945. Hooks, Snap-Bolt, Swivel-Eye, with Rings.

U. S. Gov., Navy Dept. Specification 64H1b; 1946. Hooks, Meat.

617.7 PLUMBING FIXTURES

617.79 Miscellaneous Plumbing Fixtures

U. S. Gov., Navy Dept. Specification 30R4a; 1946. Rings, Toilet-Set (Metal, Stateroom).

U. S. Gov., Navy Dept. Specification 30S1f, 1945. Showers, Bath.

617.9 MISCELLANEOUS BUILDERS AND FURNITURE HARDWARE

U. S. Gov., Treasury Dept., Procurement Div., 767; 1946. Hardware, Builders'; Shelf and Miscellaneous. Covers such types, grades, and classes of builders' hardware generally classified as "shelf and miscellaneous hardware" and does not include hardware for marine use. Gives requirements for materials, brass and bronze, die castings, workmanship, dimensions and weights, illustrations, fastenings, finishes, nickel and chromium plating on brass and bronze, nickel and chromium plating on iron and steel, cadmium and zinc coatings on iron and steel, japan coating, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Corps of Engineers Specification 81-60; 1945. Hangers and Tracks, Sliding Door.

619. MISCELLANEOUS IRON AND STEEL MANUFACTURES

619.1 FIREARMS AND ORDNANCE

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R31-45; 1945. Loaded Paper Shot Shells. This recommendation establishes a list of standard sizes and varieties of paper shot shells for low cup (smokeless), progressive-burning powder (medium cup), and progressive-burning powder (high cup); and includes trap loads, skeet loads, short-range loads, rifled slug loads, and buckshot loads. Covers shell gage, weight of powder, weight of shot, shot sizes, length of shell unloaded, and maximum height of brass cup. Sponsored by Sporting Arms and Ammunition Manufacturers' Institute.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R62-45; 1945. Metallic Cartridges. This recommendation establishes a list of types and varieties of metallic cartridges including smokeless powder, black powder, and Lesmok powder for rim-fire cartridges (ball, shot, and blank) and smokeless powder and black powder for center-fire cartridges (ball, blanks, and shot). Sponsored by Sporting Arms and Ammunition Manufacturers' Institute.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-24; 1945. Mine Probe; M-1.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 57-137-1; 1946. Cups; Steel, Coined, for Cartridge Cases for Artillery Ammunition.

U. S. Gov., U. S. Maritime Commission Specification 1-MC-1b; 1945. Guns; Line Throwing, and Equipment. Guns shall be muzzle-loading type with the barrel mounted on a carriage. Gives requirements for size, materials, workmanship, performance, construction, equipment, and marking; inspection, sampling, and methods of test; and packaging, packing, and marking for shipment.

619.2 MANUFACTURES OF SHEET IRON AND SHEET STEEL

National Lumber Manufacturers Assn. Teco Data Sheets for Subterranean Termite Protection, 1941. Covers subterranean termite attack, Teco termite shields, materials, pan-type shields, strip-type shields, Teco connector, appearance, and installation together with drawings and notes.

U. S. Gov., Joint Army-Navy Specification JAN-N-59-2; 1945. Mats, Airplane Landing, Steel, Pierced Plank Type, in Bundles.

619.3 SCREW POSTS, METAL FENCE POSTS

U. S. Gov., Federal Specification RR-F-183; 1946. Fence-Posts, Gates, and Accessories. Covers one grade. Gives requirements for materials, workmanship, dimensions and weights, zinc coating, gates, posts, post braces, post tops, top rails, stretcher bars and clips, and top and bottom reinforcing wires; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

619.6 GATES

U. S. Gov., Federal Specification RR-F-183; 1946. Fence-Posts, Gates, and Accessories. Covers one

grade. Gives requirements for materials, workmanship, dimensions and weights, zinc coating, gates, posts, post braces, post tops, top rails, stretcher bars and clips, and top and bottom reinforcing wires; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

619.9 MANUFACTURES OF IRON OR STEEL NOT COVERED IN ABOVE CLASSIFICATION

American Society for Testing Materials, D609-45T; 1945. Tentative Method of Preparation of Steel Panels for Testing Paint, Varnish, Lacquer, and Related Products. Gives scope, test panels, and preparation of test panels.

U. S. Gov., Navy Dept. Specification 12T9c; 1946. Thimbles, Rope (Fiber and Wire).

U. S. Gov., Navy Dept. Specification 42T1f, 1945. Tags, Key; and Rings, Key.

U. S. Gov., Treasury Dept., Procurement Div., 733; 1945. Pads; Steel Wool, Disk, Floor Polishing. Covers two types—(I) solid and (II) ring, four sizes, and five grades. Gives requirements for material, workmanship, details for each type, and tables showing weights and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 89-3298; 1944. Hock, Trip, 3-Ton, M4A2 (for Submarine Mines).

U. S. Gov., U. S. Army, Signal Corps Specification 74-85; 1945. Manifold ML-344/TMQ-3.

620-629 FERRO-ALLOYING ORES AND METALS, ALLOY STEELS AND MANUFACTURES

621. FERRO-ALLOYING ORES AND METALS

621.1 ORES, FERRO-ALLOYING

621.11 Chrome Ores

American Society for Testing Materials, C18-45; 1945. Methods of Chemical Analysis of Refractory Materials. Covers procedures for the chemical analysis of fireclay, silica, high-alumina, and magnesite refractories, and of chrome ore and chrome refractories. Gives reagents and special solutions required, preparation of samples for analysis, statement of analysis, blank determinations, reproducibility of results; and details for testing the various materials named above.

621.2 FERRO-ALLOYS

621.20 General Items

American Society for Testing Materials, E31-46T; 1946. Tentative Methods of Chemical Analysis of Ferro-Alloys. Gives scope, apparatus and reagents, precautions, sampling and methods of determining ferrosilicon (silicon by the sodium peroxide fusion method, total carbon by the direct-combustion method, phosphorus by the perchloric acid—alkalimetric

method, and sulfur by the nitric-hydrofluoric acid—gravimetric method); ferromanganese, silicomanganese, and manganese-silicon (manganese by the bismuthate method, total carbon by the direct-combustion method, phosphorus by the perchloric acid—alkalimetric method, sulfur by the nitric acid oxidation method, and silicon by the nitric-sulfuric acid method); ferrochromium (chromium by the sodium peroxide fusion method, total carbon by the direct-combustion method, and silicon by the sulfuric acid method); ferrovanadium (vanadium by the ammonium persulfate method, total carbon by the direct-combustion method, phosphorus by the alkalimetric method, sulfur by the nitric acid oxidation method, silicon by the nitric-sulfuric acid method, and aluminum by the cupferron-phosphate method); ferrotungsten and tungsten metal (tungsten by the acid digestion-cinchonine method, total carbon by the direct-combustion method, manganese by the persulfate-arsenite method, phosphorus by the tartrate-magnesia—alkalimetric method, sulfur by the nitric-hydrofluoric acid—gravimetric method, silicon by the phosphoric-perchloric acid method, arsenic, copper, tin, and antimony); and ferromolybdenum (molybdenum by the permanganate titration method, total carbon by the direct-combustion

method, sulfur by the nitric acid—gravimetric method, phosphorus by the alkalimetric method, silicon by the sulfuric acid method, and copper by the thiocyanate method).

American Society for Testing Materials, E32-42; 1942. Standard Methods of Sampling Ferro-Alloys. Includes procedures for the sampling of the various ferro-alloys, either before or after shipment from the plants of the manufacturers. Gives apparatus for preparing samples; unit quantities for sampling and analysis; and methods of sampling—spiegeleisen and 15 percent ferrosilicon; ferrosilicon, standard ferromanganese, silicomanganese, ferrophosphorus, and 12 to 15 percent zirconium alloy; high-carbon ferrochromium, medium-carbon ferromanganese, low-carbon ferromanganese, silicon metal, calcium-silicon, and 35 to 40 percent zirconium alloy; low-carbon ferrochromium; and ferrovanadium, ferromolybdenum, ferrotungsten, ferrocolumbium, low-carbon ferrotitanium, and ferrozirconium.

American Society for Testing Materials, E66-34T; 1934. Tentative Method for Sampling Molybdenum Salts and Compounds for Metallurgical Use. Gives scope, sampling small bags, sampling barrels or large bags, and correcting sample to dry net weight.

621.21 Ferrochrome

American Iron and Steel Institute. Steel Products Manual, Section 1; 1941. Revised, 1945. Pig Iron and Ferroalloys. Gives standard grades of pig iron, sampling of pig iron, and ferroalloys including spiegeleisen, ferromanganese, ferrosilicon, silicomanganese, ferrochromium, high-nitrogen ferrochromium, ferrovanadium, ferrotungsten, zirconium alloys, ferrocolumbium, ferromolybdenum, ferrotitanium, and ferrophosphorus.

621.22 Ferromanganese, Spiegeleisen

American Iron and Steel Institute. Steel Products Manual, Section 1; 1941. Revised, 1945. Pig Iron and Ferroalloys. Gives standard grades of pig iron, sampling of pig iron, and ferroalloys including spiegeleisen, ferromanganese, ferrosilicon, silicomanganese, ferrochromium, high-nitrogen ferrochromium, ferrovanadium, ferrotungsten, zirconium alloys, ferrocolumbium, ferromolybdenum, ferrotitanium, and ferrophosphorus.

621.23 Ferromolybdenum

American Iron and Steel Institute. Steel Products Manual, Section 1; 1941. Revised, 1945. Pig Iron and Ferroalloys. Gives standard grades of pig iron, sampling of pig iron, and ferroalloys including spiegeleisen, ferromanganese, ferrosilicon, silicomanganese, ferrochromium, high-nitrogen ferrochromium, ferrovanadium, ferrotungsten, zirconium alloys, ferrocolumbium, ferromolybdenum, ferrotitanium, and ferrophosphorus.

621.24 Ferrosilicon

American Iron and Steel Institute. Steel Products Manual, Section 1; 1941. Revised, 1945. Pig Iron and Ferroalloys. Gives standard grades of pig iron, sampling of pig iron, and ferroalloys including spiegeleisen, ferromanganese, ferrosilicon,

silicomanganese, ferrochromium, high-nitrogen ferrochromium, ferrovanadium, ferrotungsten, zirconium alloys, ferrocolumbium, ferromolybdenum, ferrotitanium, and ferrophosphorus.

621.25 Ferrotungsten

American Iron and Steel Institute. Steel Products Manual, Section 1; 1941. Revised, 1945. Pig Iron and Ferroalloys. Gives standard grades of pig iron, sampling of pig iron, and ferroalloys including spiegeleisen, ferromanganese, ferrosilicon, silicomanganese, ferrochromium, high-nitrogen ferrochromium, ferrovanadium, ferrotungsten, zirconium alloys, ferrocolumbium, ferromolybdenum, ferrotitanium, and ferrophosphorus.

621.26 Ferrotitanium, Ferrouanium, Ferrovanadium

American Iron and Steel Institute. Steel Products Manual, Section 1; 1941. Revised, 1945. Pig Iron and Ferroalloys. Gives standard grades of pig iron, sampling of pig iron, and ferroalloys including spiegeleisen, ferromanganese, ferrosilicon, silicomanganese, ferrochromium, high-nitrogen ferrochromium, ferrovanadium, ferrotungsten, zirconium alloys, ferrocolumbium, ferromolybdenum, ferrotitanium, and ferrophosphorus.

621.27 Ferrophosphorus

American Iron and Steel Institute. Steel Products Manual, Section 1; 1941. Revised, 1945. Pig Iron and Ferroalloys. Gives standard grades of pig iron, sampling of pig iron, and ferroalloys including spiegeleisen, ferromanganese, ferrosilicon, silicomanganese, ferrochromium, high-nitrogen ferrochromium, ferrovanadium, ferrotungsten, zirconium alloys, ferrocolumbium, ferromolybdenum, ferrotitanium, and ferrophosphorus.

621.29 Miscellaneous Ferro-Alloys

American Iron and Steel Institute. Steel Products Manual, Section 1; 1941. Revised, 1945. Pig Iron and Ferroalloys. Gives standard grades of pig iron, sampling of pig iron, and ferroalloys including spiegeleisen, ferromanganese, ferrosilicon, silicomanganese, ferrochromium, high-nitrogen ferrochromium, ferrovanadium, ferrotungsten, zirconium alloys, ferrocolumbium, ferromolybdenum, ferrotitanium, and ferrophosphorus.

621.3 CRUDE AND SEMIFINISHED FERRO-ALLOYS

621.30 General Items

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Alloy Steels. Covers general unit stresses, thickness of material, sizes of rivets, lacing, rivets, alloy and structural steels combined, secondary stresses, holes, sheared and flame-cut edges, and welding.

621.31 Ferro-Alloy Billets, Bars, and Rods (Alloy-Steel)

American Iron and Steel Institute. Steel Products Manual, Section 10, revised 1945. Hot-Rolled Alloy

- Steels—Open Hearth and Electric Furnace Bars, Bar-Strip, Billets, Blooms, and Slabs. Gives definitions and classifications, chemical limits and practices, manufacturing practices, hardenability bands, and hardness conversion numbers.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2241A, 1945. Tolerances—Stainless Steel Bars. To publish established manufacturing tolerances. Gives application, diameter or thickness, width, length, straightness, flatness, and special tolerances.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2251, 1945. Tolerances—Alloy Steel Bars. To publish established manufacturing tolerances. Gives application, diameter or thickness, width, length, straightness, flatness, and special tolerances.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5022C, 1946. Steel—Free Cutting, Manganese. For bars, billets, forgings, tubing, or as ordered. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: SAE 1117.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5024B, 1946. Steel—Cutting, Manganese. For bars, billets, forgings, tubing, or as ordered. Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: SAE 1137.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5025A, 1946. Steel—Free Cutting Manganese (Heat-Treated). For bars, billets, forgings, or as ordered. Covers requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: SAE 1137.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5610C, 1945. Steel, Corrosion-Resistant—13 Chromium (Low Carbon), Hardenable, Free Machining. For bars, billets, forgings, or as ordered. Gives composition, condition, hardenability, quality, tolerances, reports, identification, and rejections. Similar specifications: QQ-S-763a; SAE X51410; AISI 416.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5620, 1945. Steel, Corrosion-Resistant—13 Chromium (Medium Carbon), Hardenable, Free Machining. For bars, billets, forgings, or as ordered. Gives composition, condition, hardenability, decarburization, quality, tolerances, reports, identification, and rejections. Similar specifications: QQ-S-763; SAE 51335; AISI 420F.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5640B, 1945. Steel, Corrosion-Resistant—18 Chromium, 8 Nickel (Free Machining). For bars, billets, forgings, or as ordered. Gives composition, condition, quality, tolerances, reports, identification, and rejection. Similar specifications: AN-QQ-S-771; SAE 30615, Types 1 and 2; AISI 303.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5645C, 1945. Steel, Corrosion and Heat-Resistant—18 Chromium, 8 Nickel. For bars, billets, forgings, or as ordered. Gives composition, condition, embrittlement, quality, tolerances, reports, identification, and rejections. Similar specifications: SAE 30705; AISI 321 or 347.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6240C, 1945. Steel—Carburizing, 5 Ni (.08-.13 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 2511.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6242C, 1945. Steel—Carburizing, 5 Ni (.15-.20 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 2517.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6250D, 1945. Steel—Carburizing, 3.5 Ni 1.5 Cr (.07-.13 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, rejections. Similar specification: SAE 3310.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6253E, 1945. Steel—Carburizing, 3.5 Ni 1.5 Cr (.11-.17 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 3314.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6254E, 1945. Steel—Carburizing, 3.5 Ni 1.5 Cr (.14-.20 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 3317.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6260B, 1945. Steel—Carburizing, 3.25 Ni, 1.2 Cr, .1 Mo (.07-.13 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 9310.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6263B, 1945. Steel—Carburizing, 3.25 Ni, 1.2 Cr, .1 Mo (.11-.17 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 9314.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6264B, 1945. Steel—Carburizing, 3.25 Ni, 1.2 Cr, .1 Mo (.14-.20 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 9317.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6270C, 1945. Steel—Carburizing, .55 Ni, .5 Cr, .2 Mo (.11-.17 C). For

- bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 8614.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6272C, 1945. Steel—Carburizing, .55 Ni, .5 Cr, .2 Mo (.15-.20 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 8617.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6274C, 1945. Steel—Carburizing, .55 Ni, .5 Cr, .2 Mo (.17-.22 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 8619.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6315C, 1945. Steel—1.8 Ni, .25 Mo (.38-.43 C), Heat-Treated (105,000 TS). For bars, billets, forgings, or as ordered. Gives composition, grain size, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 4640.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6317B, 1945. Steel—1.8 Ni, .25 Mo (.38-.43 C), Heat-Treated (125,000 TS). For bars, billets, forgings, or as ordered. Gives composition, grain size, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 4640.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6320B, 1945. Steel—.55 Ni, .5 Cr, .25 Mo (.33-.38 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AN-S-15; 8735.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6322B, 1945. Steel—.55 Ni, .5 Cr, .25 Mo (.38-.43 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AN-S-16; 8740.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6324; 1945. Steel—.7 Ni, .8 Cr, .25 Mo (.38-.43 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 8740.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6325B, 1945. Steel—.55 Ni, .5 Cr, .25 Mo (.38-.43 C) Heat-Treated (105,000 TS). For bars, billets, forgings, or as ordered. Gives composition, grain size, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AN-S-16; 8740.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6328; 1945. Steel—.55 Ni, .5 Cr, .25 Mo (.48-.53 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 8750.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6370B; 1946. Steel—.95 Cr, .2 Mo (.27-.33 C). For bars, billets, forgings, or as ordered. Gives requirements for composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: Army-Navy Aeronautical AN-QQ-S-684; SAE 4130.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6380B; 1946. Steel—.95 Cr, .2 Mo (.35-.42 C). For bars, billets, forgings, or as ordered. Gives requirements for composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: Army-Navy Aeronautical AN-QQ-S-752; SAE 4137.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6382B; 1946. Steel—.95 Cr, .2 Mo (.38-.43 C). For bars, billets, forgings, or as ordered. Gives requirements for composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: Army-Navy Aeronautical AN-QQ-S-752; SAE 4140.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6412B, 1945. Steel—1.8 Ni, .8 Cr, .25 Mo (.35-.40 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 4337.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6415B, 1945. Steel—1.8 Ni, .8 Cr, .25 Mo (.38-.43 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AN-QQ-S-756; SAE 4340.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6440B, 1945. Steel—1.4

- Chromium (.95-1.10 C). For bars, billets, forgings, or as ordered. Gives composition, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AAF 10243 and 52100A.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6470B, 1945. Steel, Nitriding—1.6 Cr, .35 Mo, 1.15 Al. For bars, billets, forgings, or as ordered. Gives composition, hardenability, condition, nitriding, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: AN-S-19.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6475; 1945. Steel Nitriding—3.5 Ni, 1.2 Cr, .25 Mo, 1.25 Al. For bars, billets, forgings, or as ordered. Gives composition, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6480; 1946. Steel Nitriding—.65 Ni, 1 Cr, 1 Mo. For bars, billets, forgings, or as ordered. Gives requirements for composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections.
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-9a-1; 1945. Steel; Molybdenum (4037), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-13a-1; 1945. Steel; Chrome-Nickel-Molybdenum (8620), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-14a-1; 1945. Steel; Chrome-Nickel-Molybdenum (8630), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-15a-1; 1945. Steel; Chrome-Nickel-Molybdenum (8735), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-16a-1; 1945. Steel; Chrome-Nickel-Molybdenum (8740), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-19a-1; 1945. Steel; Chrome-Molybdenum-Aluminum Bar and Rod (for Nitriding).
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-58; 1945. Steel; Chrome-Vanadium (6150), Rod and Wire.
- U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-687-3; 1945. Steel; Chrome-Vanadium (6150), Bar-and-Billet.
- U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-688a-1; 1945. Steel; Chrome-Vanadium (6195), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-689a-1; 1945. Steel; Nickel (2330), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-690-2; 1945. Steel; Nickel-Chromium (3140), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-752a-1; 1945. Steel; Chrome-Molybdenum (4140), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-756a-1; 1945. Steel; Chrome-Nickel-Molybdenum (4340), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-770a-1; 1945. Steel; Corrosion-Resisting (16 Cr—2 Ni), Bar and Rod.
- U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-771-5; 1945. Steel; Corrosion-Resisting (18 Cr—8 Ni), Bars and Rods.
- U. S. Gov., Federal Specification QQ-S-671; 1941. Amend. 2; 1945. Steel; Carbon and Alloy, Bars. Covers carbon and alloy steel bars of several types and compositions, in seven conditions—as-rolled (hot-rolled or forged), annealed, normalized, normalized-and-tempered, quenched-and-tempered, cold-rolled or cold-drawn, and cold-rolled or cold-drawn-and-stress-relief-annealed. Gives requirements for material and workmanship, condition and finish, heat treatment, chemical composition, physical properties, special requirements, and dimensions and tolerances; methods of inspection and tests; and packing and marking for shipment.
- U. S. Gov., Federal Specification QQ-S-763a; 1943. Amend. 1; 1946. Steel, Corrosion-Resisting; Bars and Forgings (Except for Reforging). Covers ten classes and six types and shall be made by the open-hearth or the electric furnace process unless otherwise specified. Gives workmanship, general requirements, chemical composition, physical properties, magnetic permeability tests, resistance to intergranular corrosion, macroscopic etch test, and permissible variations; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 46N4c, 1945. Nickel-Chromium-Alloy; Bars and Rods (for Boiler Refractory Anchor Bolts).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 57-107-33; 1945. Steel, Special, Bars, for Armor-Piercing Bullet Cores.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 57-107-34; 1945. Steel; Nickel-Chromium-Molybdenum (WD X4340), Bars (for Gun Barrels).

621.32 Ferro-Alloy Plates, Sheets, and Strips

- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2242; 1945. Tolerances—Stainless Steel Sheet and Strip. To publish established manufacturing tolerances. Gives application, thickness, width, length, camber, flatness, and special tolerances.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2252; 1945. Tolerances—Alloy Steel Sheet and Strip. To publish established manufacturing tolerances. Gives application, thickness, width, length, camber, flatness, and special tolerances.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 635QA, 1945. Steel Plate, Sheet and Strip—.95 Cr, .2 Mo (.27-.33 C). Gives composition, grain size, hardenability, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-QQ-S-685; SAE 4130.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6355B, 1945. Steel Plate, Sheet and Strip—.55 Ni, .5 Cr, .2 Mo (.27-.33 C). Gives composition, grain size, hardenability, condition, quality, tolerances, reports, identification,

and rejections. Similar specifications: AN-S-12, Condition A; 8630.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 6357B, 1945. Steel Plate, Sheet and Strip—.55 Ni, .5 Cr, .25 Mo (.33-.38 C). Gives composition, grain size, hardenability, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-S-22; 8735.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-12-3; 1945. Steel; Chrome-Nickel-Molybdenum (8630), Sheet and Strip.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-22-2; 1945. Steel; Sheet-and-Strip (.33 to .38 Carbon) Chrome-Nickel-Molybdenum.

U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-685-5; 1945. Steel; Chrome-Molybdenum (4130) Plate, Sheet, and Strip.

U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-686-2; 1945. Steel; Chrome-Molybdenum (X4135), Plate, Sheet, and Strip.

U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-757-5; 1945. Steel; Corrosion and Heat-Resisting (18 Cr-8 Ni) Plate, Sheet, and Strip.

U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-S-772a-1; 1945. Steel; Corrosion-Resisting (18 Cr-8 Ni), Plate, Sheet, and Strip.

U. S. Gov., Federal Specification QQ-S-766a; 1943. Amend. 1; 1946. Steel, Corrosion-Resisting. Plates, Sheets, Strips, and Structural Shapes. Covers seven classes, made by the open-hearth or the electric-furnace process and cast in metal molds. Gives material and workmanship, general requirements, chemical composition, physical properties, magnetic permeability tests, resistance to intergranular corrosion, and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 47S30, 1945. Steel, Corrosion-Resisting-Clad; Plates, Sheets, and Strips.

U. S. Gov., Navy Dept. Specification 48S6d; 1946. Steel, Nickel, Plate.

621.33 Structural Shapes of Ferro-Alloys

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Structural Nickel Steel. Gives process, discard, chemical composition, ladle analyses, check analyses, physical properties, tests of eye-bars, modification in elongation, yield point, speed of testing machine, character of fracture, bend tests, drift tests, test specimens, number of tests, retests, finish, permissible variations in weight and thickness, identification marks, inspection, and rejection. Chemical and physical requirements are identical with, and other requirements are similar to, ASTM A8.

U. S. Gov., Federal Specification QQ-S-766a; 1943. Amend. 1; 1946. Steel, Corrosion-Resisting. Plates, Sheets, Strips, and Structural Shapes. Covers seven classes made by the open-hearth or the electric-furnace process and cast in metal molds. Gives material and workmanship, general requirements, chemical composition, physical properties,

magnetic permeability tests, resistance to intergranular corrosion, and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

621.39 Miscellaneous Ferro-Alloys

U. S. Gov., Navy Dept. Specification 46S12e; 1946. Steel, Corrosion-Resisting (for Turbine Parts).

U. S. Gov., Navy Dept. Specification 46S34c, 1945. Steel, Alloy, Molybdenum, Wrought.

622. MANUFACTURES OF FERRO-ALLOYS

622.1 BOLTS, FERRO-ALLOY

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 80, 81, 82, 83, 84, 85, and 86; 1946. Bolt—100° Flush Head Close Tolerance. Gives drawings, dimensions, and notes for 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, and 5/8-18. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 334, 335, 336, 337, 338, 339, and 340; 1946. Bolt—100° Close Tolerance, High Strength. Gives drawings, dimensions, and notes for 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, and 5/8-18. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 363; 1946. Nut—Self-Locking Internal Wrenching—Aircraft. Gives grade, types and sizes, material, workmanship and marking, general requirements, strength, finish, torque, locking device, socket, and vibration requirements; methods of sampling, inspection, and tests; and packing and marking for shipment.

American Society for Testing Materials, A193-45T; 1945. Tentative Specifications for Alloy-Steel Bolting Materials for High-Temperature Service. For bolting material for pressure vessels, valves, flanges, and fittings for high-temperature service. Includes 13 ferritic and 2 austenitic steels. Gives process, discard, heat treatment, chemical composition, ladle analysis, check analysis, tensile properties, test specimens, number of tests, retests, finish, nuts and washers, threads, marking, inspection, rejection, and reheating.

U. S. Gov., Army-Navy Aeronautical Specification AN-B-3b-1; 1945. Bolts; Aircraft.

622.3 TUBULAR PRODUCTS AND FITTINGS, FERRO-ALLOY

American Society for Testing Materials, A158-44T; 1944. A.S.M.E. Boiler Construction Code Specification SA-158. Tentative Specifications for Seamless Alloy-Steel Pipe for High-Temperature Service. Includes eight ferritic and three austenitic steels, selection dependent on design and service. Gives process, discard, heat treatment, chemical composition, ladle analysis, check analysis, tensile properties, bending properties, flattening test, hydrostatic test, test specimens, number of tests, retests, retreatment, permissible variations in weight and dimensions, lengths, ends, finish, marking, inspection, rejection, and supplementary requirements. A.S.T.M. Emergency Alternate

- Provision, EA-158a; 1944, affected section 1, scope; and table 1, chemical requirements.
- American Society for Testing Materials, A182-44; 1944. A.S.M.E. Boiler Construction Code Specification, SA-182. American Standards Assn., G37.1-1944. Standard Specifications for Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service. Includes seven ferritic and three austenitic steels, selection dependent on design and service. Gives process, discard, manufacturing practice, heat treatment, chemical composition, ladle analysis, check analysis, tensile properties, hydrostatic tests, test specimens, number of tests, retests, macro-etch tests, workmanship, finish, marking, inspection, rejection, and reheating.
- American Society for Testing Materials, A206-44T; 1944. A.S.M.E. Boiler Construction Code Specification SA-206. Tentative Specifications for Seamless Carbon-Molybdenum Alloy-Steel Pipe for High-Temperature Service. For pipe suitable for bending, flanging (vanstoning), and similar forming operations, and for fusion welding. Gives process, discard, heat treatment, chemical composition, ladle analysis, check analysis, tensile properties, bending properties, flattening test, hydrostatic test, photomicrographs, test specimens, number of tests, retests, retreatment, permissible variations in weight and dimensions, lengths, ends, finish, marking, inspection, rejection, and supplementary requirements. A.S.T.M. Emergency Alternate Provision, EA-A 206; 1943, affected section 5, chemical composition.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2243A, 1945. Tolerances—Stainless Steel Seamless and Welded Tubing. To publish established manufacturing tolerances. Gives application, diameter, wall thickness, length, straightness, flatness, and special tolerances.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2253A, 1945. Tolerances—Carbon and Alloy Steel Tubing. To publish established manufacturing tolerances. Gives application, diameter, wall thickness, length (all types), straightness, flatness, and special tolerances.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5022C; 1946. Steel—Free Cutting, Manganese. For bars, billets, forgings, tubing, or as ordered. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: SAE 1117.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5024B; 1946. Steel—Cutting, Manganese. For bars, billets, forgings, tubing, or as ordered. Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: SAE 1137.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5560A, 1945. Steel Tubing, Corrosion-Resistant—Seamless, 18 Chromium, 8 Nickel. Intended for use in hydraulic systems. Gives composition, condition, quality, embrittlement, tolerances, reports, identification, and rejections.
- Similar specifications: AN-WW-T-855, Condition A; ASTM A213-42, Grade T8; SAE 30905; AISI 304.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5565A, 1945. Steel Tubing, Corrosion-Resistant—Welded, 18 Chromium, 8 Nickel. Intended for use in hydraulic systems. Gives composition, condition, quality, embrittlement, tolerances, reports, identification, and rejections. Similar specifications: AN-T-43, Composition 1; SAE 30905; AISI 304.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5566; 1946. Steel Tubing, Corrosion-Resistant, High-Pressure Hydraulic (18 Chromium—8 Nickel). Intended for use in 3,000 psi hydraulic systems. Gives composition, fabrication, requirements, quality, embrittlement, tolerances, reports, identification, and rejections. Similar Specifications: AN-WW-T-855, Condition B; SAE 30905; AISI 304.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5570D, 1945. Steel Tubing, Corrosion- and Heat-Resistant—Seamless, 18 Chromium, 8 Nickel. Gives composition, condition, quality, embrittlement, tolerances, reports, identification, and rejections. Similar specifications: AN-WW-T-856; SAE 30705; AISI 347 or 321.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5575C, 1945. Steel Tubing, Corrosion- and Heat-Resistant—Welded, 18 Chromium, 8 Nickel. Gives composition, condition, quality, embrittlement, tolerances, reports, identification, and rejections. Similar specifications: AN-WW-T-861; AISI 347 or 321; SAE 30705.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5591; 1945. Steel Tubing, Corrosion-Resistant—Seamless, 13 Chromium. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specification: SAE 51210.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6281; 1945. Steel Tubing—Seamless (Mechanical), .55 Ni, .5 Cr, .2 Mo (.27-.33 C). Heavy wall for machining. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, identification, and rejections. Similar specification: 8630.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6360B, 1945. Steel Tubing (Seamless), Round—.95 Cr, .20 Mo (.27-.33 C). Gives composition, grain size, condition, quality, tolerances, reports, identification, and rejections. Similar specification: AN-WW-T-850, Condition N.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6365A, 1945. Steel Tubing (Seamless), Round—.95 Cr, .20 Mo (.33-.38 C). Gives composition, grain size, condition, quality, tolerances, reports, identification, and rejections. Similar specification: AN-WW-T-852, Condition N.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6372; 1945. Steel Tubing—Seamless (Mechanical), .95 Cr, .2 Mo (.33-.38 C).

- Heavy wall type for machining. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, identification, and rejections. Similar specification: 4135.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6441; 1945. Steel Tubing—Seamless, 1.45 Chromium (0.95-1.10 C). Gives composition, hardenability, condition, quality, tolerances, reports, identification, and rejections. Similar specification: SAE 52100.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6510A, 1945. Steel Tubing (Welded), .95 Cr, .20 Mo (.27-.33 C). For electric-resistance-welded or gas-welded tubing. Gives composition, grain size, condition, quality, tolerances, tests, reports, identification, and rejections. Similar specifications: AN-T-3, Condition N; Air Corps 10241, Type I, Condition A; Navy Aeronautical M526, Condition N.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6530B, 1945. Steel Tubing (Seamless), Round, .55 Ni, .5 Cr, .2 Mo (.27-.33 C). Gives composition, grain size, condition, quality, tolerances, reports, identification, and rejections. Similar specification: AN-T-15.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6535B, 1945. Steel Tubing (Seamless), Round, .55 Ni, .5 Cr, .25 Mo (.33-.38 C). Gives composition, grain size, condition, quality, tolerances, reports, identification, and rejections. Similar specification: AN-T-22.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6550B, 1945. Steel Tubing (Welded)—.55 Ni, .5 Cr, .2 Mo (.27-.33 C). For electric-resistance-welded or gas-welded tubing. Gives composition, grain size, condition, quality, tolerances, tests, reports, identification, and rejections. Similar specification: AN-T-33.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 7312; 1945. Rings, Piston—Centrifugally Cast, Alloy Cast Iron. Gives composition, condition, physical properties, microstructure, quality, finish, circularity, light-tightness of periphery, flatness, heat stability, corrosion prevention, approval, reports, and rejections.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-15-3; 1945. Tubing; (.27 to .33 Carbon) Chrome-Nickel-Molybdenum Steel, Seamless.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-22-3; 1945. Tubing; (.33 to .38 Carbon) Chrome-Nickel-Molybdenum Steel, Seamless.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-33a; 1946. Tubing; Chrome-Nickel-Molybdenum (8630) Steel, Welded.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-43-2; 1945. Tubing; Welded, Corrosion-Resisting (18 Cr-8 Ni) Steel Round (for Hydraulic Systems).
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-82; 1945. Tubing; Corrosion- and Heat-Resisting (18 Cr-8 Ni) Steel Welded, Round.
- U. S. Gov., Army-Navy Aeronautical Specification AN-WW-T-850a-2; 1945. Tubing, Steel, Chrome-Molybdenum (X4130), Seamless.
- U. S. Gov., Army-Navy Aeronautical Specification AN-WW-T-852a-1; 1945. Tubing; Steel, Chrome-Molybdenum (X4135), Seamless.
- U. S. Gov., Army-Navy Aeronautical Specification AN-WW-T-855-2; 1945. Tubing; Steel, Corrosion-Resisting (18 Cr-8 Ni), Round, Seamless.
- U. S. Gov., Army-Navy Aeronautical Specification AN-WW-T-858-2; 1945. Tubing; Steel, Corrosion- and Heat-Resisting (18 Cr-8 Ni), Round, Seamless.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 57-180-6; 1945. Steel, Alloy; Tubes, Round, Seamless, Heat-Treated (for Mortar Tubes).

622.4 FERRO-ALLOY WIRE AND MANUFACTURES

- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5685B; 1946. Steel Wire; Corrosion-Resistant, 18 Chromium-8 Nickel (Annealed). Gives requirements for composition, condition, quality, tolerances, reports, and rejections. Similar Specifications: AN-W-24, Condition A; SAE 30915; AISI 302.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5686; 1945. Steel Wire, Corrosion-Resistant—Rivet Wire, 18 Chromium, 10 Nickel (Annealed). Gives composition, condition, quality, tolerances, approval, reports, and rejections.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5688B; 1946. Steel Wire, Corrosion-Resistant, 18 Chromium 8 Nickel (Spring). Gives requirements for composition, condition, quality, tolerances, reports, and rejections. Similar specifications: AN-W-24, Condition B; SAE 30915; AISI 302.
- U. S. Gov., Army-Navy Aeronautical Specification AN-RR-C-48-3; 1946. Cable; Steel (Corrosion-Resisting), Flexible, Preformed.
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-58; 1945. Steel; Chrome-Vanadium (6150) Rod and Wire.
- U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal Spraying.
- U. S. Gov., Army-Navy Aeronautical Specification AN-W-23; 1945. Wire; Corrosion-Resisting (Grade MCR) Steel.
- U. S. Gov., Army-Navy Aeronautical Specification AN-W-24; 1945. Wire; Corrosion-Resisting (Grade G) Steel.
- U. S. Gov., Federal Specification RR-G-123; 1945. Gauze; Wire (for Laboratory Use). Covers one type and three grades—(I) corrosion-resisting steel, (II) carbon steel, and (III) iron. Gives requirements for material, workmanship, description, mesh, and asbestos center; methods of sampling and inspection; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 22W13d, 1945. Wire, Steel, Corrosion-Resisting.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 48-42; 1944. Wire, Steel, Corrosion-Resisting (13 Percent Chromium); Spring (for Small Arms Weapons).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 48-43; 1944. Wire, Steel, Corrosion-Resisting (18 Chromium—8 Nickel).

622.5 FERRO-ALLOY CASTINGS

- American Society for Testing Materials, A157-44; 1944. A.S.M.E. Boiler Construction Code Specification SA-157. American Standards Assn., G36.1-1944. Standard Specifications for Alloy-Steel Castings for Valves, Flanges, and Fittings for High-Temperature Service. Includes nine ferritic and two austenitic grades, selection dependent on design and service conditions, physical properties, and the high-temperature characteristics. Gives process, heat treatment, temperature control, chemical composition, ladle analysis, check analysis, tensile properties, bending properties, hydrostatic tests, magnetic particle testing, test specimens, number of tests, retests, radiographic or destruction tests, workmanship, finish, marking, inspection, rejection, and reheating. A.S.T.M. Emergency Alternate Provision EA-A 157; 1944, affected section 10, hydrostatic tests.
- American Society for Testing Materials, A217-44T; 1944. A.S.M.E. Boiler Construction Code Specification SA-217. Tentative Specifications for Alloy-Steel Castings Suitable for Fusion Welding for High-Temperature Service. For valves, flanges, fittings, or other pressure containing parts. Includes four grades, selection dependent on design and service. Gives process, heat treatment, temperature control, chemical composition, ladle analysis, check analysis, tensile properties, bending properties, hydrostatic tests, magnetic particle testing, test specimens, number of tests, retests, radiographic or destruction tests, workmanship, finish, marking, inspection, rejection, and reheating. A.S.T.M. Emergency Alternate Provision EA-A 217; 1942, affected section 1 (b), new grade added; section 5, chemical composition; section 8, tensile properties; and section 17, marking.
- American Society for Testing Materials, A282-45T; 1945. Tentative Specifications for High-Strength Steel Castings for Structural Purposes. Cover carbon-steel and alloy-steel castings that are to be subjected to high mechanical stresses. Gives process, heat treatment, temperature regulation, chemical composition, ladle analysis, check analysis, tensile properties, test specimens, number of tests, retests, radiographic inspection, magnetic particle inspection, workmanship, finish, marking, inspection, rejection, and reheating.
- American Society for Testing Materials, B190-45T; 1945. Tentative Specifications for Chromium-Nickel-Iron Alloy Castings (25-12 Class) for High-Temperature Service. Gives scope, process, heat treatment, chemical composition, ladle analysis, check analysis, number of tests, tensile properties after aging, magnetic permeability, stress-rupture test, short-time, high-temperature tensile properties, sampling, defective test specimens, retests, report, dimensional tolerances, finish, marking, and inspection.
- U. S. Gov., Navy Dept. Specification 46S27b, 1945. Steel, Corrosion-Resisting: Castings.
- U. S. Gov., Navy Dept. Specification 46S49; 1946. Steel, Corrosion-Resisting: Castings (for Boiler Feed Pump Casings).

622.6 FERRO-ALLOY FORGINGS

- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specification M-127-45; 1945. Alloy Steel Forgings. Covers six classes of normalized and tempered; and normalized, quenched, and tempered alloy steel forgings. Gives manufacture, chemical requirements, physical requirements, workmanship and finish, marking, inspection and rejection, and supplementary requirements.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5022C; 1946. Steel—Free Cutting, Manganese. For bars, billets, forgings, tubing, or as ordered. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: SAE 1117.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5024B; 1946. Steel—Cutting, Manganese. For bars, billets, forgings, tubing, or as ordered. Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: SAE 1137.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5025A; 1946. Steel—Free-Cutting, Manganese (Heat-Treated). For bars, billets, forgings, or as ordered. Covers requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: SAE 1137.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5610C, 1945. Steel, Corrosion-Resistant—13 Chromium (Low Carbon), Hardenable, Free Machining. For bars, billets, forgings, or as ordered. Gives composition, condition, hardenability, quality, tolerances, reports, identification, and rejections. Similar specifications: QQ-S-763; SAE X51410; AISI 416.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5620; 1945. Steel, Corrosion-Resistant—13 Chromium (Medium Carbon), Hardenable, Free Machining. For bars, billets, forgings, or as ordered. Gives composition, condition, hardenability, decarburization, quality, tolerances, reports, identification, and rejections. Similar specifications: QQ-S-763; SAE 51335; AISI 420F.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5640B, 1945. Steel, Corrosion-Resistant—18 Chromium, 8 Nickel (Free Machining). For bars, billets, forgings, or as ordered. Gives composition, condition, quality, tolerances, reports, identification, and rejection. Similar specifications: AN-QQ-S-771; SAE 30615, Types 1 and 2; AISI 303.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 5645C, 1945. Steel, Corrosion- and Heat-Resistant—18 Chromium, 8 Nickel. For bars, billets, forgings, or as ordered. Gives composition, condition, embrittlement, quality, tolerances, reports, identification, and rejections. Similar specifications: SAE 30705; AISI 321 or 347.

- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6240C, 1945. Steel—Carburizing, 5 Ni (.08-.13 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 2511.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6242C, 1945. Steel—Carburizing, 5 Ni (.15-.20 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 2517.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6250D, 1945. Steel—Carburizing, 3.5 Ni 1.5 Cr (.07-.13 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, rejections. Similar specification: SAE 3310.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6253E, 1945. Steel—Carburizing, 3.5 Ni 1.5 Cr (.11-.17 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 3314.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6254E, 1945. Steel—Carburizing, 3.5 Ni 1.5 Cr (.14-.20 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 3317.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6260B, 1945. Steel—Carburizing, 3.25 Ni, 1.2 Cr, .1 Mo (.07-.13 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 9310.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6263B, 1945. Steel—Carburizing, 3.25 Ni, 1.2 Cr, .1 Mo (.11-.17 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 9314.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6264B, 1945. Steel—Carburizing, 3.25 Ni, 1.2 Cr, .1 Mo (.14-.20 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 9317.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6270C, 1945. Steel—Carburizing, .55 Ni, .5 Cr, .2 Mo (.11-.17 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 8614.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6272C, 1945. Steel—Carburizing, .55 Ni, .5 Cr, .2 Mo (.15-.20 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 8617.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6274C, 1945. Steel—Carburizing, .55 Ni, .5 Cr, .2 Mo (.17-.22 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 8619.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6315C, 1945. Steel—1.8 Ni, .25 Mo (.38-.43 C), Heat-Treated (105,000 TS). For bars, billets, forgings, or as ordered. Gives composition, grain size, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 4640.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6317B, 1945. Steel—1.8 Ni, .25 Mo (.38-.43 C), Heat-Treated (125,000 TS). For bars, billets, forgings, or as ordered. Gives composition, grain size, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: SAE 4640.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6320B, 1945. Steel—.55 Ni, .5 Cr, .25 Mo (.33-.38 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AN-S-15; 8735.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6322B, 1945. Steel—.55 Ni, .5 Cr, .25 Mo (.38-.43 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AN-S-16; 8740.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6324; 1945. Steel—.7 Ni, .6 Cr, .25 Mo (.38-.43 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 8740.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6325B, 1945. Steel—.55 Ni, .5 Cr, .25 Mo (.38-.43 C) Heat-Treated (105,000 TS). For bars, billets, forgings, or as ordered. Gives composition, grain size, condition, decarburization,

- quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AN-S-16; 8740.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6327B, 1945. Steel—.55 Ni, .5 Cr, .25 Mo (.38-.43 C) Heat-Treated (125,000 TS). For bars, billets, forgings, or as ordered. Gives composition, grain size, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AN-S-16; 8740.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6328; 1945. Steel—.55 Ni, .5 Cr, .25 Mo (.48-.53 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 8750.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6370B; 1946. Steel—.95 Cr, .2 Mo (.27-.33 C). For bars, billets, forgings, or as ordered. Gives requirements for composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: Army-Navy Aeronautical AN-QQ-S-684; SAE 4130.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6380B; 1946. Steel—.95 Cr, .2 Mo (.35-.42 C). For bars, billets, forgings, or as ordered. Gives requirements for composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: Army-Navy Aeronautical AN-QQ-S-752; SAE 4137.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6382B; 1946. Steel—.95 Cr, .2 Mo (.38-.43 C). For bars, billets, forgings, or as ordered. Gives requirements for composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: Army-Navy Aeronautical AN-QQ-S-752; SAE 4140.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6412B, 1945. Steel—1.8 Ni, .8 Cr, .25 Mo (.35-.40 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: 4337.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6415B, 1945. Steel—1.8 Ni, .8 Cr, .25 Mo (.38-.43 C). For bars, billets, forgings, or as ordered. Gives composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AN-QQ-S-756; SAE 4340.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6440B, 1945. Steel—1.4 Chromium (.95-1.10 C). For bars, billets, forgings, or as ordered. Gives composition, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specifications: AAF 10243 and 52100A.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6470B, 1945. Steel, Nitriding—1.6 Cr, .35 Mo, 1.15 Al. For bars, billets, forgings, or as ordered. Gives composition, hardenability, condition, nitriding, decarburization, quality, tolerances, reports, shipments, identification, and rejections. Similar specification: AN-S-19.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6475; 1945. Steel, Nitriding—3.5 Ni, 1.2 Cr, .25 Mo, 1.25 Al. For bars, billets, forgings, or as ordered. Gives composition, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 6480; 1946. Steel, Nitriding—.65 Ni, 1 Cr, 1 Mo. For bars, billets, forgings, or as ordered. Gives requirements for composition, grain size, hardenability, condition, decarburization, quality, tolerances, reports, shipments, identification, and rejections.
- U. S. Gov., Federal Specification QQ-S-763a; 1943. Amend. 1; 1946. Steel, Corrosion-Resisting; Bars and Forgings (Except for Reforging). Covers ten classes and six types and shall be made by the openhearth or the electric furnace process unless otherwise specified. Gives workmanship, general requirements, chemical composition, physical properties, magnetic permeability tests, resistance to intergranular corrosion, macroscopic etch test, and permissible variations; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 46S39c, 1945. Steel: Forgings for Turbine Rotors (Heat-Treated).

622.9 MISCELLANEOUS MANUFACTURES OF ALLOY STEEL

- Society of Automotive Engineers, Inc. Aeronautical Material Specification 7210A, 1945. Cotter Pins—Corrosion-Resistant Steel. Gives composition, condition, quality, shape, tolerances, sizes, reports, and rejections. Similar specifications: Federal FF-P-386; SAE 30915; AISI 302.
- U. S. Gov., Federal Specification RR-C-451a; 1934. Amend. 5; 1946. Cloth; Wire, Screen. Covers eight types including copper, bronze, iron or steel, copper-nickel, corrosion-resisting steel, and aluminum alloy wire. Gives requirements for material and workmanship, number of meshes per inch, diameter of wire, permissible variations, length, width, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking.

630-639 ALUMINUM, ANTIMONY, BISMUTH, CADMIUM, AND COBALT**631. ALUMINUM****631.0 GENERAL ITEMS**

American Society for Testing Materials, B110-45; 1945.

Standard Method of Test for Dielectric Strength of Anodically Coated Aluminum. Covers the procedure for determining the dielectric strength of anodic coatings on aluminum and its alloys. Gives high-voltage transformer, electrode, test specimens, surrounding medium, condition of electrodes, position of electrode on specimen, application of voltage, and number of tests.

American Society for Testing Materials, E34-45; 1945.

Standard Methods of Chemical Analysis of Aluminum and Aluminum-Base Alloys. Gives scope, apparatus and reagents, precautions, and details for silicon by the sodium hydroxide-perchloric acid method, silicon by the mixed-acid method, iron by the sulfide-permanganate method or the titanous chloride method, iron by the colorimetric (thiocyanate) method, titanium by the colorimetric (peroxide) method, copper, lead, and bismuth, copper by the iodide method, zinc by the ammonium mercuric thiocyanate method or the zinc oxide method, manganese by the bismuthate method, manganese by the persulfate method, magnesium and calcium by the pyrophosphate and permanganate methods, magnesium by the mercury cathode method, magnesium by the 8-hydroxyquinoline method, chromium by the persulfate oxidation method, nickel by the dimethylglyoxime method, and tin by the iodate method.

Underwriters' Laboratories, Inc. Bulletin of Research, 34; 1945. Reactions of Aluminum and Magnesium With Certain Chlorinated Hydrocarbons. The object of the investigation was to obtain information relative to the fire and explosion hazards which may result from the contact of aluminum or magnesium with certain chlorinated hydrocarbons. Covers introduction, plan of investigation, tests at ordinary or moderately elevated temperatures, results, tests at higher temperatures, impact tests, and summary and conclusions.

631.1 ALUMINUM ALLOYS, INGOTS, AND BARS**631.11 Alloys, Aluminum**

U. S. Gov., Navy Dept. Specification 46A7e, 1945. Aluminum-Alloy, Heat-Treated; Forgings.

631.12 Ingots, Aluminum

U. S. Gov., Federal Specification QQ-B-731b; 1945. Bronze, Manganese, and Manganese-Aluminum; Ingots (for Remelting). Covers one grade. Gives requirements for material, workmanship, chemical composition, and physical properties; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 46A5e, 1945. Aluminum-Alloy, Ingot.

631.13 Bars, Aluminum

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2201; 1945. Tolerances—Aluminum and Aluminum Alloy Bar, Rod and Shapes.

To publish established manufacturing tolerances. Gives application, diameter of thickness, width, length, straightness, flatness, and squareness of sawcuts.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2205; 1946. Tolerances—Aluminum and Aluminum Alloy Bars, Rods and Shapes, Extruded. Gives requirements for diameter or thickness, width, length, straightness, flatness, angularity, twist, surface roughness, corner and fillet radii, contour, and squareness of sawcuts.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4120B; 1946. Aluminum Alloy Bars (Rolled) Copper Magnesium Manganese (24S-T). Gives requirements for composition, condition, tolerances, reports, identification, and rejections. Similar Specifications: Federal QQ-A-354, Condition T; SAE 24, Temper T; Alloy 24S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4122; 1945. Aluminum Alloy—Rolled, Zinc Magnesium Copper (75S-T). For rods, bars, or shapes. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specification: Alloy 75S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4150A; 1946. Aluminum Alloy Bars (Extruded) Magnesium Silicon Copper (61ST). For rods, bars, and shapes. Covers composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: Federal QQ-A-325, Condition T; Alloy 61S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4152C; 1946. Aluminum Alloy Bars (Extruded) Copper Magnesium Manganese (24S-T). For bars, rods, and shapes. Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specifications: Federal QQ-A-354, Condition T; SAE 24, Temper T; Alloy 24S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4154; 1945. Aluminum Alloy—Extruded, Zinc Magnesium Copper (75S-T). For rods, bars, or shapes. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-A-11, Condition T; Alloy 75S-T.

U. S. Gov., Army Air Forces Specification 11330B; 1945. Aluminum Alloy; Bars and Rods, Free Machining.

U. S. Gov., Federal Specification QQ-A-315; 1943. Amend. 1; 1946. Aluminum Alloy (AL-52) (Aluminum-Magnesium-Chromium); Bars, Rods, Shapes, and Wire. Covers one grade and the following conditions: wire—(A) soft, (1/2H) half-hard, (3/4H) three-quarters-hard, and (H) hard; and bars, rods, and shapes—(A) soft and (F) as fabricated. Gives requirements for material, workmanship, chemical composition, physical properties, permissible variations, and lengths; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Federal Specification QQ-A-351b; 1943. Amend. 1; 1945. Aluminum-Alloy (AL-17) (Aluminum-Copper-Magnesium-Manganese); Bars, Rods, Shapes, and Wire. Covers one grade and two conditions—(A)

annealed and (T) heat-treated. Gives requirements for material, workmanship, chemical composition, physical properties, permissible variations, tolerances, exact lengths, standard lengths, mill lengths, and random lengths; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Navy Dept. Specification 46A10d, 1945. Aluminum-Alloy (Al-61) (Aluminum-Magnesium-Silicon-Copper-Chromium); Bars, Rods, Shapes, and Wire.

631.2 ALUMINUM PLATES, SHEETS, SHAPES, AND STRIPS

631.20 General Items

U. S. Gov., Army-Navy Aeronautical Specification AN-A-42; 1946. Aluminum Alloy (Al-24C2), Artificial Aging of.

631.21 Plates, Aluminum

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2202A; 1946. Tolerances—Aluminum and Aluminum Alloy Sheet and Plate. To publish established manufacturing tolerances. Gives application, thickness, width, length, cambers, flatness, and special tolerances.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4025A; 1946. Aluminum Alloy Sheet and Plate—Magnesium Silicon Copper (61S-O). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-327, Condition A; Air Corps 11326, Condition A; and Alloy 61S-O.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4026A; 1946. Aluminum Alloy Sheet and Plate—Magnesium Silicon Copper (61S-W). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-327, Condition W; Air Corps 11326, Condition W; and Alloy 61S-W.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4027A; 1946. Aluminum Alloy Sheet and Plate—Magnesium Silicon Copper (61S-T). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-327, Condition T; Air Corps 11326, Condition T; and Alloy 61S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4030C; 1946. Aluminum Alloy Sheet and Plate—Copper Manganese Magnesium (17S-O). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-353, Condition A; Navy 47A3, Condition A; ASTM B78-44T, annealed; SAE 26, temper annealed; and Alloy 17S-O.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4032C; 1946. Aluminum Alloy Sheet and Plate—Copper Manganese Magnesium (17S-T). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-353, Condition T; Navy 47A3, Condition T; ASTM

B78-44T, heat treated; SAE 26, Temper T; and Alloy 17S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4035B; 1946. Aluminum Alloy Sheet and Plate—Copper Magnesium Manganese (24S-O). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-A-12, Condition A; Federal QQ-A-355, Condition A; Navy 47A10, Condition A; SAE 24, Temper O; and Alloy 24S-O.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4037B; 1946. Aluminum Alloy Sheet and Plate—Copper Magnesium Manganese (24S-T). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-A-12, Condition T; and Alloy 24S-T.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-9a-1; 1946. Aluminum Alloy 5.5 Zn-2.5 Mg-1.5 Cu (75), Plate and Sheet.

U. S. Gov., Federal Specification QQ-A-561a; 1946. Aluminum (AL-2); Plate and Sheet. Covers one grade, five conditions for sheet—(A) soft, (1/4H) quarter-hard, (1/2H) half-hard, (3/4H) three-quarters-hard, and (H) hard; and one condition for plate—(F) as fabricated. Gives requirements for finishes, sizes, material, workmanship, chemical composition, physical properties and tolerances, marking of plate and sheet for identification, and details; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Navy Dept. Specification 47A12b, 1945. Aluminum-Alloy (Al-61) (Aluminum-Magnesium-Silicon-Chromium); Plates, Sheets, and Strips.

631.22 Shapes, Aluminum

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 180, revised 1945. Angles—Equal Leg, Rolled Form Aluminum Alloy. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 341, 342, and 343; 1946. Angles—Extruded Aluminum, Supplementary Series. NAS 341, Equal Leg. NAS 342, Unequal Leg. NAS 343, Bulb. Gives drawing and table showing dash number, nominal dimensions, area, weight, and section elements. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 344; 1946. Tees—Extruded Aluminum, Supplementary Series. Gives drawing and table showing dash number, nominal dimensions, area, weight, and section elements. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 345; 1946. Channels—Extruded Aluminum, Supplementary Series. Gives drawing and table showing dash number, nominal dimensions, area, weight, and section elements. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 346 and 347; 1946. Zees—Extruded Aluminum, Supplementary Series. NAS 346, Equal Leg. NAS 347, Unequal Leg. Gives drawing

- and table showing dash number, nominal dimensions, area, weight, and section elements. Developed by National Aircraft Standards Committee.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2201; 1945. Tolerances—Aluminum and Aluminum Alloy Bar, Rod, and Shapes. To publish established manufacturing tolerances. Gives application, diameter of thickness, width, length, straightness, flatness, and squareness of sawcuts.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2205; 1946. Tolerances—Aluminum and Aluminum Alloy Bars, Rods, and Shapes, Extruded. Gives requirements for diameter or thickness, width, length, straightness, flatness, angularity, twist, surface roughness, corner and fillet radii, contour, and squareness of sawcuts.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4122; 1945. Aluminum Alloy—Rolled, Zinc Magnesium Copper (75S-T). For rods, bars, or shapes. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specification: Alloy 75S-T.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4150A; 1946. Aluminum Alloy Bars (Extruded) Magnesium Silicon Copper (61ST). For rods, bars, and shapes. Covers composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: Federal QQ-A-325, Condition T; Alloy 61S-T.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4152C; 1946. Aluminum Alloy Bars (Extruded) Copper Magnesium Manganese (24S-T). For bars, rods, and shapes. Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specifications: Federal QQ-A-354, Condition T; SAE 24, Temper T; Alloy 24S-T.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4154; 1945. Aluminum Alloy—Extruded, Zinc Magnesium Copper (75S-T). For rods, bars, or shapes. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-A-11, Condition T; Alloy 75S-T.
- U. S. Gov., Federal Specification QQ-A-315; 1943. Amend. 1; 1946. Aluminum Alloy (AL-52) (Aluminum-Magnesium-Chromium); Bars, Rods, Shapes, and Wire. Covers one grade and the following conditions: wire—(A) soft, (1/2H) half-hard, (3/4H) three-quarters-hard, and (H) hard; and bars, rods, and shapes—(A) soft and (F) as fabricated. Gives requirements for material, workmanship, chemical composition, physical properties, permissible variations, and lengths; methods of sampling, inspection, and tests; and packing and marking for shipment.
- U. S. Gov., Federal Specification QQ-A-351b; 1943. Amend. 1; 1945. Aluminum-Alloy (AL-17) (Aluminum-Copper-Magnesium-Manganese); Bars, Rods, Shapes, and Wire. Covers one grade and two conditions—(A) annealed and (T) heat-treated. Gives requirements for material, workmanship, chemical composition, physical properties, permissible variations, tolerances, exact lengths, standard lengths, mill lengths, and random lengths; methods of sampling, inspection, and tests; and packing and marking for shipment.
- U. S. Gov., Navy Dept. Specification 46A10d, 1945. Aluminum-Alloy (AL-61) (Aluminum-Magnesium-Silicon-Copper-Chromium); Bars, Rods, Shapes, and Wire.

631.23 Sheets, Aluminum

- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2202A; 1946. Tolerances—Aluminum and Aluminum Alloy, Sheet and Plate. To publish established manufacturing tolerances. Gives application, thickness, width, length, cambers, flatness, and special tolerances.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4000A; 1946. Aluminum Sheet—Annealed. Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4001A; 1946. Aluminum Sheet (2S-0). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-561, Types 1 and 2, Class A; Navy 47A2, Types 1 and 2, Class A; ASTM B25-44T, Temper Soft; SAE 25, Temper Soft; and Alloy 2S-0.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4003A; 1946. Aluminum Sheet (2S-1/2 H). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-561, Types 1 and 2, Class 1/2 H; Navy 47A2, Types 1 and 2, Class 1/2 H; ASTM B 25-44T, temper 1/2H; SAE 25 temper 1/2 H; and Alloy 2S-1/2H.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4006A; 1946. Aluminum Alloy Sheet—Manganese (3S-0). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-359, Types 1 and 2, Condition A; Navy 47A4, Types 1 and 2, Condition A; SAE 29 Soft; and Alloy 3S-0.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4008A; 1946. Aluminum Alloy Sheet—Manganese (3S-1/2H). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-359, Types 1 and 2, Condition 1/2 H; Navy 47A4, Types 1 and 2, Condition 1/2 H; SAE 29, 1/2 H; and Alloy 3S-1/2 H.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4015B; 1946. Aluminum Alloy Sheet—Magnesium Chromium (52S-0). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-318, Types 1 and 2, Temper A; Navy 47A11, Types 1 and 2, Temper A; SAE 201, Temper Soft; ASTM B109-44T, Temper Soft; and Alloy 52S-0.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4016B; 1946. Aluminum Alloy Sheet—Magnesium Chromium (52S-1/4 H). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections.

- Similar specifications: Federal QQ-A-318, Types 1 and 2, Temper 1/4 H; Navy 47A11, Types 1 and 2, Temper 1/4 H; SAE 201, Temper 1/4 H; ASTM B109-44T, Temper 1/4 H; and Alloy 52S-1/4 H.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4017B; 1946. Aluminum Alloy Sheet—Magnesium Chromium (52S-1/2 H). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-318, Types 1 and 2, Temper 1/2 H; Navy 47A11, Types 1 and 2, Temper 1/2 H; SAE 201, Temper 1/2 H; ASTM B109-44T, Temper 1/2 H; and Alloy 52S-1/2 H.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4025A; 1946. Aluminum Alloy Sheet and Plate—Magnesium Silicon Copper (61S-O). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-327, Condition A; Air Corps 11326, Condition A; and Alloy 61S-O.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4026A; 1946. Aluminum Alloy Sheet and Plate—Magnesium Silicon Copper (61S-W). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-327, Condition W; Air Corps 11326, Condition W; and Alloy 61S-W.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4027A; 1946. Aluminum Alloy Sheet and Plate—Magnesium Silicon Copper (61S-T). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-327, Condition T; Air Corps 11326, Condition T; and Alloy 61S-T.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4030C; 1946. Aluminum Alloy Sheet and Plate—Copper Manganese Magnesium (17S-O). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-353, Condition A; Navy 47A3, Condition A; ASTM B78-44T, annealed; SAE 26, temper annealed; and Alloy 17S-O.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4032C; 1946. Aluminum Alloy Sheet and Plate—Copper Manganese Magnesium (17S-T). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-A-353, Condition T; Navy 47A3, Condition T; ASTM B78-44T, heat treated; SAE 26, Temper T; and Alloy 17S-T.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4035B; 1946. Aluminum Alloy Sheet and Plate—Copper Magnesium Manganese (24S-O). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-A-12, Condition A; Federal QQ-A-355, Condition A; Navy 47A10, Condition A; SAE 24, Temper O; and Alloy 24S-O.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4037B; 1946. Aluminum Alloy Sheet and Plate—Copper Magnesium Manganese (24S-T). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-A-12, Condition T; and Alloy 24S-T.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4040B; 1946. Aluminum Alloy Sheet, Aluminum Covered—Copper Magnesium Manganese (ALC 24S-O). Gives requirements for composition, cladding thickness, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-A-13, Condition A; Federal QQ-A-362, Condition A; Navy 47A8, Condition A; and Alloy Alclad 24S-O.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4041B; 1946. Aluminum Alloy Sheet, Aluminum Covered—Copper Magnesium Manganese (ALC 24S-T). Gives requirements for composition, cladding thickness, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-A-13, Condition T; and Alloy Alclad 24S-T.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4042B; 1946. Aluminum Alloy Sheet, Aluminum Covered—Copper Magnesium Manganese (ALC 24S-RT). Gives requirements for composition, cladding thickness, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-A-13, Condition TR; and Alloy Alclad 24S-RT.
- U. S. Gov., Army-Navy Aeronautical Specification AN-A-9a-1; 1946. Aluminum Alloy 5.5 Zn-2.5 Mg-1.5 Cu (75), Plate and Sheet.
- U. S. Gov., Army-Navy Aeronautical Specification AN-A-10b; 1945. Aluminum Alloy 5.5 Zn-2.5 Mg-1.5 Cu (75), Clad Plate and Sheet.
- U. S. Gov., Federal Specification QQ-A-561a; 1946. Aluminum (AL-2); Plate and Sheet. Covers one grade, five conditions for sheet—(A) soft, (1/4H) quarter-hard, (1/2H) half-hard, (3/4H) three-quarters-hard, and (H) hard; and one condition for plate—(F) as fabricated. Gives requirements for finishes, sizes, material, workmanship, chemical composition, physical properties and tolerances, marking of plate and sheet for identification, and details; methods of sampling, inspection, and tests; and packing and marking for shipment.
- U. S. Gov., Navy Dept. Specification 47A12b, 1945. Aluminum-Alloy (Al-61) (Aluminum-Magnesium-Silicon-Chromium); Plates, Sheets, and Strips.

631.24 Strips, Aluminum

- U. S. Gov., Army-Navy Aeronautical Specification AN-A-9a-1; 1946. Aluminum Alloy 5.5 Zn-2.5 Mg-1.5 Cu (75), Plate and Sheet.
- U. S. Gov., Army-Navy Aeronautical Specification AN-A-10b; 1945. Aluminum Alloy 5.5 Zn-2.5 Mg-1.5 Cu (75), Clad Plate and Sheet.

631.3 ALUMINUM RODS, WIRES, AND RIVETS

631.31 Rods, Aluminum

- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2201; 1945. Tolerances—Aluminum

and Aluminum Alloy Bar, Rod, and Shapes. To publish established manufacturing tolerances. Gives application, diameter of thickness, width, length, straightness, flatness, and squareness of sawcuts. Society of Automotive Engineers, Inc. Aeronautical Material Specification 2205; 1946. Tolerances—Aluminum and Aluminum Alloy Bars, Rods, and Shapes, Extruded. Gives requirements for diameter or thickness, width, length, straightness, flatness, angularity, twist, surface roughness, corner and fillet radii, contour, and squareness of sawcuts. Society of Automotive Engineers, Inc. Aeronautical Material Specification 4122; 1945. Aluminum Alloy—Rolled, Zinc Magnesium Copper (75S-T). For rods, bars, or shapes. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specification: Alloy 75S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4150A; 1946. Aluminum Alloy Bars (Extruded), Magnesium Silicon Copper (61ST). For rods, bars, and shapes. Covers composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specification: Federal QQ-S-325, Condition T; Alloy 61S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4152C; 1946. Aluminum Alloy Bars (Extruded), Copper Magnesium Manganese (24S-T). For bars, rods, and shapes. Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar Specifications: Federal QQ-A-354, Condition T; SAE 24, Temper T; Alloy 24S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4154; 1945. Aluminum Alloy—Extruded, Zinc Magnesium Copper (75S-T). For rods, bars, or shapes. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-A-11, Condition T; Alloy 75S-T.

U. S. Gov., Army Air Forces Specification 11330B; 1945. Aluminum Alloy; Bars and Rods, Free Machining.

U. S. Gov., Federal Specification QQ-A-315; 1943. Amend. 1; 1946. Aluminum Alloy (AL-52) (Aluminum-Magnesium-Chromium); Bars, Rods, Shapes, and Wire. Covers one grade and the following conditions: wire—(A) soft, (1/2H) half-hard, (3/4H) three-quarters-hard, and (H) hard; and bars, rods, and shapes—(A) soft and (F) as fabricated. Gives requirements for material, workmanship, chemical composition, physical properties, permissible variations, and lengths; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Federal Specification QQ-A-351b; 1943. Amend. 1; 1945. Aluminum-Alloy (AL-17) (Aluminum-Copper-Magnesium-Manganese); Bars, Rods, Shapes, and Wire. Covers one grade and two conditions—(A) annealed and (T) heat-treated. Gives requirements for material, workmanship, chemical composition, physical properties, permissible variations, tolerances, exact lengths, standard lengths, mill lengths, and random lengths; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Navy Dept. Specification 46A10d, 1945. Aluminum-Alloy (AL-61) (Aluminum-Magnesium-Silicon-Copper-Chromium); Bars, Rods, Shapes, and Wire.

U. S. Gov., Navy Dept. Specification 46R7a; 1946. Rods, Welding, Aluminum and Aluminum-Alloy (for Gas Welding).

631.32 Wires, Aluminum

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal Spraying.

U. S. Gov., Army-Navy Aeronautical Specification AN-QQ-W-298-3; 1945. Wire; Aluminum and Aluminum Alloy (for Rivets).

U. S. Gov., Federal Specification QQ-A-315; 1943. Amend. 1; 1946. Aluminum Alloy (AL-52) (Aluminum-Magnesium-Chromium); Bars, Rods, Shapes, and Wire. Covers one grade and the following conditions: wire—(A) soft, (1/2H) half-hard, (3/4H) three-quarters-hard, and (H) hard; and bars, rods, and shapes—(A) soft and (F) as fabricated. Gives requirements for material, workmanship, chemical composition, physical properties, permissible variations, and lengths; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Federal Specification QQ-A-351b; 1943. Amend. 1; 1945. Aluminum-Alloy (AL-17) (Aluminum-Copper-Magnesium-Manganese); Bars, Rods, Shapes, and Wire. Covers one grade and two conditions—(A) annealed and (T) heat-treated. Gives requirements for material, workmanship, chemical composition, physical properties, permissible variations, tolerances, exact lengths, standard lengths, mill lengths, and random lengths; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Federal Specification RR-C-451a; 1934. Amend. 5; 1946. Cloth; Wire, Screen. Covers eight types including copper, bronze, iron or steel, copper-nickel, corrosion-resisting steel, and aluminum alloy wire. Gives requirements for material and workmanship, number of meshes per inch, diameter of wire, permissible variations, length, width, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Navy Dept. Specification 46A10d, 1945. Aluminum-Alloy (AL-61) (Aluminum-Magnesium-Silicon-Copper-Chromium); Bars, Rods, Shapes, and Wire.

631.33 Rivets, Aluminum

U. S. Gov., Army-Navy Aeronautical Specification AN-R-19-4; 1946. Rivets, Aluminum and Aluminum Alloy.

631.34 Screws, Aluminum

Aircraft Industries Assn. of America Inc. National Aircraft Standard NAS 221, 222, 223, 224, 225, 226 and 227; 1944 and NAS 220, revised 1945. Screws—Brazier Head, Phillips Recess, Aluminum Alloy, Bronze and Alloy Steel. Gives drawings with dimensions and notes for 8-32, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, and 9/16-18. Developed by National Aircraft Standards Committee.

631.35 Bolts, Aluminum

U. S. Gov., Army-Navy Aeronautical Specification AN-B-3b-1; 1945. Bolts; Aircraft.

631.4 ALUMINUM CASTINGS AND TUBES**631.41 Castings, Aluminum**

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4210C, 1945. Aluminum Alloy Castings—Sand, 5 Silicon, Aged (355-T51). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: SAE 322, HT2; ASTM B26-44T, Alloy SC21, HT2; Alloy 355-T51.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4212C, 1945. Aluminum Alloy Castings—Sand, 5 Silicon, Solution and Precipitation (355-T6). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: AN-QQ-A-376; SAE 322, HT1; ASTM B26-44T, Alloy SC21, HT1; Alloy 355-T6.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4214B, 1945. Aluminum Alloy Castings—Sand, 5 Silicon, Solution and Overaged (355-T71). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: SAE 322; ASTM B26-44T, Alloy SC21; Alloy 355-T71.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4217A, 1945. Aluminum Alloy Castings—Sand, 7 Silicon, Solution and Precipitation (356-T6). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: AN-QQ-A-394; SAE 323, HT1; ASTM B26-44T, Alloy SG1, HT1; Alloy 356-T6.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4230; 1945. Aluminum Alloy Castings—Sand, 4.5 Copper Solution Heat-Treated (195-T4). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: AN-QQ-A-390, Class I; SAE 38, HT1; ASTM B26-44T, Alloy C1, HT1; Alloy 195-T4.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4231A, 1945. Aluminum Alloy Castings—Sand, 4.5 Copper, Solution and Precipitation (195-T6). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: AN-QQ-A-390; SAE 38, HT2; ASTM B26-44T, Alloy C1, HT2; Alloy 195-T6.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4234A, 1945. Aluminum Alloy Castings—Sand, Secondary 4 Copper, Solution and Precipitation (S195-T6). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: AN-A-5; SAE 325; ASTM B26-44T, Alloy C2; Alloy S195-T6.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4280B, 1945. Aluminum Alloy

Castings—Permanent Mold, 5 Silicon, Solution and Overaged (355-T71). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: SAE 322; Alloy 355-T71.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4281; 1945. Aluminum Alloy Castings—Permanent Mold, 5 Silicon, Solution and Precipitation (355-T6). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: AN-QQ-A-376; SAE 322, HT1; Alloy 355-T6.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4282B, 1945. Aluminum Alloy Castings—Permanent Mold, 4.5 Copper, 2.5 Silicon, Solution and Precipitation (B195-T6). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: AN-QQ-A-383; SAE 380, HT2; ASTM B108-44T, Alloy CS4, HT2; Alloy B195-T6.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4283; 1945. Aluminum Alloy Castings—Permanent Mold, 4.5 Copper, 2.5 Silicon, Solution (B195-T4). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: AN-QQ-A-383, Class 1; SAE 380, HT1; ASTM B108-44T, Alloy CS4, HT1; Alloy B195-T4.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4284A, 1945. Aluminum Alloy Castings—Permanent Mold, 7 Silicon, Solution and Precipitation (356-T6). Gives composition, casting, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specifications: QQ-A-596, Class 8; SAE 323, HT1; ASTM B108-44T, Alloy SG1, HT1; Alloy 356-T6.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4290B, 1945. Aluminum Alloy Castings—Die, 9.5 Si, .5 Mg. Gives composition, quality, reports, identification, approval, and rejections.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-4-1; 1945. Aluminum Alloy; Secondary (S-108) Sand Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-5-1; 1945. Aluminum Alloy; Secondary (S-195) Sand Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-23-1; 1946. Aluminum Alloy; General Specification for Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-25; 1945. Aluminum Alloy 12.0 Si-2.5 Ni-1.0 Cu-1.0 Mg (A132); Permanent Mold Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-26; 1945. Aluminum Alloy 4.0 Mg (214), Sand Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-27; 1945. Aluminum Alloy 5.0 Si (43), Sand Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-28; 1945. Aluminum Alloy 7.0 Cu-2.0 Si (212), Sand Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-31-1; 1945. Aluminum Alloy 4.0 Cu-2.0 Ni-1.5 Mg (142), Sand Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-32; 1945. Aluminum Alloy 4.0 Cu-2.0 Ni-1.5 Mg (142), Permanent Mold Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-33; 1945. Aluminum Alloy 10.0 Mg (220), Sand Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-34-1; 1945. Aluminum Alloy 7.0 Si (356), Permanent Mold Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-35; 1945. Aluminum Alloy 4.5 Cu-1.0 Si (195); Sand Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-36; 1945. Aluminum Alloy 4.5 Cu-2.5 Si (B195), Permanent Mold Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-38; 1946. Aluminum Alloy; Die Castings (Al-13; Al-13X; Al-85; Al-85X; Al-218).

U. S. Gov., Army-Navy Aeronautical Specification AN-A-39; 1946. Aluminum Alloy 7.0 Si (356), Sand Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-40; 1946. Aluminum Alloy 5.0 Si-1.0 Cu-0.5 Mg (355), Sand Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-41; 1946. Aluminum Alloy 5.0Si-1.0Cu-0.5Mg (355), Permanent Mold Castings.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 29-107; 1946. Adaptor, Ski.

631.42 Tubes, Aluminum

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2203A; 1945. Tolerances—Aluminum and Aluminum Alloy Tubing. To publish established manufacturing tolerances. Gives requirements for application, outside diameter, wall thickness, length, straightness, flatness, and squareness of sawcuts.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4062A; 1945. Aluminum Tubing (Seamless) (2S-1/2H). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal WW-T-783, Temper 1/2H; Navy 44T19, Temper 1/2H; SAE 25, Temper 1/2 Hard; Alloy 2S-1/2 Hard.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4070C; 1945. Aluminum Alloy Tubing (Seamless) Magnesium Chromium (52S-0). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal WW-T-787; SAE 201, Temper Soft; Alloy 52S-0.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4071; 1945. Aluminum Alloy Tubing—Hydraulic, Magnesium Chromium (52S). Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specification: Federal WW-T-787; 1941.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4076B; 1945. Aluminum Alloy Tubing (Seamless), Magnesium Silicon Chromium (53S-W). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal WW-T-790, Condition W; Army 11327, Condition W; Navy 44T30, Condition W; Alloy 53S-W.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4080C; 1945. Aluminum Alloy Tubing (Seamless), Magnesium Silicon Copper (61S-0). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal WW-T-789, Condition A; Alloy 61S-0.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4082C; 1945. Aluminum Alloy Tubing (Seamless), Magnesium Silicon Copper (61S-T). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal WW-T-789, Condition T; Alloy 61S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4086; 1945. Aluminum Alloy Tubing (Seamless), Hydraulic, Copper Magnesium Manganese (24S-T). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Army-Navy Aeronautical AN-T-80, Type I, Condition T; Federal WW-T-785, Condition T; Army 10235, Condition B; Navy 44T28, Condition T; SAE 24, Temper T; Alloy 24S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4087; 1945. Aluminum Alloy Tubing (Seamless), Copper Magnesium Manganese (24S-0). Gives requirements for composition, condition, physical properties, quality, tolerances, reports, identification, and rejections. Similar specifications: Army-Navy Aeronautical AN-T-80, Type I, Condition A; Federal WW-T-785, Condition A; Army 10235, Condition A; Navy 44T28, Condition A; SAE 24, Temper 0; Alloy 24S-0.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4088B; 1945. Aluminum Alloy Tubing (Seamless), Copper Magnesium Manganese (24S-T). Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejection. Similar specifications: Army-Navy Aeronautical AN-T-80, Type I, Condition T; Federal WW-T-785, Condition T; Army 10235, Condition B; Navy 44T28, Condition T; SAE 24, Temper T; Alloy 24S-T.

U. S. Gov., Army-Navy Aeronautical Specification AN-T-80; 1945. Tubing; Aluminum Alloy 4.5Cu-1.5Mg-0.5Mn (24).

U. S. Gov., Navy Dept. Specification 44T28b, 1945. Tubing, Aluminum-Alloy (Al-24) (Aluminum-Copper-Magnesium, 1.5 Percent—Manganese); Round, Seamless.

U. S. Gov., Navy Dept. Specification 44T30b, 1945. Tubing, Aluminum-Alloy (Aluminum-Magnesium-Silicon-Chromium), Round, Seamless.

631.43 Forgings, Aluminum

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4125C, 1945. Aluminum Alloy

Forgings—Silicon Magnesium Chromium (A51S-T). Gives composition, condition, stock for forging, quality, reports, identification, and rejections. Similar specifications: Federal QQ-A-367b, Class 3; SAE 280; Alloy A51S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4130C, 1945. Aluminum Alloy Forgings—Copper Silicon Manganese (25S-T). Gives composition, condition, stock for forging, quality, reports, identification, and rejections. Similar specifications: Federal QQ-A-367b, Class 2; SAE 27; Alloy 25S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4134; 1945. Aluminum Alloy Forgings—Copper Silicon Manganese Magnesium (14S-W). Gives composition, condition, stock for forging, quality, reports, identification, and rejections. Similar specification: Alloy 14S-W.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4135C, 1945. Aluminum Alloy Forgings—Copper Silicon Manganese Magnesium (14S-T). Gives composition, condition, stock for forging, quality, reports, identification, and rejections. Similar specifications: Federal QQ-A-367b, Class 5; SAE 260; Alloy 14S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4137; 1945. Aluminum Alloy Forgings—Zinc Magnesium Copper Manganese (76S-T). Gives composition, condition, stock for forging, quality, reports, identification, and rejections. Similar specifications: AAF 11352-A; Alloy 76S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4139; 1945. Aluminum Alloy Forgings—Zinc Magnesium Copper (75S-T). Gives composition, condition, stock for forging, quality, reports, identification, and rejections. Similar specification: Alloy 75S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4140C, 1945. Aluminum Alloy Forgings—Copper Nickel Magnesium (18S-T). Gives composition, condition, stock for forging, quality, reports, identification, and rejections. Similar specifications: Federal QQ-A-357b, Class 7; SAE 270; and Alloy 18S-T.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4145D, 1945. Aluminum Alloy Forgings—Silicon Magnesium Copper Nickel (32S-T). Gives composition, condition, stock for forging, quality, reports, identification, and rejections. Similar specifications: Federal QQ-A-367b, Class 6; SAE 290; Alloy 32S-T.

U. S. Gov., Navy Dept. Specification 46A7e, 1945. Aluminum-Alloy, Heat-Treated; Forgings.

631.5 ALUMINUM HOLLOW WARE

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS134-46; 1946. Cast Aluminum Cooking Utensils (Metal Composition). This standard is to establish standard specifications and methods of test for the chemical composition of cast aluminum cooking utensils covered herein to minimize staining and corrosion under conditions of normal use. Gives scope, general requirements, detail requirements, methods of test, marking, and labeling.

U. S. Gov., Navy Dept. Specification 65K1c, 1945. Kettles, Steam-Jacketed.

631.6 EXTRUDED ALUMINUM

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 341, 342, and 343; 1946. Angles—Extruded Aluminum, Supplementary Series. NAS 341, Equal Leg. NAS 342, Unequal Leg. NAS 343, Bulb. Gives drawing and table showing dash number, nominal dimensions, area, weight, and section elements. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 344; 1946. Tees—Extruded Aluminum, Supplementary Series. Gives drawing and table showing dash number, nominal dimensions, area, weight, and section elements. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 345; 1946. Channels—Extruded Aluminum, Supplementary Series. Gives drawing and table showing dash number, nominal dimensions, area, weight, and section elements. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 346 and 347; 1946. Zees—Extruded Aluminum, Supplementary Series. NAS 346, Equal Leg. NAS 347, Unequal Leg. Gives drawing and table showing dash number, nominal dimensions, area, weight, and section elements. Developed by National Aircraft Standards Committee.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-37; 1946. Aluminum Alloy 6.5 Zn-2.5 Mg-1.5 Cu (303); Extruded Shapes.

631.9 MISCELLANEOUS ALUMINUM ARTICLES

U. S. Gov., Army-Navy Aeronautical Specification AN-A-20-1; 1945. Aluminum; Foil.

U. S. Gov., Army-Navy Aeronautical Specification AN-N-2a-1; 1946. Nuts; Aircraft.

U. S. Gov., Army-Navy Aeronautical Specification AN-N-5a-2; 1946. Nuts; Self-Locking.

U. S. Gov., Navy Dept. Specification 45F13a, 1945. Fittings, Pipe, Aluminum-Alloy (Threaded), 125 pound.

U. S. Gov., U. S. Army, Signal Corps Specification 74-95; 1945. Aluminum Charge ML-389/UM.

632. ANTIMONY

632.2 ANTIMONY INGOT METAL

U. S. Gov., Navy Dept. Specification 46A13, 1945. Antimony; Slabs.

632.5 ANTIMONY, POWDERED

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 4-503-40A; 1944. Antimony, Powdered.

634. CADMIUM

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal Spraying.

U. S. Gov., Navy Dept. Specification 46C7a, 1945. Cadmium; Ingots.

640-649

COPPER, BRASS, AND BRONZE

641. COPPER

641.0 GENERAL ITEMS

American Society for Testing Materials, B154-45; 1945.

Standard Method of Mercurous Nitrate Test for Copper and Copper Alloys. Describes the technique for conducting the mercurous nitrate testing of copper-base alloys. Gives apparatus, mercurous nitrate solution, test specimen, procedure, and report.

American Society for Testing Materials, E53-46T; 1946.

Tentative Method of Chemical Analysis of Copper (Electrolytic Determination of Copper). Gives scope, apparatus and reagents, precautions, and details for copper by the electrolytic method for different grades of copper.

American Society for Testing Materials, E62-46T; 1946.

Tentative Photometric Methods for Chemical Analysis of Copper and Copper-Base Alloys. Gives scope, photometric practice, apparatus, reagents, precautions, and details for determining nickel by the dimethylglyoxime method, phosphorus by the molybdivanadophosphoric acid method (deoxidized copper and phosphorized brasses), phosphorus by the molybdivanadophosphoric acid method (copper-base alloys containing 0.01 to 1.2 percent of phosphorus, with or without tin), iron by the thiocyanate method, iron by the ferric chloride method, and manganese by the periodate method.

641.1 COPPER INGOTS AND BARS

641.11 Ingots and Cast Bars, Copper

American Society for Testing Materials, B133-45T;

1945. Tentative Specifications for Copper Rods, Bars, and Shapes. For general purposes, Type A for hardness and Type B for tensile requirements. Gives description of terms, basis of purchase, material, manufacture, sampling, methods of chemical analysis, Rockwell hardness of Type A rods and bars, tensile properties of Type B rods and bars, bending properties of Types A and B rods and bars, electrical resistivity, microscopic examination, embrittlement, test specimens, number of tests, methods of testing, density, dimensional tolerances, length tolerances, straightness tolerances, edge and corner radii, finish, packing, marking, and inspection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2221; 1945. Tolerances—Copper and Copper Alloy Rods and Bars. To publish established manufacturing tolerances. Gives application, diameter or thickness, width, length, straightness, flatness, special tolerances, and classification.

U. S. Gov., Federal Specification QQ-C-521b; 1945. Copper; Ingots. Covers three grades—A, B, and C. Gives requirements for material, workmanship, purity, electrical resistivity, complete analysis, and chemical composition; methods of sampling, inspection, and tests; and packing and marking for shipment.

641.12 Rolled Bars, Copper

American Society for Testing Materials, B133-45T;

1945. Tentative Specifications for Copper Rods,

Bars, and Shapes. For general purposes, Type A for hardness and Type B for tensile requirements. Gives description of terms, basis of purchase, material, manufacture, sampling, methods of chemical analysis, Rockwell hardness of Type A rods and bars, tensile properties of Type B rods and bars, bending properties of Types A and B rods and bars, electrical resistivity, microscopic examination, embrittlement, test specimens, number of tests, methods of testing, density, dimensional tolerances, length tolerances, straightness tolerances, edge and corner radii, finish, packing, marking, and inspection.

American Society for Testing Materials, B187-45T;

1945. Tentative Specifications for Copper Bus Bars, Rods, and Shapes. Gives scope, description of terms, basis of purchase, manufacture, physical and electrical requirements, microscopic examination, embrittlement, test specimens, number of test specimens, methods of test, diameter, thickness, width, length, and straightness tolerances, edge and corner radii, finish, packaging, inspection, rejection, and explanatory note.

American Society for Testing Materials, B196-45T;

1945. Tentative Specifications for Beryllium-Copper Alloy Rod and Bar. Cover beryllium-copper alloy rods and bars in straight lengths, with a nominal beryllium content of 2.05 percent. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, condition or temper, mechanical properties, precipitation hardening, number of tests, methods of testing, tolerances, straightness, finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical

Material Specification 2221; 1945. Tolerances—Copper and Copper Alloy Rods and Bars. To publish established manufacturing tolerances. Gives application, diameter or thickness, width, length, straightness, flatness, special tolerances, and classification.

641.2 COPPER PLATES, SHEETS, SHAPES, AND STRIPS

641.21 Plates and Sheets, Copper

American Society for Testing Materials, B152-45T;

1945. Tentative Specifications for Copper Sheet, Strip, and Plate. Cover seven types—(A) electrolytic tough pitch copper; (B) phosphorized copper, high residual phosphorus; (C) oxygen-free copper without residual metallic deoxidants; (D1) silver-bearing copper, tough pitch; (D2) silver-bearing copper, phosphorized; (D3) silver-bearing copper, oxygen-free; and (E) arsenical tough pitch copper. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, tempers of cold-rolled sheet, strip, and plate, tempers of cold-rolled annealed sheet and strip, tempers of hot-rolled sheet and plate, tensile properties of cold- and hot-rolled tempers, grain size of cold-rolled annealed tempers, Rockwell hardness, microscopic examination, embrittlement, electrical resistivity, number of tests, methods of testing, tolerances, finish, inspection, and rejection.

Copper and Brass Research Assn. Flat Products Standards FP-1 to FP-8, inclusive, 1945. Covers rolled flat products, cold rolled, thickness tolerances; rolled flat products, length, width and straightness tolerances; rolled flat products, copper sheet and strip rolled to weight; rolled flat products, circles and half circles, diameter tolerances; rolled flat products, hot rolled plates and sheets, weight tolerances; silicon bronze (copper-silicon alloy) ASME code tank plates and sheets, weight and thickness tolerances; drawn bar, strip and flat wire, thickness and width tolerances; rolled flat products, condenser tube plates, tolerances, thickness, diameter, length or width, and flatness; and standard edge contours for flat products (with rolled or drawn edges).

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2222; 1945. Tolerances—Copper and Copper Alloy Plate, Sheet and Strip. To publish established manufacturing tolerances. Gives application, thickness, width, length, camber, flatness, special tolerances, and classification.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4500A, 1945. Copper Sheet and Strip. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-C-501a, Soft; SAE 71, Soft Annealed; ASTM B152-44T, Soft Annealed.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4530; 1946. Beryllium-Copper Alloy Sheet and Strip, Solution Treated. Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AAF 11070-A, Type II, Condition A; ASTM B-120-41T, Condition A.

641.22 Shapes, Copper

American Society for Testing Materials, B133-45T; 1945. Tentative Specifications for Copper Rods, Bars, and Shapes. For general purposes, Type A for hardness and Type B for tensile requirements. Gives description of terms, basis of purchase, material, manufacture, sampling, methods of chemical analysis, Rockwell hardness of Type A rods and bars, tensile properties of Type B rods and bars, bending properties of Types A and B rods and bars, electrical resistivity, microscopic examination, embrittlement, test specimens, number of tests, methods of testing, density, dimensional tolerances, length tolerances, straightness tolerances, edge and corner radii, finish, packing, marking, and inspection.

American Society for Testing Materials, B187-45T; 1945. Tentative Specifications for Copper Bus Bars, Rods, and Shapes. Gives scope, description of terms, basis of purchase, manufacture, physical and electrical requirements, microscopic examination, embrittlement, test specimens, number of test specimens, methods of test, diameter, thickness, width, length, and straightness tolerances, edge and corner radii, finish, packaging, inspection, rejection, and explanatory note.

641.23 Strips, Copper

American Society for Testing Materials, B152-45T; 1945. Tentative Specifications for Copper Sheet,

Strip, and Plate. Cover seven types—(A) electrolytic tough pitch copper; (B) phosphorized copper, high residual phosphorus; (C) oxygen-free copper without residual metallic deoxidants; (D1) silver-bearing copper, tough pitch; (D2) silver-bearing copper, phosphorized; (D3) silver-bearing copper, oxygen-free; and (E) arsenical tough pitch copper. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, tempers of cold-rolled sheet, strip, and plate, tempers of cold-rolled annealed sheet and strip, tempers of hot-rolled sheet and plate, tensile properties of cold- and hot-rolled tempers, grain size of cold-rolled annealed tempers, Rockwell hardness, microscopic examination, embrittlement, electrical resistivity, number of tests, methods of testing, tolerances, finish, inspection, and rejection.

American Society for Testing Materials, B194-45T; 1945. Tentative Specifications for Beryllium-Copper Alloy Strip. Cover beryllium-copper alloy strip of any uniform cross-section, with a nominal beryllium content of 2.05 percent. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, condition of temper, mechanical properties, precipitation hardening, number of tests, retests, methods of testing, thickness tolerances, width tolerances, straightness tolerances, length tolerances, finish, inspection, and rejection.

American Society for Testing Materials, B195-45T; 1945. Tentative Specifications for Beryllium-Copper Alloy Strip, Special Grade. Cover beryllium-copper alloy strip made to close thickness tolerances and processed to produce high physical properties upon precipitation hardening treatment. Used for such applications as springs and diaphragms. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, condition of temper, mechanical properties, precipitation hardening, number of tests, retests, methods of testing, thickness tolerances, width tolerances, straightness tolerances, length tolerances, finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2222; 1945. Tolerances—Copper and Copper Alloy Plate, Sheet and Strip. To publish established manufacturing tolerances. Gives application, thickness, width, length, camber, flatness, special tolerances, and classification.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4500A, 1945. Copper Sheet and Strip. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: Federal QQ-C-501a, Soft; SAE 71, Soft Annealed; ASTM B152-44T, Soft Annealed.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4530; 1946. Beryllium-Copper Alloy Sheet and Strip, Solution Treated. Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AAF 11070-A, Type II, Condition A; ASTM B-120-41T, Condition A.

642. MANUFACTURES OF COPPER

642.1 COPPER RODS, WIRES, AND SLEEVES

642.11 Rods, Copper

American Society for Testing Materials, B12-45; 1945. A.S.M.E. Boiler Construction Code Specification SB-12. Copper Rods for Locomotive Staybolts. Covers arsenical and nonarsenical copper rods. Gives basis of purchase, manufacture, chemical composition, check analysis, tensile properties, bending properties, test specimens, number of tests, methods of testing, permissible variations in dimensions, workmanship and finish, marking, inspection, rejection, and reheating.

American Society for Testing Materials, B124-45; 1945. American Standards Assn., H7.1-1945. Standard Specifications for Copper-Base Alloy Forging Rods, Bars, and Shapes. Covers copper-base alloy rods, bars, and shapes capable of being readily forged hot, in twelve compositions. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, dimensional tolerances, length tolerances, workmanship and finish, inspection, and rejection.

American Society for Testing Materials, B133-45T; 1945. Tentative Specifications for Copper Rods, Bars, and Shapes. For general purposes, Type A for hardness and Type B for tensile requirements. Gives description of terms, basis of purchase, material, manufacture, sampling, methods of chemical analysis, Rockwell hardness of Type A rods and bars, tensile properties of Type B rods and bars, bending properties of Types A and B rods and bars, electrical resistivity, microscopic examination, embrittlement, test specimens, number of tests, methods of testing, density, dimensional tolerances, length tolerances, straightness tolerances, edge and corner radii, finish, packing, marking, and inspection.

American Society for Testing Materials, B187-45T; 1945. Tentative Specifications for Copper Bus Bars, Rods, and Shapes. Gives scope, description of terms, basis of purchase, manufacture, physical and electrical requirements, microscopic examination, embrittlement, test specimens, number of test specimens, methods of test, diameter, thickness, width, length, and straightness tolerances, edge and corner radii, finish, packaging, inspection, rejection, and explanatory note.

American Society for Testing Materials, B196-45T; 1945. Tentative Specifications for Beryllium-Copper Alloy Rod and Bar. Cover beryllium-copper alloy rods and bars in straight lengths, with a nominal beryllium content of 2.05 percent. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, condition or temper, mechanical properties, precipitation hardening, number of tests, methods of testing, tolerances, straightness, finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2221; 1945. Tolerances—Copper and Copper Alloy Rods and Bars. To publish established manufacturing tolerances. Gives application, diameter or thickness, width, length, straightness, flatness, special tolerances, and classification.

642.12 Wires, Copper

American Society for Testing Materials, B99-45; 1945. Copper-Silicon Alloy Wire for General Purposes. Covers round, hexagonal, and octagonal copper-silicon alloy wire for general structural purposes except for electrical transmission cable. Gives basis of purchase, manufacture, chemical composition, chemical analysis, physical properties, bending properties, grain size determination, number of tests, methods of testing, dimensional tolerances, workmanship and finish, packing, inspection, rejection, and table of commercially available copper-silicon alloy wire.

American Society for Testing Materials, B197-45T; 1945. Tentative Specifications for Beryllium-Copper Alloy Wire. Cover beryllium-copper alloy wire in coils, spools, or other than straight lengths, of any uniform cross-section, with a nominal beryllium content of 2.05 percent. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, condition or temper, mechanical properties, precipitation hardening, number of tests, retests, method of testing, tolerances, finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2224; 1945. Tolerances—Copper and Copper Alloy Wire. To publish established manufacturing tolerances. Gives application, diameter, and classification.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal-Spraying.

U. S. Gov., Federal Specification QQ-W-341a; 1945. Amend. 1; 1946. Wire; Copper, Soft or Annealed. Covers one grade of soft or annealed copper wire. Gives requirements for material, workmanship, sizes, tensile strength, elongation, mass resistivity, coils and reels or spools; methods of sampling, inspections, and tests; and packaging, packing, and marking for shipment.

642.13 Sleeves, Copper

U. S. Gov., U. S. Army, Signal Corps Specification 71-3020; 1945. Single-Tube Wire Splicing Sleeves.

642.2 COPPER CASTINGS, FERRULES, PIPES, AND TUBES**642.22 Ferrules, Copper**

American Society for Testing Materials, B111-45; 1945.

A.S.M.E. Boiler Construction Code Specification SB-111. Copper and Copper-Alloy Seamless Condenser Tubes and Ferrule Stock. For use in surface condensers, evaporators, and heat exchangers. Gives basis of purchase, material, manufacture, chemical composition, sample for chemical analysis, microscopic examination, expanding test, flattening test, mercurous nitrate test, hydrostatic test, number of tests, retests, dimension and weight tolerances, workmanship, finish, and inspection.

642.23 Pipes, Copper

American Society for Testing Materials, B42-45; 1945.

A.S.M.E. Boiler Construction Code Specification

SB-42. Copper Pipe, Standard Sizes. Covers seamless copper pipe in all standard pipe sizes, both regular and extra-strong, suitable for use in plumbing, boiler feed lines, and for similar purposes. Gives basis of purchase, manufacture, condition of temper, chemical composition, sampling for chemical analysis, expansion test, bending properties, microscopic examination, hydrostatic test, number of tests, dimension and weights, weight and wall thickness tolerances, length tolerances, workmanship, inspection, and rejection.

American Society for Testing Materials, B188-45T; 1945. Tentative Specifications for Copper Bus Pipes and Tubes. Cover copper pipes and tubes for electrical conductors. Gives description of terms, basis of purchase, manufacture, physical and electrical requirements, microscopic examination, embrittlement, test specimens, number of test specimens, methods of test, pipe dimensions and tolerances, tube dimensions and tolerances, finish, packaging, inspection, rejection, and explanatory note.

642.24 Tubes, Copper

American Society for Testing Materials, B68-45; 1945. Seamless Copper Tubing, Bright Annealed. For use in refrigerators, oil lines, gasoline lines, etc. where tubing absolutely free from scale and dirt is required. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, grain size, tensile properties, expansion test, microscopic examination, embrittlement, number of tests, methods of testing, thickness and diameter tolerances, length tolerances, workmanship and finish, packing, marking, and rejection.

American Society for Testing Materials, B75-45T; 1945. A.S.M.E. Boiler Construction Code Specification, SB-75. Tentative Specifications for Seamless Copper Tubes. Cover seamless copper tubes suitable for general engineering purposes in five types. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, methods of chemical analysis, physical properties, expansion and hydrostatic tests, electrical resistivity, microscopic examination, embrittlement, number of tests, methods of testing, standard weight, tolerances, workmanship and finish, inspection, and rejection.

American Society for Testing Materials, B88-45; 1945. American Standards Assn. H23.1-1945. Copper Water Tube. Covers seamless tubes especially designed for plumbing purposes, underground water service, etc., but also suitable for coil water heaters, fuel oil lines, gas lines, etc. Gives basis of purchase, types, material, treatment, chemical composition, sampling for chemical analysis, physical properties, expansion test, hydrostatic test, number of tests, methods of testing, dimensions and weights, lengths, dimensional and weight tolerances, length tolerances, workmanship and finish, marking, inspection, and retests.

American Society for Testing Materials, B111-45; 1945. A.S.M.E. Boiler Construction Code Specification SB-111. Copper and Copper-Alloy Seamless Condenser Tubes and Ferrule Stock. For use in surface condensers, evaporators, and heat exchangers. Gives

basis of purchase, material, manufacture, chemical composition, sample for chemical analysis, microscopic examination, expanding test, flattening test, mercurous nitrate test, hydrostatic test, number of tests, retests, dimension and weight tolerances, workmanship, finish, and inspection.

American Society for Testing Materials, B153-45; 1945. Standard Method of Test for Expansion (Pin Test) of Copper and Copper-Alloy Tubing. Covers the expansion pin test for copper and copper-alloy tubing in sizes up to and including 4 inches in outside diameter. Gives apparatus, test specimen, procedure, and retests.

American Society for Testing Materials, B188-45T; 1945. Tentative Specifications for Copper Bus Pipes and Tubes. Cover copper pipes and tubes for electrical conductors. Gives description of terms, basis of purchase, manufacture, physical and electrical requirements, microscopic examination, embrittlement, test specimens, number of test specimens, methods of test, pipe dimensions and tolerances, tube dimensions and tolerances, finish, packaging, inspection, rejection, and explanatory note.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2223; 1945. Tolerances—Copper and Copper Alloy Seamless Tubing. To publish established manufacturing tolerances. Gives application, diameter, wall thickness, length, straightness, flatness, special tolerances, and classification.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R217-46; 1946. Copper Water Tube and Copper Brass Pipe. This recommendation establishes a simplified list of types and sizes of copper water tube and copper and brass pipe for regular stock purposes. Gives tables showing standard dimensions and weights of copper water tube for compression or soldered fittings and standard dimensions and weights of copper and brass pipe. Sponsored by the Copper and Brass Research Assn.

U. S. Gov., Federal Specification WW-T-799a; 1943. Amend. 1; 1946. Tubing, Copper, Seamless (for Use With Solder-Joint or Flared-Tube Fittings). Covers one grade and four types—(K) for soldered or flared type fittings, (L) for soldered fittings only, (M) for soldered fittings only, and (N) for such use as fuel and lubrication tubes for soldered or flared type fittings. Gives requirements for material and workmanship, marking, condition and length of tubing, tolerances on lengths, wall thickness and outside diameter, weight, and tables giving dimensions and minimum test pressure for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

642.25 Pipe and Tube Fittings, Copper

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS5-46; 1946. Pipe Nipples; Brass, Copper, Steel, and Wrought-Iron. This standard covers steel, ferrous-alloy, and wrought-iron nipples, black- and zinc-coated (hot dip galvanized), in iron-pipe sizes from 1/8 to 12 in., of standard lengths; and brass and copper

nipples in standard sizes 1/8 to 6 in. Covers material, general requirements, detail requirements, packaging, labeling, and gives tables showing sizes and lengths for standard weight and extra strong pipe nipples. Initiated by National Assn. of Pipe Nipples Manufacturers, Inc.

642.4 COPPER WIRE CLOTH

U. S. Gov., Federal Specification RR-C-451a; 1934. Amend. 5; 1946. Cloth; Wire, Screen. Covers eight types including copper, bronze, iron or steel, copper-nickel, corrosion-resisting steel, and aluminum alloy wire. Gives requirements for material and workmanship, number of meshes per inch, diameter of wire, permissible variations, length, width, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking.

642.9 MISCELLANEOUS MANUFACTURES OF COPPER

U. S. Gov., Federal Specification QQ-C-493; 1946. Copper; Anodes. Covers one grade. Gives requirements for material, workmanship, chemical requirements, manufacture, and identification; methods of sampling and inspection; and packing and marking for shipment.

U. S. Gov., Navy Dept. Specification 43R6a, 1945. Rivets, Belt, Copper; and Burrs, Copper.

U. S. Gov., Navy Dept. Specification 45T4; 1946. Toilet-Sets, Stateroom, Metal (Washbowls, Ewers, and Waste Jars).

643. COPPER ALLOYS

643.0 GENERAL ITEMS

American Society for Testing Materials, B119-45; 1945. Endorsed by American Foundrymen's Assn. Standard Classification of Cast Copper-Base Alloys. This classification of the different types of cast copper-base alloys is intended to simplify the terminology applied to these alloys. Gives basis of classification and lists class, additional elements, and remarks for copper and the various classes of brasses and bronzes with explanatory note.

American Society for Testing Materials, B153-45; 1945. Standard Method of Test for Expansion (Pin Test) of Copper and Copper-Alloy Tubing. Covers the expansion pin test for copper and copper-alloy tubing in sizes up to and including 4 inches in outside diameter. Gives apparatus, test specimen, procedure, and retests.

American Society for Testing Materials, B154-45; 1945. Standard Method of Mercurous Nitrate Test for Copper and Copper Alloys. Describes the technique for conducting the mercurous nitrate testing of copper-base alloys. Gives apparatus, mercurous nitrate solution, test specimen, procedure, and report.

American Society for Testing Materials, E62-46T; 1946. Tentative Photometric Methods for Chemical Analysis of Copper and Copper-Base Alloys. Gives scope, photometric practice, apparatus, reagents, precautions, and details for determining nickel by the dimethylglyoxime method, phosphorus by the molybdivanadophosphoric acid method (deoxidized copper

and phosphorized brasses), phosphorus by the molybdivanadophosphoric acid method (copper-base alloys containing 0.01 to 1.2 percent of phosphorus, with or without tin), iron by the thiocyanate method, iron by the ferric chloride method, and manganese by the periodate method.

American Society for Testing Materials, E63-46T; 1946. Tentative Photometric Method for Determination of Iron in 70-30 Copper-Nickel Alloy. Gives scope, photometric practice, apparatus, reagents, precautions, and details for determining iron by the salicylate method.

643.3 SILICON COPPER

American Society for Testing Materials, B98-45; 1945. A.S.M.E. Boiler Construction Code Specification SB-98. Copper-Silicon Alloy Rods, Bars, and Shapes. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, bending properties, test specimens, number of tests, methods of testing, dimensional tolerances, length, straightness tolerances, workmanship and finish, inspection, rejection, and table of commercially available copper-silicon alloy rods, bars, and shapes.

American Society for Testing Materials, B99-45; 1945. Copper-Silicon Alloy Wire for General Purposes. Covers round, hexagonal, and octagonal copper-silicon alloy wire for general structural purposes except for electrical transmission cable. Gives basis of purchase, manufacture, chemical composition, chemical analysis, physical properties, bending properties, grain size determination, number of tests, methods of testing, dimensional tolerances, workmanship and finish, packing, inspection, rejection, and table of commercially available copper-silicon alloy wire.

U. S. Gov., Navy Dept. Specification 46B28a, 1945. Copper-Silicon-Alloy: Castings.

643.4 COPPER-TIN-ZINC ALLOY

American Society for Testing Materials, B30-45T; 1945. Endorsed by American Foundrymen's Assn. Tentative Specifications for Copper-Base Alloys in Ingot Form for Sand Castings. Cover twenty-seven copper-base alloys, having A.S.T.M. classifications, numerical and commercial designations, and nominal compositions. Gives basis of purchase, manufacture, chemical composition, samples for analysis, chemical analysis, tensile properties, marking, inspection, certification, rejection and retesting, claims, and settlement of claims.

American Society for Testing Materials, B124-45; 1945. American Standards Assn., H7.1-1945. Standard Specifications for Copper-Base Alloy Forging Rods, Bars, and Shapes. Covers copper-base alloy rods, bars, and shapes capable of being readily forged hot, in twelve compositions. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, dimensional tolerances, length tolerances, workmanship and finish, inspection, and rejection.

643.5 COPPER-NICKEL ALLOY

U. S. Gov., Navy Dept. Specification 44T40b; 1945. Tubing, Copper-Nickel-Alloy (70:30), Seamless.

U. S. Gov., Navy Dept. Specification 46C6c; 1946. Copper-Nickel-Alloy (70:30): Bars, Plates, Rods, Sheets, and Strips.

643.6 COPPER-NICKEL-ZINC ALLOY

American Society for Testing Materials, B151-45T; 1945. Tentative Specifications for Copper-Nickel-Zinc Alloy Rod, Bar, and Wire. Cover round, rectangular, square, hexagonal, or octagonal sections in three alloys—(A) for general use, (B) for use generally in hard or spring temper, and (C) for use where ease of machining is important. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, tempers of cold-drawn rod, bar, and wire, tempers of annealed rod, bar, and wire, tensile properties of drawn tempers, test specimens, grain size of annealed tempers, number of tests, methods of testing, tolerances, finish, inspection, and rejection.

643.7 COPPER-BEARING METALS

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 11—Bronze or Copper-Alloy Bearing and Expansion Plates. Gives general information and requirements for materials, bronze plates, copper-alloy plates, placing, and measurement and payment.

643.9 MISCELLANEOUS COPPER ALLOYS

American Society for Testing Materials, B171-45; 1945. A.S.M.E. Boiler Construction Code Specification SB-171. Standard Specifications for Copper-Alloy Condenser Tube Plates. Covers rolled plates of five types of copper alloys, for use as tube plates in surface condensers and heat exchangers. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, bending properties, methods of testing, thickness tolerances, diameter, length, or width tolerances, flatness tolerances, workmanship and finish, marking, inspection, and rejection.

American Society for Testing Materials, B194-45T; 1945. Tentative Specifications for Beryllium-Copper Alloy Strip. Cover beryllium-copper alloy strip of any uniform cross-section, with a nominal beryllium content of 2.05 percent. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, condition of temper, mechanical properties, precipitation hardening, number of tests, retests, methods of testing, thickness tolerances, width tolerances, straightness tolerances, length tolerances, finish, inspection, and rejection.

American Society for Testing Materials, B195-45T; 1945. Tentative Specifications for Beryllium-Copper Alloy Strip, Special Grade. Cover beryllium-copper alloy strip made to close thickness tolerances and processed to produce high physical properties upon precipitation hardening treatment. Used for such applications as springs and diaphragms. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, condition of temper, mechanical properties, precipitation hardening, number of tests, retests, methods of testing, thickness tolerances, width

tolerances, straightness tolerances, length tolerances, finish, inspection, and rejection.

American Society for Testing Materials, B196-45T; 1945. Tentative Specifications for Beryllium-Copper Alloy Rod and Bar. Cover beryllium-copper alloy rods and bars in straight lengths, with a nominal beryllium content of 2.05 percent. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, condition or temper, mechanical properties, precipitation hardening, number of tests, methods of testing, tolerances, straightness, finish, inspection, and rejection.

American Society for Testing Materials, B197-45T; 1945. Tentative Specifications for Beryllium-Copper Alloy Wire. Cover beryllium-copper alloy wire in coils, spools, or other than straight lengths, of any uniform cross-section, with a nominal beryllium content of 2.05 percent. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, condition or temper, mechanical properties, precipitation hardening, number of tests, retests, method of testing, tolerances, finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4530; 1946. Beryllium-Copper Alloy Sheet and Strip, Solution-Treated. Gives requirements for composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AAF 11070-A, Type II, Condition A; ASTM B-120-41T, Condition A.

644. BRASS

644.0 GENERAL ITEMS

American Society for Testing Materials, E36-45; 1945. Standard Methods of Chemical Analysis of Brasses. Covers procedures for the chemical analysis of the commercial alloys known as muntz metal, yellow brass, red brass, commercial bronze, free turning brass, naval brass, admiralty metal, and similar alloys. Gives apparatus and reagents, precautions, and details for copper by the electrolytic method, copper and lead simultaneously by the electrolytic method, lead by the electrolytic method, tin by the iodimetric titration method, zinc by the oxide or ferrocyanide method, nickel by the dimethylglyoxime method, iron by the dichromate method, phosphorus by the alkalimetric method, and arsenic and antimony by the distillation-iodimetric method.

American Society for Testing Materials, E54-46T; 1946. Tentative Methods of Chemical Analysis of Special Brasses and Bronzes. Covers procedures for the chemical analysis of the commercial alloys known as copper-base alloy ingots for sand castings, forging rods, bars, and shapes; aluminum brass; manganese bronze; phosphor bronze; copper-silicon alloys; and similar alloys. Gives apparatus and reagents, precautions, and details for copper, or copper and lead simultaneously by the electrolytic method, lead by the electrolytic method, lead by the sulfate method, tin by the iodimetric titration method, zinc by the oxide or ferrocyanide method, silicon by the sulfuric acid dehydration method, silicon by perchloric acid dehydration method, aluminum by the gravimetric method, nickel by the

dimethylglyoxime method, iron by the dichromate method, manganese by the bismuthate method, manganese by the persulfate method, manganese by the bromate method, phosphorus by the alkalimetric method, arsenic by the distillation-bromate (Moffat) method, arsenic and antimony by the distillation-iodimetric method, and antimony and tin by the manganese coprecipitation method.

644.1 BRASS INGOTS AND BARS

644.11 Ingots, Brass

American Society for Testing Materials, B30-45T; 1945. Endorsed by American Foundrymen's Assn. Tentative Specifications for Copper-Base Alloys in Ingot Form for Sand Castings. Cover twenty-seven copper-base alloys, having A.S.T.M. classifications, numerical and commercial designations, and nominal compositions. Gives basis of purchase, manufacture, chemical composition, samples for analysis, chemical analysis, tensile properties, marking, inspection, certification, rejection and retesting, claims, and settlement of claims.

644.12 Bars, Brass

American Society for Testing Materials, B16-45; 1945. Society of Automotive Engineers Specification No. 72. American Standards Assn. H8.1-1945. Free-Cutting Brass Rod and Bar for Use in Screw Machines. Gives basis of purchase, manufacture, chemical composition, chemical analysis, check analysis, tensile properties, bending properties, test specimens, number of tests, methods of testing, dimensional tolerances, length, straightness tolerances, finish, inspection, and rejection.

American Society for Testing Materials, B21-45T; 1945. Tentative Specifications for Naval Brass Rods, Bars, and Shapes. Covers three grades—A, B, and C. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, bending properties, mercurous nitrate test, test specimens, number of tests, methods of testing, dimensional tolerances, lengths, straightness tolerances, workmanship and finish, inspection, and rejection.

American Society for Testing Materials, B124-45; 1945. American Standards Assn., H7.1-1945. Standard Specifications for Copper-Base Alloy Forging Rods, Bars, and Shapes. Covers copper-base alloy rods, bars, and shapes capable of being readily forged hot, in twelve compositions. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, dimensional tolerances, length tolerances, workmanship and finish, inspection, and rejection.

American Society for Testing Materials, B140-45; 1945. Lead Red Brass (Hardware Bronze) Rods, Bars, and Shapes. Covers two types suitable for screw machine work. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, test specimens, number of tests, dimensional tolerances, lengths, straightness tolerances, workmanship and finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4612A, 1945. Naval Brass—Rods and Bars, Hard. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-QQ-B-646; SAE 73; ASTM B21-44T, Grade A, Hard.

U. S. Gov., Navy Dept. Specification 47B2h, 1945. Brass, Commercial; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

644.2 BRASS PLATES, SHEETS, SHAPES, AND STRIPS

644.21 Plates and Sheets, Brass

Copper and Brass Research Assn. Flat Products Standards FP-1 to FP-8, inclusive, 1945. Covers rolled flat products, cold rolled, thickness tolerances; rolled flat products, length, width, and straightness tolerances; rolled flat products, copper sheet and strip rolled to weight; rolled flat products, circles and half circles, diameter tolerances; rolled flat products, hot rolled plates and sheets, weight tolerances; silicon bronze (copper-silicon alloy) ASME code tank plates and sheets, weight and thickness tolerances; drawn bar, strip and flat wire, thickness and width tolerances; rolled flat products, condenser tube plates, tolerances, thickness, diameter, length or width, and flatness; and standard edge contours for flat products (with rolled or drawn edges).

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4507; 1945. Brass Sheet and Strip—Half Hard. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: QQ-B-6112; SAE 70A, Grade A, Half Hard; ASTM B36-44T, Alloy No. 6, Half Hard.

U. S. Gov., Navy Dept. Specification 47B2h, 1945. Brass, Commercial; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

644.22 Shapes, Brass

American Society for Testing Materials, B124-45; 1945. American Standards Assn., H7.1-1945. Standard Specifications for Copper-Base Alloy Forging Rods, Bars, and Shapes. Covers copper-base alloy rods, bars, and shapes capable of being readily forged hot, in twelve compositions. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, dimensional tolerances, length tolerances, workmanship and finish, inspection, and rejection.

American Society for Testing Materials, B140-45; 1945. Lead Red Brass (Hardware Bronze) Rods, Bars, and Shapes. Covers two types suitable for screw machine work. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, test specimens, number of tests, dimensional tolerances, lengths, straightness tolerances, workmanship and finish, inspection, and rejection.

U. S. Gov., Navy Dept. Specification 47B2h, 1945. Brass, Commercial; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

American Society for Testing Materials, B21-45T; 1945. Tentative Specifications for Naval Brass Rods, Bars, and Shapes. Covers three grades—A, B, and C. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, bending properties, mercurous nitrate test, test specimens, number of tests, methods of testing, dimensional tolerances, lengths, straightness tolerances, workmanship and finish, inspection, and rejection.

644.23 Strips, Brass

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4507; 1945. Brass Sheet and Strip—Half Hard. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: QQ-B-611a; SAE 70A, Grade A, Half Hard; ASTM B36-44T, Alloy No. 6, Half Hard.

U. S. Gov., Navy Dept. Specification 47B2h, 1945. Brass, Commercial; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

645. MANUFACTURES OF BRASS

645.1 BRASS RODS AND WIRES

645.11 Rods, Brass

American Society for Testing Materials, B16-45; 1945. Society of Automotive Engineers Specification No. 72. American Standards Assn. H8.1-1945. Free-Cutting Brass Rod and Bar for Use in Screw Machines. Gives basis of purchase, manufacture, chemical composition, chemical analysis, check analysis, tensile properties, bending properties, test specimens, number of tests, methods of testing, dimensional tolerances, length, straightness tolerances, finish, inspection, and rejection.

American Society for Testing Materials, B21-45T; 1945. Tentative Specifications for Naval Brass Rods, Bars, and Shapes. Covers three grades—A, B, and C. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, bending properties, mercurous nitrate test, test specimens, number of tests, methods of testing, dimensional tolerances, lengths, straightness tolerances, workmanship and finish, inspection, and rejection.

American Society for Testing Materials, B124-45; 1945. American Standards Assn., H7.1-1945. Standard Specifications for Copper-Base Alloy Forging Rods, Bars, and Shapes. Covers copper-base alloy rods, bars, and shapes capable of being readily forged hot, in twelve compositions. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, dimensional tolerances, length tolerances, workmanship and finish, inspection, and rejection.

American Society for Testing Materials, B140-45; 1945. Leaded Red Brass (Hardware Bronze) Rods, Bars, and Shapes. Covers two types suitable for screw machine work. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, test specimens, number of tests, dimensional tolerances, lengths, straightness tolerances, workmanship and finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4612A, 1945. Naval Brass—Rods and Bars, Hard. Gives composition, condition, quality, tolerances, reports, identification, and rejections. Similar specifications: AN-QQ-B-646; SAE 73; ASTM B21-44T, Grade A, Hard.

U. S. Gov., Navy Dept. Specification 47B2h, 1945. Brass, Commercial; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

645.12 Wires, Brass

American Society for Testing Materials, B134-45; 1945. Standard Specifications for Brass Wire. Covers round, hexagonal, octagonal, rectangular, and square brass wire in eight compositions. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, tempers of drawn or rolled wire, tempers of annealed wire, tensile properties of drawn or rolled tempers, grain size of annealed tempers, number of tension tests, methods of testing, dimensional tolerances, length, finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4712; 1945. Brass Wire—Annealed. Gives composition, condition, quality, tolerances, reports, packaging and marking, and rejections. Similar specifications: SAE 80, Grade B, Annealed; ASTM B134-44T, Alloy 7, Annealed.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4713; 1945. Brass Wire—1/8 Hard. Gives composition, condition, quality, tolerances, reports, packaging and marking, and rejections. Similar specifications: SAE 80, Grade B, 1/8 Hard; ASTM B134-44T, Alloy 7, 1/8 Hard.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal-Spraying.

645.2 BRASS CASTINGS, FERRULES, PIPES, AND TUBES

645.21 Castings, Brass

American Society for Testing Materials, B119-45; 1945. Endorsed by American Foundrymen's Assn. Standard Classification of Cast Copper-Base Alloys. This classification of the different types of cast copper-base alloys is intended to simplify the terminology applied to these alloys. Gives basis of classification and lists class, additional elements, and remarks for copper and the various classes of brasses and bronzes with explanatory note.

American Society for Testing Materials, B145-45T; 1945. Tentative Specifications for Leaded Red Brass and Leaded Semi-Red Brass Sand Castings. Cover castings for four alloys. Gives basis of purchase, manufacture, chemical composition, chemical analysis, methods of chemical analysis, tensile properties, pressure and fracture tests, test specimens, number of tests, methods of testing, workmanship and finish, marking, inspection, certification, and rejection.

American Society for Testing Materials, B146-45T; 1945. Tentative Specifications for Leaded Yellow Brass Sand Castings for General Purposes. Cover castings of three alloys. Gives basis of purchase, manufacture, chemical composition, chemical

analysis, methods of chemical analysis, tensile properties, pressure and fracture tests, test specimens, number of tests, methods of testing, workmanship and finish, marking, inspection, certification, and rejection.

American Society for Testing Materials, B198-45T; 1945. Tentative Specifications for Silicon-Bronze and Silicon-Brass Sand Castings. Cover castings of three alloys. Gives basis of purchase, chemical composition, chemical analysis, tensile properties, test specimens, number of tests, workmanship and finish, inspection, certification, rejection, and appendix.

Manufacturers Standardization Society of the Valve and Fittings Industry. Leaded Red Brass and Leaded Semi-Red Brass Castings for Valves and Pipe Fittings, SP-40; 1946. Covers scope, quality and control, chemical composition, physical properties, tension test specimen, number of tests, records, workmanship and finish, certification, and drawings showing dimensions.

U. S. Gov., Federal Specification QQ-B-821a; 1943. Amend. 1; 1945. Brass, Commercial-Yellow, High-Copper-Yellow, and Naval; Castings. Covers three compositions—(A) naval brass, (B) commercial yellow brass, and (C) high-copper-yellow brass. Gives requirements for material, workmanship, dimensions, chemical requirements, and tensile requirements; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Navy Dept. Specification 46B10h; 1946. Brass, Naval; Castings.

U. S. Gov., Navy Dept. Specification 46B11h; 1946. Brass, Commercial; Castings.

U. S. Gov., Navy Dept. Specification 46B31; 1946. Brass; Castings.

645.22 Ferrules, Brass

American Society for Testing Material, B111-45; 1945. A.S.M.E. Boiler Construction Code Specification SB-111. Copper and Copper-Alloy Seamless Condenser Tubes and Ferrule Stock. For use in surface condensers, evaporators, and heat exchangers. Gives basis of purchase, material, manufacture, chemical composition, sample for chemical analysis, microscopic examination, expanding test, flattening test, mercurous nitrate test, hydrostatic test, number of tests, retests, dimension and weight tolerances, workmanship, finish, and inspection.

645.23 Pipes, Brass

American Society for Testing Materials, B43-45; 1945. A.S.M.E. Boiler Construction Code Specification SB-43. Brass Pipe, Standard Sizes. Covers seamless Muntz metal, high brass, admiralty metal, and red brass pipe suitable for use in plumbing, boiler feed lines, and for similar purposes. Gives basis of purchase, manufacture, condition or temper, chemical composition, sampling for chemical analysis, expansion test, mercurous nitrate test, bending properties, hydrostatic test, number of tests, methods of testing, dimensions and weights, weight and wall thickness tolerances, length tolerances, workmanship, finish, inspection, and rejection.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R217-46; 1946. Copper Water Tube and Copper Brass Pipe. This recommendation establishes a simplified list of types and sizes of copper water tube and copper and brass pipe for regular stock purposes. Gives tables showing standard dimensions and weights of copper water tube for compression or soldered fittings and standard dimensions and weights of copper and brass pipe. Sponsored by the Copper and Brass Research Assn.

645.24 Tubes, Brass

American Society for Testing Materials, B111-45; 1945. A.S.M.E. Boiler Construction Code Specification SB-111. Copper and Copper-Alloy Seamless Condenser Tubes and Ferrule Stock. For use in surface condensers, evaporators, and heat exchangers. Gives basis of purchase, material, manufacture, chemical composition, sample for chemical analysis, microscopic examination, expanding test, flattening test, mercurous nitrate test, hydrostatic test, number of tests, retests, dimension and weight tolerances, workmanship, finish, and inspection.

American Society for Testing Materials, B135-45T; 1945. Tentative Specifications for Miscellaneous Brass Tubes. Cover six alloys for straight tubes. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, tempers of drawn tubes and annealed tubes, physical properties, expansion test, mercurous nitrate test, methods of testing, number of tests, weight, thickness and diameter tolerances, length tolerances, workmanship, finish, and inspection.

U. S. Gov., Army-Navy Aeronautical Specification AN-T-70; 1945. Tubing; Brass, Seamless.

U. S. Gov., Navy Dept. Specification 33T4; 1946. Tubing, Flexible, Metallic, Lightweight (for Voice Tubing).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 57-190-1; 1946. Tubing; Brass, Seamless, for Use in Primer Bodies.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 57-191A, 1945. Brass, Leaded; Tubing, Round, Seamless.

645.3 BRASS-WIRE MANUFACTURES

645.31 Sieves, Brass

U. S. Gov., Navy Dept. Specification 64S8b, 1945. Sieves, Flour.

645.39 Miscellaneous Brass-Wire Manufactures

U. S. Gov., Federal Specification RR-C-451a; 1934. Amend. 5; 1946. Cloth; Wire, Screen. Covers eight types including copper, bronze, iron or steel, copper-nickel, corrosion-resisting steel, and aluminum alloy wire. Gives requirements for material and workmanship, number of meshes per inch, diameter of wire, permissible variations, length, width, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking.

645.4 BRASS FITTINGS AND PLUMBING FIXTURES

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS5-46; 1946. Pipe Nipples; Brass, Copper, Steel, and Wrought-Iron. This standard covers steel, ferrous-alloy, and wrought-iron nipples, black- and zinc-coated (hot dip galvanized), in iron-pipe sizes from 1/8 to 12 in., of standard lengths; and brass and copper nipples in standard sizes 1/8 to 6 in. Covers material, general requirements, detail requirements, packaging, labeling, and gives tables showing sizes and lengths for standard weight and extra strong pipe nipples. Initiated by National Assn. of Pipe Nipples Manufacturers, Inc.
- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R212-45; 1945. Cast-Brass Solder-Joint Fittings. To establish a simplified list of types and sizes of cast-brass solder-joint fittings to meet all normal requirements. Covers scope, abbreviations, threads, illustrations, and sizes. Gives 17 tables showing data for various types and illustrations.
- U. S. Gov., Federal Specification WW-C-621a; 1941. Amend. 1; 1946. Couplings; Hose, Cotton (Rubber-Lined) and Linen (Unlined). Covers eight types. Gives requirements for material, workmanship, design, pressure, finish, parts, chemical composition, and plans and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification WW-C-623a; 1933. Amend. 1; 1945. Couplings; Hose, Garden and Water. Covers two types—(A) slotted expansion (1 1/2 in. only) and (B) lug or ribbed shank. Gives material, workmanship, general requirements, finish, parts, chemical composition, and plans and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking.
- U. S. Gov., Federal Specification WW-C-626; 1933. Amend. 2; 1945. Couplings; Hose, Oil-Suction and Discharge. Covers three types—(A) slotted expansion (for 4 in. hose only), (B) lug, ribbed shank, and (C) iron pipe nipples. Gives requirements for materials, workmanship, design, hydrostatic pressure, finish, parts, chemical composition, and plans and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking.
- U. S. Gov., Federal Specification WW-C-636; 1931. Amend. 2; 1945. Couplings; Hose, Steam. Covers two types—(A) slotted expansion and (B) hexagon shank. Gives material, workmanship, general requirements, finish, parts, composition, and plans and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking.
- U. S. Gov., Federal Specification WW-C-646; 1934. Amend. 1; 1945. Couplings; Hose, Water-Suction. Covers five types—(A) slotted expansion, (B1) rocker-lug expansion, (B2) regular pin-lug expansion, (B3) long-handle expansion, and (C) lug-shank. Gives materials, workmanship, general requirements, design, finish, parts, chemical composition, and plans and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking.

- U. S. Gov., Joint Army-Navy Specification JAN-H-277; 1945. Holders, for Toilet Accessories (Shipboard Use).
- U. S. Gov., Navy Dept. Specification 33N1a, 1945. Nozzles, Valve, Gasoline-Hose.
- U. S. Gov., Navy Dept. Specification 45F2f, 1945. Fittings, Pipe, Brass or Bronze (Threaded), 125-Pound

645.9 MISCELLANEOUS MANUFACTURES OF BRASS

- U. S. Gov., Army-Navy Aeronautical Specification AN-N-5a-2; 1946. Nuts; Self-Locking.
- U. S. Gov., Federal Specification QQ-B-591; 1945. Brass; Anodes. Covers one grade. Gives requirements for material, workmanship, chemical composition, manufacture, and identification; method of sampling, inspection, and test; and packing and marking for shipment.
- U. S. Gov., Joint Army-Navy Specification JAN-B-87-1; 1945. Brass, Cartridge, Disks.
- U. S. Gov., Joint Army-Navy Specification JAN-S-240; 1945. Strainers, Gasoline (for Ship Gasoline Systems).
- U. S. Gov., Marine Corps Specification, 1945. Buckle, 1-7/16 Inch, for Trousers Belt.
- U. S. Gov., Marine Corps Specification, revised 1945. Buckle, Brass, for Service Belt.
- U. S. Gov., Marine Corps Specification, revised 1945. Buckle, Friction, 5/8 Inch (for Leggings).
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 29-106; 1946. Grommets with Washers.

646. BRONZE**646.0 GENERAL ITEMS**

- American Society for Testing Materials, B119-45; 1945. Endorsed by American Foundrymen's Assn. Standard Classification of Cast Copper-Base Alloys. This classification of the different types of cast copper-base alloys is intended to simplify the terminology applied to these alloys. Gives basis of classification and lists class, additional elements, and remarks for copper and the various classes of brasses and bronzes with explanatory note.

646.1 BRONZE INGOTS AND BARS**646.11 Ingots, Bronze**

- American Society for Testing Materials, B30-45T; 1945. Endorsed by American Foundrymen's Assn. Tentative Specifications for Copper-Base Alloys in Ingot Form for Sand Castings. Cover twenty-seven copper-base alloys, having A.S.T.M. classifications, numerical and commercial designations, and nominal compositions. Gives basis of purchase, manufacture, chemical composition, samples for analysis, chemical analysis, tensile properties, marking, inspection, certification, rejection and retesting, claims, and settlement of claims.
- U. S. Gov., Navy Dept. Specification 46B25c, 1945. Bronze; Ingots for Remelting.

646.2 BRONZE PLATES, SHEETS, SHAPES, AND STRIPS

646.21 Plates and Sheets, Bronze

Copper and Brass Research Assn. Flat Products Standards FP-1 to FP-8, inclusive, 1945. Covers rolled flat products, cold rolled, thickness tolerances; rolled flat products, length, width and straightness tolerances; rolled flat products, copper sheet and strip rolled to weight; rolled flat products, circles and half circles, diameter tolerances; rolled flat products, hot rolled plates and sheets, weight tolerances; silicon bronze (copper-silicon alloy) ASME code tank plates and sheets, weight and thickness tolerances; drawn bar, strip and flat wire, thickness and width tolerances; rolled flat products, condenser tube plates, tolerances, thickness, diameter, length or width, and flatness; and standard edge contours for flat products (with rolled or drawn edges).

646.3 BRONZE RODS AND WIRES**646.31 Rods, Bronze**

American Society for Testing Materials, B98-45; 1945. A.S.M.E. Boiler Construction Code Specification SB-98. Copper-Silicon Alloy Rods, Bars, and Shapes. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, bending properties, test specimens, number of tests, methods of testing, dimensional tolerances, length, straightness tolerances, workmanship and finish, inspection, rejection, and table of commercially available copper-silicon alloy rods, bars, and shapes.

646.32 Wires, Bronze

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal-Spraying.

646.4 BRONZE CASTINGS AND TUBES**646.41 Castings, Bronze**

American Society for Testing Materials, B22-45T; 1945. American Assn. of State Highway Officials Standard, M 107. Endorsed by American Foundrymen's Assn. Tentative Specifications for Bronze Castings for Turntables and Movable Bridges and for Bearing and Expansion Plates of Fixed Bridges. Cover four classes of bronze castings for turntables and movable bridges and two classes of cast-bronze plates used in bridges and other structures for fixed and expansion bearings where motion is slow and intermittent. Gives manufacture, chemical composition, chemical analysis, methods of chemical analysis, physical properties, hardness, test specimens, number of tests, finish, inspection, and rejection.

American Society for Testing Materials, B144-45T; 1945. Tentative Specifications for High-Leaded Tin-Bronze Sand Castings. Cover five alloys and are intended for use for conventional bearings and bushings in the cast state. Gives basis of purchase, manufacture, chemical composition and analysis, methods of chemical analysis, tensile properties, pressure and fracture tests, test specimens, number of tests, methods of testing, workmanship and finish, marking, inspection, certification, and rejection.

American Society for Testing Materials, B198-45T; 1945. Tentative Specifications for Silicon-Bronze and Silicon-Brass Sand Castings. Cover castings of three alloys. Gives basis of purchase, chemical composition, chemical analysis, tensile properties, test specimens, number of tests, workmanship and finish, inspection, certification, rejection, and appendix.

Manufacturers Standardization Society of the Valve and Fittings Industry. Steam-Bronze Castings for Valves, Flanges, and Pipe Fittings, SP-20; 1946. Covers scope, quality and control, chemical composition, physical properties, tension test specimen, number of tests, records, workmanship and finish, certification, and drawings showing dimensions.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4845C; 1946. Bronze Castings—Copper Tin. Gives requirements for composition, hardness, quality, reports, identification, approval, and rejections. Similar specifications: Federal QQ-B-691, Composition 5; SAE 62; and ASTM B143-44T, numerical designation 1A.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4846; 1945. Bronze Castings. Gives composition, hardness, quality, reports, identification, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4855A; 1946. Bronze Castings—Copper Tin Lead Zinc. Gives requirements for composition, quality, reports, identification, approval, and rejections. Similar specifications: Federal QQ-B-691b, Composition 2; SAE 40; and ASTM B145-44T numerical designation 4A.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R183-46; 1946. Brass or Bronze Valves (Gate, Globe, Angle, and Check). Applies to brass or bronze valves (gate, globe, angle, and check) used for steam, water, oil, gases, and liquids. Gives definitions, connections, abbreviations, and a table showing recommended primary service ratings, types, and sizes of these valves.

U. S. Gov., Federal Specification QQ-B-691b; 1944. Amend. 1; 1945. Bronze; Castings. Covers machined solid and cored cast bronze bars for bearings and other miscellaneous bronze castings in twelve compositions. Gives requirements for material, workmanship, dimensions, chemical requirements, physical requirements, pressure, metallographic requirements, and dimensions and tolerances; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Federal Specification WW-V-51a; 1946. Amend. 1; 1946. Valves, Bronze; Angle, Check and Globe, 125- and 150-Pound, Screwed and Flanged (for Land Use). Covers four types—(I) globe, (II) angle, (III) lift check (horizontal), and (IV) swing check; and two classes—(A) 125-pound and (B) 150-pound. Gives requirements for workmanship, castings, copper alloy, finish, marking, stem packing, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification WW-V-54; 1946. Amend. 1; 1946. Valves, Bronze, Gate; 125- and

150-Pound, Screwed and Flanged (for Land Use). Covers three types—(I) wedge disc (nonrising stem), (II) wedge disc (rising stem, inside screw), and (III) double disc (rising stem, inside screw); and two classes—(A) 125-pound and (B) 250-pound. Gives requirements for workmanship, castings, copper alloy, finish, marking, stem packing, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 46B81; 1946. Bronze, Valve; Castings.

U. S. Gov., Navy Dept. Specification 46B23e; 1946. Bronze, Hydraulic (Ounce Metal); Castings.

U. S. Gov., Navy Dept. Specification 46B24e; 1946. Bronze; Castings, Ornamental.

646.5 MANUFACTURES OF BRONZE

646.51 Fittings, Bronze

Manufacturers Standardization Society of the Valve and Fittings Industry. MSS 150 and 300 Lb. SP Bronze Flange and Flanged Fitting Standard, SP-2; 1946. Covers pressure-temperature ratings, materials, castings, bolting, marking, facings, threading, dimensions, gaskets, and dimensional diagrams of flanges and flanged fittings with tables showing data for various sizes.

Manufacturers Standardization Society of the Valve and Fittings Industry. 250 Lb. SP Bronze Screw Pipe Fittings Standard, SP-11; 1944. Gives pressure-temperature ratings, materials, size, marking, threading, ribs, fitting dimensions, patterns, tolerances, and drawings with tables showing data for various types and sizes.

U. S. Gov., Federal Specification WW-P-460; 1945. Pipe-Fittings; Bronze (Screwed) 125-Pound and 250-Pound. Covers two classes—(A) 125 pound and (B) 250 pound; and two compositions 1 and 2. This specification covers caps, couplings, crosses, elbows, reducers, return bends, tees, and Y-branches. Gives requirements for material and workmanship, marking, threading, details, and tables showing sizes and dimensions for various fittings; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification WW-P-471; 1945. Amend. 1; 1946. Pipe-Fittings (Bushings, Plugs, and Locknuts); Bronze and Ferrous (Screwed). Covers one class and three types—(I) black (uncoated ferrous metal), (II) zinc-coated (galvanized ferrous metal), and (III) bronze. Gives requirements for materials and workmanship, marking, threading, plug squares and hexagons, details, and tables showing sizes and dimensions for the various fittings; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 45F2f, 1945. Fittings, Pipe, Brass or Bronze (Threaded), 125-Pound.

U. S. Gov., Navy Dept. Specification 45F8c, 1945. Fittings, Gage-Glass (Tubular).

U. S. Gov., Navy Dept. Specification 45F14; 1945. Flanges, Tube, Composition, Cast (Silver Brazing) 50, 100 and 200 P. S. I., W. S. P.

646.59 Miscellaneous Manufactures of Bronze

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 221, 222, 223, 224, 225, 226, and 227; 1944, and NAS 220, revised 1945. Screws—Brazier Head, Phillips Recess, Aluminum Alloy, Bronze, and Alloy Steel. Gives drawings with dimensions and notes for 8-32, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, and 9/16-18. Developed by National Aircraft Standards Committee.

U. S. Gov., Joint Army-Navy Specification JAN-S-240; 1945. Strainers, Gasoline (for Ship Gasoline Systems).

U. S. Gov., Navy Dept. Specification 42S2c, 1945. Sockets, Table.

647. SPECIAL BRONZES (BRONZE ALLOYS)

647.0 GENERAL ITEMS

American Society for Testing Materials, E54-46T; 1946.

Tentative Methods of Chemical Analysis of Special Brasses and Bronzes. Covers procedures for the chemical analysis of the commercial alloys known as copper-base alloy ingots for sand castings, forging rods, bars, and shapes; aluminum brass; manganese bronze; phosphor bronze; copper-silicon alloys; and similar alloys. Gives apparatus and reagents, precautions, and details for copper, or copper and lead simultaneously by the electrolytic method, lead by the electrolytic method, lead by the sulfate method, tin by the iodimetric titration method, zinc by the oxide or ferrocyanide method, silicon by the sulfuric acid dehydration method, silicon by perchloric acid dehydration method, aluminum by the gravimetric method, nickel by the dimethylglyoxime method, iron by the dichromate method, manganese by the bismuthate method, manganese by the persulfate method, manganese by the bromate method, phosphorus by the alkalimetric method, arsenic by the distillation-bromate (Moffat) method, arsenic and antimony by the distillation-iodimetric method, and antimony and tin by the manganese coprecipitation method.

647.1 ALUMINUM BRONZE

647.11 Ingots, Aluminum Bronze

American Society for Testing Materials, B30-45T; 1945.

Endorsed by American Foundrymen's Assn. Tentative Specifications for Copper-Base Alloys in Ingot Form for Sand Castings. Cover twenty-seven copper-base alloys, having A. S. T. M. classifications, numerical and commercial designations, and nominal compositions. Gives basis of purchase, manufacture, chemical composition, samples for analysis, chemical analysis, tensile properties, marking, inspection, certification, rejection and retesting, claims, and settlement of claims.

647.12 Bars, Aluminum Bronze

American Society for Testing Materials, B150-45T;

1945. Tentative Specifications for Aluminum Bronze Rods, Bars, and Shapes. Cover rods, bars, and shapes of any cross-section, uniform with respect to length. Gives basis of purchase, manufacture,

chemical composition, chemical analysis, tensile and bending properties, mercurous nitrate test, test specimens, number of tests, methods of testing, dimensional tolerances, length tolerances, straightness tolerances, workmanship and finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4640A, 1945. Aluminum Bronze—Nickel Iron. For rods, bars, shapes, forgings, or as ordered. Gives composition, condition, quality, tolerances, reports, identification, and rejections.

U. S. Gov., Navy Dept. Specification 46B17c, 1945. Bronze, Aluminum; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

647.13 Rods, Aluminum Bronze

American Society for Testing Materials, B150-45T; 1945. Tentative Specifications for Aluminum Bronze Rods, Bars, and Shapes. Cover rods, bars, and shapes of any cross-section, uniform with respect to length. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile and bending properties, mercurous nitrate test, test specimens, number of tests, methods of testing, dimensional tolerances, length tolerances, straightness tolerances, workmanship and finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4640A, 1945. Aluminum Bronze—Nickel Iron. For rods, bars, shapes, forgings, or as ordered. Gives composition, condition, quality, tolerances, reports, identification, and rejections.

U. S. Gov., Navy Dept. Specification 46B17c, 1945. Bronze, Aluminum; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

647.14 Plates and Sheets, Aluminum Bronze

U. S. Gov., Navy Dept. Specification 46B17c, 1945. Bronze, Aluminum; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

647.15 Castings, Aluminum Bronze

American Society for Testing Materials, B148-45T; 1945. Tentative Specifications for Aluminum-Bronze Sand Castings. Cover castings for two alloys. Gives basis of purchase, manufacture, chemical composition, chemical analysis, methods of chemical analysis, tensile properties, hardness, test specimens, number of tests, methods of testing, workmanship and finish, marking, inspection, certification, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4870A; 1946. Aluminum Bronze Castings, Centrifugal or Chill, As Cast. Gives requirements for composition, test bars, physical properties, quality, reports, identification, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4871A; 1946. Aluminum Bronze Castings, Centrifugal or Chill, Heat-Treated. Gives requirements for composition, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specification: Army-Navy Aeronautical AN-QQ-B-672.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4872; 1946. Aluminum Bronze Castings, Sand, As Cast. Gives requirements for composition, test bars, physical properties, quality, reports, identification, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4873; 1946. Aluminum Bronze Castings, Sand, Heat-Treated. Gives requirements for composition, test bars, heat treatment, physical properties, quality, reports, identification, approval, and rejections. Similar specification: Army-Navy Aeronautical AN-QQ-B-672.

U. S. Gov., Navy Dept. Specification 46B29a, 1945. Bronze, Aluminum-Manganese; Castings.

647.16 Shapes, Aluminum Bronze

American Society for Testing Materials, B150-45T; 1945. Tentative Specifications for Aluminum Bronze Rods, Bars, and Shapes. Cover rods, bars, and shapes of any cross-section, uniform with respect to length. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile and bending properties, mercurous nitrate test, test specimens, number of tests, methods of testing, dimensional tolerances, length tolerances, straightness tolerances, workmanship and finish, inspection, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4640A, 1945. Aluminum Bronze—Nickel Iron. For rods, bars, shapes, forgings, or as ordered. Gives composition, condition, quality, tolerances, reports, identification, and rejections.

U. S. Gov., Navy Dept. Specification 46B17c, 1945. Bronze, Aluminum; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

647.17 Strips, Aluminum Bronze

U. S. Gov., Navy Dept. Specification 46B17c, 1945. Bronze, Aluminum; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

647.18 Tubes and Wire, Aluminum Bronze

American Society for Testing Materials, B111-45; 1945. A.S.M.E. Boiler Construction Code Specification SB-111. Copper and Copper-Alloy Seamless Condenser Tubes and Ferrule Stock. For use in surface condensers, evaporators, and heat exchangers. Gives basis of purchase, material, manufacture, chemical composition, sample for chemical analysis, microscopic examination, expanding test, flattening test, mercurous nitrate test, hydrostatic test, number of tests, retests, dimension and weight tolerances, workmanship, finish, and inspection.

647.2 MANGANESE BRONZE

647.21 Ingots, Manganese Bronze

U. S. Gov., Federal Specification QQ-B-731b; 1945. Bronze, Manganese, and Manganese-Aluminum; Ingots (for Remelting). Covers one grade. Gives requirements for material, workmanship, chemical composition, and physical properties; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

647.22 Bars, Manganese Bronze

American Society for Testing Materials, B138-45; 1945. Manganese Bronze Rods, Bars, and Shapes. Covers two types of any cross-section uniform with respect to length. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, bending properties, mercurous nitrate test, test specimens, number of tests, methods of testing, dimensional tolerances, length tolerances, straightness tolerances, workmanship and finish, inspection, and rejection.

647.23 Rods, Manganese Bronze

American Society for Testing Materials, B138-45; 1945. Manganese Bronze Rods, Bars, and Shapes. Covers two types of any cross-section uniform with respect to length. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, bending properties, mercurous nitrate test, test specimens, number of tests, methods of testing, dimensional tolerances, length tolerances, straightness tolerances, workmanship and finish, inspection, and rejection.

U. S. Gov., Navy Dept. Specification 46B15e, 1945. Bronze, Manganese, Wrought; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

647.24 Plates and Sheets, Manganese Bronze

U. S. Gov., Navy Dept. Specification 46B15e, 1945. Bronze, Manganese, Wrought; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

647.25 Shapes, Manganese Bronze

American Society for Testing Materials, B138-45; 1945. Manganese Bronze Rods, Bars, and Shapes. Covers two types of any cross-section uniform with respect to length. Gives basis of purchase, manufacture, chemical composition, chemical analysis, tensile properties, bending properties, mercurous nitrate test, test specimens, number of tests, methods of testing, dimensional tolerances, length tolerances, straightness tolerances, workmanship and finish, inspection, and rejection.

U. S. Gov., Navy Dept. Specification 46B15e, 1945. Bronze, Manganese, Wrought; Bars, Forgings, Plates, Rods, Shapes, Sheets, and Strips.

647.26 Castings, Manganese Bronze

U. S. Gov., Federal Specification QQ-B-726c; 1943. Amend. 2; 1945. Bronze, Manganese; Castings (including Manganese-Aluminum Bronze). Covers four classes—A, B, C, and D. Gives requirements for material, appearance of castings, repairing of defects, dimensions, chemical requirements, and tensile requirements; methods of sampling, inspection, and tests; and packing and marking.

U. S. Gov., Navy Dept. Specification 49B3f, 1945. Bronze, Manganese; Castings (Composition Mn-c).

647.3 PHOSPHOR BRONZE**647.32 Bars, Phosphor Bronze**

American Society for Testing Materials, B139-45T; 1945. Tentative Specifications for Phosphor Bronze

Rods, Bars, and Shapes. Cover five grades of rods, bars, and shapes 0.250 in. and over in diameter or thickness, and of any cross-section uniform with respect to length. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, methods of chemical analysis, tensile properties, bending properties, test specimens, number of tests, methods of testing, dimensional tolerances, length tolerances, straightness tolerances, workmanship and finish, inspection, and rejection.

U. S. Gov., Federal Specification QQ-B-746a; 1945. Bronze, Phosphor; Bars, Plates, Rods, Shapes, Sheets, and Strips. Gives requirements for compositions, forms, tempers, material, workmanship, chemical requirements, physical requirements, cold bending, and permissible variations; methods of sampling, inspection, and tests; and packing and marking for shipment.

647.33 Plates and Sheets, Phosphor Bronze

U. S. Gov., Federal Specification QQ-B-746a; 1945. Bronze, Phosphor; Bars, Plates, Rods, Shapes, Sheets, and Strips. Gives requirements for compositions, forms, tempers, material, workmanship, chemical requirements, physical requirements, cold bending, and permissible variations; methods of sampling, inspection, and tests; and packing and marking for shipment.

647.34 Castings, Phosphor Bronze

U. S. Gov., Navy Dept. Specification 46B5j; 1946. Bronze, Phosphor; Castings.

647.35 Shapes, Phosphor Bronze

American Society for Testing Materials, B139-45T; 1945. Tentative Specifications for Phosphor Bronze Rods, Bars, and Shapes. Cover five grades of rods, bars, and shapes 0.250 in. and over in diameter or thickness, and of any cross-section uniform with respect to length. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, methods of chemical analysis, tensile properties, bending properties, test specimens, number of tests, methods of testing, dimensional tolerances, length tolerances, straightness tolerances, workmanship and finish, inspection, and rejection.

U. S. Gov., Federal Specification QQ-B-746a; 1945. Bronze, Phosphor; Bars, Plates, Rods, Shapes, Sheets, and Strips. Gives requirements for compositions, forms, tempers, material, workmanship, chemical requirements, physical requirements, cold bending, and permissible variations; methods of sampling, inspection, and tests; and packing and marking for shipment.

647.36 Strips, Phosphor Bronze

U. S. Gov., Federal Specification QQ-B-746a; 1945. Bronze, Phosphor; Bars, Plates, Rods, Shapes, Sheets, and Strips. Gives requirements for compositions, forms, tempers, material, workmanship, chemical requirements, physical requirements, cold bending, and permissible variations; methods of

sampling, inspection, and tests; and packing and marking for shipment.

647.38 Wires and Rods, Phosphor Bronze

American Society for Testing Materials, B139-45T; 1945. Tentative Specifications for Phosphor Bronze Rods, Bars, and Shapes. Cover five grades of rods, bars, and shapes 0.250 in. and over in diameter or thickness, and of any cross-section uniform with respect to length. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, methods of chemical analysis, tensile properties, bending properties, test specimens, number of tests, methods of testing, dimensional tolerances, length tolerances, straightness tolerances, workmanship and finish, inspection, and rejection.

American Society for Testing Materials, B159-45T; 1945. Tentative Specifications for Phosphor Bronze Wire. Cover three grades of round phosphor bronze wire for general use and for spring purposes. Gives basis of purchase, manufacture, chemical

composition, sampling for chemical analysis, methods of chemical analysis, tensile properties, bending properties, number of tests, diameter tolerances, workmanship and finish, packing, inspection, and rejection.

U. S. Gov., Federal Specification QQ-B-746a; 1945. Bronze, Phosphor; Bars, Plates, Rods, Shapes, Sheets, and Strips. Gives requirements for compositions, forms, tempers, material, workmanship, chemical requirements, physical requirements, cold bending, and permissible variations; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Federal Specification RR-R-571a; 1945. Rope; Wire. Covers about 43 types. Gives definitions and general requirements for wires, strands, centers, cores, lubrication, marine, diameter of wire rope, preforming, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 22W5g, 1945. Wire, Spring, Phosphor-Bronze.

650-659

LEAD, MERCURY, AND NICKEL

651. LEAD

651.0 GENERAL ITEMS

American Society for Testing Materials, E25-37T; 1937. Tentative Method of Quantitative Spectrochemical Analysis of High Grade Pig Lead. This method may be applied to any high grade lead, provided the impurities to be determined are not present in quantities over 0.1 percent. Gives preparation of sample, preliminary estimation, final estimation, testing for compliance with specification, and explanatory notes.

American Society for Testing Materials, E37-45; 1945. Standard Methods of Chemical Analysis of Pig Lead. Gives scope, apparatus and reagents, precautions, and details for determining copper and bismuth by the internal electrolytic method; arsenic, antimony and tin by the manganese coprecipitation method; iron by the volumetric or colorimetric method; zinc by the turbidimetric method; silver by the fire assay method; silver by the silver iodide method; and silver by the internal electrolytic method.

American Society for Testing Materials, E49-43T; 1943. Tentative Method of Spectrochemical Analysis of Lead Alloys for Minor Constituents and Impurities. Covers the determination of 0.001 to 0.3 percent of antimony, arsenic, barium, bismuth, copper, iron, magnesium, nickel, silver, strontium, tin, and zinc in lead, lead-calcium, and lead-antimony alloys. Gives principle of method, apparatus, preparation of standards, preparation of samples, procedure for excitation and photography, and interpretation of plates.

American Society for Testing Materials, E58-45T; 1945. Tentative Photometric Method for Determination of Bismuth in Pig Lead. Gives scope, photometric practice, apparatus, reagents, precautions, and details for determining bismuth by the thiourea method.

American Society for Testing Materials, E67-46T; 1946. Tentative Photometric Method for Determination of Iron in Lead- and Tin-Base Alloys. Gives scope, photometric practice, apparatus, reagents, precautions, and details for determining iron by the ferric chloride method.

651.3 CASTINGS, LEAD

U. S. Gov., Navy Dept. Specification 12S12c, 1945. Sinkers, Boat-Chest.

651.8 LEAD PIPE

Collapsible Tube Manufacturers Assn. Lead Tube Data, 1946. Gives neck number, diameter opening, diameter outside, fourteen sizes from 3/8 in. x 1 1/2 in. to 2 1/2 in. x 6 in., weights per gross without caps or decoration, and minimum wall thickness.

651.9 MISCELLANEOUS MANUFACTURES OF LEAD

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal-Spraying.

652. MERCURY

652.0 GENERAL ITEMS

U. S. Gov., Joint Army-Navy Specification JAN-M-191; 1945. Mercury.

653. NICKEL

653.0 GENERAL ITEMS

American Society for Testing Materials, E39-45; 1945. Standard Methods of Chemical Analysis of Nickel. Gives scope, apparatus and reagents, precautions, and details for determining nickel by the gravimetric method, nickel by the electrolytic method, cobalt by the zinc oxide-alpha-nitroso-beta-naphthol method, copper by the electrolytic method, manganese by the bismuthate method, manganese by

the persulfate-arsenite method, iron by the stannous chloride-potassium dichromate method, silicon by the perchloric acid method, silicon by the sulfuric acid method, sulfur by the gravimetric method, sulfur by the evolution method, and total carbon by the direct-combustion method.

653.3 NICKEL MANUFACTURES

653.32 Nickel Wire

American Society for Testing Materials, B175-45T; 1945. Tentative Specifications for Round Nickel Wire for Lamps and Electronic Devices. Cover round nickel wire 0.010 to 0.075 in. in diameter for use as side rods for grids, leads, and supports in lamps and electronic devices. Gives chemical composition, tensile properties, bending properties, resistivity, methods of testing, dimensions and permissible variations, finish, spooling, packing, marking, and rejection.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal-Spraying.

654. NICKEL-COPPER ALLOYS (MONEL METAL)

654.1 NICKEL-COPPER METAL, INGOTS, AND SHOT

American Society for Testing Materials, B30-45T; 1945. Endorsed by American Foundrymen's Assn. Tentative Specifications for Copper-Base Alloys in Ingot Form for Sand Castings. Cover twenty-seven copper-base alloys, having A.S.T.M. classifications, numerical and commercial designations, and nominal compositions. Gives basis of purchase, manufacture, chemical composition, samples for analysis, chemical analysis, tensile properties, marking, inspection, certification, rejection and retesting, claims, and settlement of claims.

654.3 STRIPS, NICKEL-COPPER

American Society for Testing Materials, B122-45T; 1945. Tentative Specifications for Copper-Nickel-Zinc and Copper-Nickel Alloy Sheet and Strip. For seven classes of alloy. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, tempers of rolled sheet and strip, tempers of annealed sheet and strip, tensile strength of rolled tempers, Rockwell hardness of rolled tempers, grain size of annealed tempers, Rockwell hardness of annealed tempers, number of tests, methods of testing, thickness tolerances, width tolerances, straightness tolerances, length tolerances, finish, inspection, and rejection.

654.5 NICKEL-COPPER MANUFACTURES

654.51 Castings and Forgings, Nickel-Copper

U. S. Gov., Navy Dept. Specification 46N7; 1945. Nickel-Copper-Silicon Alloy; Castings.

654.52 Sheets and Plates, Nickel-Copper

American Society for Testing Materials, B122-45T; 1945. Tentative Specifications for Copper-Nickel-Zinc and Copper-Nickel Alloy Sheet and Strip. For seven classes of alloy. Gives basis of purchase, manufacture, chemical composition, sampling for

chemical analysis, tempers of rolled sheet and strip, tempers of annealed sheet and strip, tensile strength of rolled tempers, Rockwell hardness of rolled tempers, grain size of annealed tempers, Rockwell hardness of annealed tempers, number of tests, methods of testing, thickness tolerances, width tolerances, straightness tolerances, length tolerances, finish, inspection, and rejection.

U. S. Gov., Navy Dept. Specification 46M7g, 1945. Nickel-Copper-Alloy; Bars, Forgings, Plates, Rods, Shapes, Sheets, Strips, and Wire.

654.53 Rods, Nickel-Copper

U. S. Gov., Navy Dept. Specification 46M7g, 1945. Nickel-Copper-Alloy; Bars, Forgings, Plates, Rods, Shapes, Sheets, Strips, and Wire.

654.54 Wires and Cables, Nickel-Copper

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal-Spraying.

U. S. Gov., Federal Specification RR-C-451a; 1934. Amend. 5; 1946. Cloth; Wire, Screen. Covers eight types including copper, bronze, iron or steel, copper-nickel, corrosion-resisting steel, and aluminum alloy wire. Gives requirements for material and workmanship, number of meshes per inch, diameter of wire, permissible variations, length, width, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Navy Dept. Specification 46M7g, 1945. Nickel-Copper-Alloy; Bars, Forgings, Plates, Rods, Shapes, Sheets, Strips, and Wire.

654.59 Miscellaneous Manufactures of Nickel-Copper

American Society for Testing Materials, B111-45; 1945. A.S.M.E. Boiler Construction Code Specification SB-111. Copper and Copper-Alloy Seamless Condenser Tubes and Ferrule Stock. For use in surface condensers, evaporators, and heat exchangers. Gives basis of purchase, material, manufacture, chemical composition, sample for chemical analysis, microscopic examination, expanding test, flattening test, mercurous nitrate test, hydrostatic test, number of tests, retests, dimension and weight tolerances, workmanship, finish, and inspection.

655. NICKEL-COPPER-ZINC ALLOYS (NICKEL SILVER AND GERMAN SILVER)

655.1 BARS, NICKEL-COPPER-ZINC ALLOY

American Society for Testing Materials, B151-45T; 1945. Tentative Specifications for Copper-Nickel-Zinc Alloy Rod, Bar, and Wire. Cover round, rectangular, square, hexagonal, or octagonal sections in three alloys—(A) for general use, (B) for use generally in hard or spring temper, and (C) for use where ease of machining is important. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, tempers of cold-drawn rod, bar, and wire, tempers of annealed rod, bar, and wire, tensile properties of drawn tempers, test specimens, grain size of annealed tempers, number of tests, methods of testing, tolerances, finish, inspection, and rejection.

655.2 SHEETS AND PLATES, NICKEL-COPPER-ZINC ALLOY

American Society for Testing Materials, B122-45T; 1945. Tentative Specifications for Copper-Nickel-Zinc and Copper-Nickel Alloy Sheet and Strip. For seven classes of alloy. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, tempers of rolled sheet and strip, tempers of annealed sheet and strip, tensile strength of rolled tempers, Rockwell hardness of rolled tempers, grain size of annealed tempers, Rockwell hardness of annealed tempers, number of tests, methods of testing, thickness tolerances, width tolerances, straightness tolerances, length tolerances, finish, inspection, and rejection.

655.4 STRIPS, NICKEL-COPPER-ZINC ALLOY

American Society for Testing Materials, B122-45T; 1945. Tentative Specifications for Copper-Nickel-Zinc and Copper-Nickel Alloy Sheet and Strip. For seven classes of alloy. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, tempers of roller sheet and strip, tempers of annealed sheet and strip, tensile strength of rolled tempers, Rockwell hardness of rolled tempers, grain size of annealed tempers, Rockwell hardness of annealed tempers, number of tests, methods of testing, thickness tolerances, width tolerances, straightness tolerances, length tolerances, finish, inspection, and rejection.

655.5 WIRES AND RODS, NICKEL-COPPER-ZINC ALLOY

American Society for Testing Materials, B151-45T; 1945. Tentative Specifications for Copper-Nickel-Zinc Alloy Rod, Bar, and Wire. Cover round, rectangular, square, hexagonal, or octagonal sections in three alloys—(A) for general use, (B) for use

generally in hard or spring temper, and (C) for use where ease of machining is important. Gives basis of purchase, manufacture, chemical composition, sampling for chemical analysis, tempers of cold-drawn rod, bar, and wire, tempers of annealed rod, bar, and wire, tensile properties of drawn tempers, test specimens, grain size of annealed tempers, number of tests, methods of testing, tolerances, finish, inspection, and rejection.

656. NICKEL-CHROME ALLOY**656.2 NICKEL-CHROME PLATES, SHEETS, AND STRIPS**

U. S. Gov., U. S. Army, Army Air Forces Specification 57-168-1; 1945. Nickel-Chromium-Iron Alloy, Plate and Shapes.

656.4 NICKEL-CHROME BARS, RODS, AND SHAPES

U. S. Gov., Navy Dept. Specification 46N4c, 1945. Nickel-Chromium-Alloy; Bars and Rods (for Boiler Refractory Anchor Bolts).

U. S. Gov., U. S. Army, Army Air Forces Specification 57-168-1; 1945. Nickel-Chromium-Iron Alloy, Plate and Shapes.

656.5 NICKEL-CHROME CASTINGS

American Society for Testing Materials, B207-46T; 1946. Tentative Specifications for Nickel-Chromium-Iron Alloy Castings (35-15 Class) for High-Temperature Service. Cover iron-base heat-resisting alloy castings of the 35 percent nickel, 15 percent chromium class, intended for structural elements, containers, supports, resistors, and the like, in electric furnaces. Gives process, heat treatment, chemical composition, ladle analysis, check analysis, tensile properties, tension tests, sampling, defective test specimens, retests, dimensional tolerances, finish, marking, and inspection.

660-669 PRECIOUS METALS, METAL JEWELRY, AND PLATED WARE**661. PLATINUM AND PLATINUM JEWELRY**

American Gem Society, 1946. Condensed from Commercial Standard CS66-38. Platinum Jewelry. To be stamped "Platinum" (or "Plat.") articles must contain, if made without solder, 98 1/2% of the platinum metals, if made with solder, 95% of the platinum metals. In stamping, platinum metals refer to metals of which 90% is pure platinum. Articles containing less than 50% platinum must be marked with the percentage of other metal and the word "Platinum" cannot be used. Platinum or gold articles containing 5% or more of platinum may be stamped with the karat of gold followed by the words "and platinum."

662. GOLD AND DENTAL GOLD ALLOYS

American Gem Society, 1946. Condensed from Commercial Standard CS47-34. Gold Covered Jewelry. The quality mark "Gold Filled" or "Rolled Gold Plate" shall refer to articles (except watch cases) made of base metal upon one or more sides or surfaces of which base metal there is affixed by soldering, brazing, welding, or mechanical means a sheet or sheets or shell of karat gold. "Gold Filled" mark states

correct proportion of alloyed gold to weight of entire metal and the actual karat fineness of the gold covering. If weight of the alloyed gold to the weight of the entire metal is less than 1/20th 12K, such article may be marked "Rolled Gold Plate."

American Gem Society, 1946. Gold Jewelry. "Fine Gold" means gold of 24 karat quality. The term "Solid Gold" shall be applied only to fine gold. Karat preceded by a whole number indicates the number of 24th parts of fine gold contained in the alloy. No quality mark less than 10 karat fineness is applied. Covers articles with hollow centers, trade mark, and name of manufacturer.

U. S. Gov., Federal Specification QQ-G-545; 1945. Gold; Foil, Cylinders (for Dental-Fillings). Covers one type and one grade. Gives requirements for material, workmanship, form, cohesive property, surface, weight, sizes, and moisture-proof containers; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification QQ-G-550; 1945. Gold; Plate (for Crowns and Bridges), Dental. Covers one type; one class; two grades—(A) 24 carat and

(B) 22 carat; and three weights—two pennyweight each plate, five pennyweight each plate, and ten pennyweight each plate. Gives requirements for material, workmanship, thickness, width, weight, and tolerance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2458B, 1945. Gold, Lingual Bars.

663. SILVER

American Gem Society, 1946. Condensed from Commercial Standard CS51-35. Jewelry of Sterling Silver in

Combination With Gold. An article in which the parts of the two metals are not visibly separable and easily distinguishable may use a quality mark including the term "Sterling and" or "Sterling +" followed by the weight of the alloyed gold and weight of the entire article. The karat gold mark may be used unless the alloyed gold content is at least 1/20th of the weight of the entire metal. Where silver and gold are so combined as to be visibly separable and easily distinguishable, the quality mark "Sterling" and the karat mark may be used.

670-679

CLOCKS, WATCHES, AND DIALS

671. CLOCKS

U. S. Gov., Army-Navy Aeronautical Specification AN-C-99a, 1945. Clocks; 1-7/8 Inch Dial.

U. S. Gov., Navy Dept. Specification 18C5d, 1945. Clocks, Boat.

U. S. Gov., Navy Dept. Specification 18C13a, 1945. Clocks, Deck.

672. WATCHES

U. S. Gov., Army Air Forces Specification 27619; 1945. Watch; Pilots's, Type B-1 (Elapsed Time).

U. S. Gov., Army Air Forces Specification 27631; 1945. Watch; Navigation, Type A-16 (Hack).

U. S. Gov., Navy Dept. Specification 18W6; 1945. Watches, Chronometer.

U. S. Gov., Navy Dept. Specification 18W7; 1945. Watches, Chronometer, Mounted.

U. S. Gov., U. S. Army, Army Air Forces Specification 94-27749-A; 1945. Watch; Navigation, Type A-8 (Ground Speed).

680-689

TIN AND ZINC

681. TIN

681.0 GENERAL ITEMS

American Society for Testing Materials, E51-43T; 1943.

Tentative Method of Spectrochemical Analysis of Tin Alloys for Minor Constituents and Impurities. Covers the determination of 0.001 to 1.0 percent of antimony, and 0.001 to 0.3 percent of aluminum, arsenic, bismuth, copper, iron, lead, nickel, and zinc in solders, bronzes, tin-base die-casting alloys, and other alloys high in tin. Gives principle of method, apparatus, preparation of standards, preparation of samples, procedure for excitation and photography, and interpretation of plates.

American Society for Testing Materials, E67-46T; 1946.

Tentative Photometric Method for Determination of Iron in Lead- and Tin-Base Alloys. Gives scope, photometric practice, apparatus, reagents, precautions, and details for determining iron by the ferric chloride method.

681.4 TIN MANUFACTURES

681.41 Tin Hollow Ware

U. S. Gov., Federal Specification RR-P-62; 1940. Amend. 1; 1945. Pans, Cake; Tinned, Round. Covers one type, one grade, and two sizes—9 3/8 and 10 3/8 in. outside diameter at top of pan. Gives requirements for material, workmanship, black iron gage, finish, sizes and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

681.49 Miscellaneous Tin Manufactures

Collapsible Tube Manufacturers Assn. Tin Tube Data, 1946. Gives neck number, diameter opening, diameter

outside, ten sizes from 3/8 in. x 1 1/2 in. to 2 1/2 in. x 6 in., weights per gross without caps or decoration, and minimum wall thickness.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal-Spraying.

683. ZINC

683.0 GENERAL ITEMS

American Society for Testing Materials, E26-43T; 1943.

Tentative Method of Spectrochemical Analysis of Zinc for Lead, Iron, and Cadmium. This method may be applied to any grade of zinc provided these elements are under 0.1 percent. Gives principle of method, apparatus, purity of reagents, preparation of standard solutions, preparation of sample solutions, preparation of electrode, preliminary estimation, final estimation, and testing for compliance with specifications.

American Society for Testing Materials, E40-45; 1945.

Standard Methods of Chemical Analysis of Slab Zinc (Spelter). Covers scope, apparatus and reagents, precautions, and details for determining lead by the electrolytic method, lead by the sulfate method, cadmium by the sulfide method, cadmium by the beta-naphthoquinoline method, and iron by the permanganate method.

American Society for Testing Materials, E64-46T; 1946.

Tentative Photometric Methods for Determination of Iron in Slab Zinc (Spelter). Gives scope, photometric practice, apparatus, reagents, precautions, and details for determining iron by the ferric chloride method, iron by the salicylate method, and iron by the thiocyanate method.

American Society for Testing Materials, E65-46T; 1946. Tentative Method of Sampling Slab Zinc (Spelter).

Gives scope, description of terms, selection of portion, preparation of sample, size of sample and storage, and resampling.

American Society for Testing Materials, E68-46T; 1946.

Tentative Method for Polarographic Determination of Lead and Cadmium in Zinc. Gives scope, apparatus and reagents, sampling, and details for determining lead and cadmium by the polarographic method.

683.2 ZINC SHEETS AND PLATES

U. S. Gov., Navy Dept. Specification 47Z6c; 1946.
Zinc; Plates, Rods, Sheets, and Strips.

683.3 ZINC STRIPS

U. S. Gov., Navy Dept. Specification 47Z6c; 1946.
Zinc; Plates, Rods, Sheets, and Strips.

683.4 ZINC MANUFACTURES

683.40 General Items

American Society for Testing Materials, E27-43T; 1943.

Tentative Method of Spectrochemical Analysis of Zinc-Alloy Die Castings for Minor Constituents and Impurities. Quantitative estimations are made by the comparison of the spectrum of the sample with the spectra of standard samples of known composition. Gives scope, preparation of sample solution, preparation of electrode, preliminary estimation, final estimation, testing for compliance with specifications, and explanatory notes.

American Society for Testing Materials, E47-45; 1945.

Standard Methods of Chemical Analysis of Zinc-Base Die-Casting Alloys. Gives scope, apparatus and reagents, precautions, and details for determining lead by the electrolytic method, aluminum by the mercury cathode method, copper by the electrolytic and iodide methods, magnesium by the mercury cathode method, magnesium by the diammonium phosphate method, cadmium by the sulfide method, iron by the permanganate method, and tin by the iodine titration method.

683.41 Zinc-Base Die Castings

U. S. Gov., Federal Specification QQ-Z-363; 1946. Zinc-Base Alloy; Die Castings. Covers two compositions—A and B. Gives requirements for material, workmanship, manufacture, dimensions and tolerances, marking, soundness, weight, product test, and chemical composition; methods of sampling, inspection, and tests; and packing and marking for shipment.

683.49 Miscellaneous Zinc Manufactures

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal-Spraying.

U. S. Gov., Federal Specification QQ-Z-285; 1946. Zinc; Anodes. Covers one grade. Gives requirements for material, workmanship, chemical composition, manufacture, and identification; method of sampling and inspection; and packing and marking for shipment.

690-699

MISCELLANEOUS ORES, METALS, ALLOYS, AND METAL MANUFACTURES

691. SILVER

691.2 SILVERWARE

U. S. Gov., U. S. Maritime Commission Specification 63-MC-7a; 1945. Tableware; Flatware, Steel Base, Silver Plated (Officer's). Covers one grade and three types: (I) Knives—(a) dinner and (b) dessert; (II) spoons—(c) table, (d) dessert, (e) tea, and (f) iced tea; and (III) forks—(g) dessert. Gives requirements for materials, workmanship, design, plating, finish, marking, corrosion resistance, and details; sampling, inspection, and methods of test; and packaging, packing, and marking.

692. BABBITT AND OTHER BEARING METALS

692.0 GENERAL ITEMS

American Society for Testing Materials, E57-46T; 1946.

Tentative Methods of Chemical Analysis of White Metal-Bearing Alloys. Gives scope, apparatus and reagents, precautions, and details for determining tin by the iodimetric titration method, arsenic by the distillation-bromate (Moffat) method, antimony by the bromate method, lead, copper, and iron by the hydrobromic acid separation method, copper by the rapid electrolytic method, and zinc by the polarographic method.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-362-2; 1946. Preservation and Packaging of Bearings and Bearing parts.

U. S. Gov., Joint Army-Navy Specification JAN-P-197-1; 1946. Preservation, Packaging, and Packing of Anti-Friction Bearings and Bearing Parts.

692.1 BABBITT METALS

U. S. Gov., Army-Navy Aeronautical Specification AN-W-20-1; 1945. Wire; Metal-Spraying.

U. S. Gov., Navy Dept. Specification 46M2f, 1945. Metal, Antifriction; Ingots and Castings.

692.2 BEARING METALS, OTHER THAN BABBITT

American Society for Testing Materials, B22-45T; 1945.

American Assn. of State Highway Officials Standard, M 107. Endorsed by American Foundrymen's Assn. Tentative Specifications for Bronze Castings for Turntables and Movable Bridges and for Bearing and Expansion Plates of Fixed Bridges. Cover four classes of bronze castings for turntables and movable bridges and two classes of cast-bronze plates used in bridges and other structures for fixed and expansion bearings where motion is slow and intermittent. Gives manufacture, chemical composition, chemical analysis, methods of chemical analysis, physical properties, hardness, test specimens, number of tests, finish, inspection, and rejection.

American Society for Testing Materials, B30-45T; 1945.

Endorsed by American Foundrymen's Assn. Tentative Specifications for Copper-Base Alloys in Ingot Form for Sand Castings. Cover twenty-seven copper-base alloys, having A.S.T.M. classifications, numerical

and commercial designations, and nominal compositions. Gives basis of purchase, manufacture, chemical composition, samples for analysis, chemical analysis, tensile properties, marking, inspection, certification, rejection and retesting, claims, and settlement of claims.

American Society for Testing Materials, B144-45T; 1945. Tentative Specifications for High-Leaded Tin-Bronze Sand Castings. Cover five alloys and are intended for use for conventional bearings and bushings in the cast state. Gives basis of purchase, manufacture, chemical composition and analysis, methods of chemical analysis, tensile properties, pressure and fracture tests, test specimens, number of tests, methods of testing, workmanship and finish, marking, inspection, certification, and rejection.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4822A, 1945. Bearings—72 Copper, 25 Lead, 3 Tin, Steel Backed Castings. Gives form (steel back lined on one or both sides with a bearing metal), composition, sampling, quality, reports, identification, protective treatment, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4825A, 1945. Bearings—74 Copper, 16 Lead, 10 Tin, Steel Backed Castings. Gives form (steel back lined on one or both sides with a bearing metal), composition, sampling, quality, reports, identification, protective treatment, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4827A, 1945. Bearings—80 Copper, 10 Lead, 10 Tin, Steel Backed Castings. Gives form (steel back lined on one or both sides with a bearing metal), composition, sampling, quality, reports, identification, protective treatment, approval, and rejections. Similar specification: SAE 792.

U. S. Gov., Federal Specification QQ-M-161a; 1945. Metal, Antifriction; Castings and Ingots. Covers ten grades in the form of ingots for remelting or castings. Gives requirements for material, workmanship, and chemical composition; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

692.3 METAL BEARINGS

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 181; 1944, and 182; 1945. Bearings—Plain Spherical (Interchangeable) and Bearings—Plain Spherical. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 290, 291, 292, 293, and 294; 1945. Bearings. NAS 290, Heavy Duty Inner and Outer Races, Non-Separable, Single Row Needle. NAS 291, Heavy Duty, Outer Race Retainment, Separable Inner Race, Single Row Needle. NAS 292, Roller Type, Heavy Section Outer Race and Inner Race Non-Separable, Single Row Needle. NAS 293, Roller Type, Heavy Section Outer Race and Inner Race Non-Separable, Double Row Needle. NAS 294, Heavy Duty Self-Aligning, Inner and Outer Races Non-Separable,

Single and Double Row Needle. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 295 and 296; 1945. NAS 295 Bearing—Thin Shell, Open and Closed Ends, Regular and Extra Capacity, Single Row Small Needle. NAS 296 Bearing—Thin Shell With Non-Separable Inner Race, Single Row Small Needle. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

American Society for Testing Materials, B202-45T; 1945. Tentative Specifications for Metal Powder Sintered Bearings (Oil Impregnated). Cover two types—(I) bronze base (Class A, copper-tin and Class B, copper-lead-tin); and (II) iron base (Class A, iron-carbon and Class B, iron-copper). Gives basis of purchase, manufacture, chemical requirements, density, porosity, radial crushing strength, sampling, workmanship, inspection, and rejection.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Emergency Specification E-M-502-44; 1944, changed A.A.R. Specification M-502-41, Bearings, Journal, Relined, section 1 (scope), table I (dimensions), table II (crown thickness), section 11 (inspection), and section 12 (marking).

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Emergency Specification for Journal Bearings. Changed drawings and tables showing dimensions.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4815B; 1946. Bearings—Silver, Steel Back. Shall consist of silver electrodeposited on a steel back. Gives requirements for composition, procedure, quality, reports, identification, protection, approval, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4820A; 1946. Bearings—71 Copper, 28 Lead, 1 Silver—Steel Backed Castings. Gives requirements for form, composition, sampling, quality, reports, identification, protective treatment, approval, and rejections. Similar specification: SAE 48.

U. S. Gov., Army Air Forces Specification 25536-2; 1945. Bearings; Bellcrank.

U. S. Gov., Army-Navy Aeronautical Specification AN-B-4a-1; 1945. Bearings; Anti-Friction Airframe.

693. SOLDERS AND BRAZING

693.0 GENERAL ITEMS

American Society for Testing Materials, E46-46T; 1946. Tentative Methods of Chemical Analysis of Lead- and Tin-Base Solder Metal. Gives scope, apparatus and reagents, precautions, and details for determining tin by the iodimetric titration method, arsenic and antimony by the distillation-bromate (Moffat) method, copper and bismuth by the internal electrolytic method, iron by the volumetric or colorimetric method, and zinc by the polarographic method.

American Society for Testing Materials, E56-45; 1945. Standard Methods of Chemical Analysis of Silver

Solders. Gives scope, apparatus and reagents, precautions, and details for determining silver by the silver chloride precipitation method, silver by the combination assay method, copper by the electrolytic method, cadmium by the sulfide separation method, zinc by the ferrocyanide method, zinc by the oxide method, tin by the stannic oxide method, lead by the sulfate method, iron by the Jones reductor method, and nickel by the dimethylglyoxime method.

693.1 SOLDER (TIN-LEAD BASE)

- U. S. Gov., Navy Dept. Specification 46S14c, 1945. Solder, Tin-Lead.
- U. S. Gov., Navy Dept. Specification 46S20b, 1945. Solder, Tin-Lead, Wire, Flux-Cored.
- U. S. Gov., Navy Dept. Specification 46S46; 1945. Solder, Lead-Base-Alloy.

693.2 SOLDERS, COPPER-ZINC BASE

- U. S. Gov., Navy Dept. Specification 46S15b, 1945. Solder; Brazing.

693.3 SILVER SOLDER

- Society of Automotive Engineers, Inc. Aeronautical Material Specification 4770A, 1945. Brazing Alloy—Silver. For joining nonferrous and ferrous materials, including austenitic steels. For wire, strip, pig, granular, or as ordered. Gives composition, physical properties, condition, quality, size and tolerance, reports, packaging, and rejections. Similar specification: Federal QQ-S-561d, Class 4.
- U. S. Gov., Navy Dept. Specification 46S42a, 1945. Solder, Lead-Silver.

693.5 GOLD SOLDER

- U. S. Gov., Federal Specification QQ-S-554; 1946. Solder; Gold, Dental. Covers four types—(I) for use with 16-carat gold, (II) for use with 18-carat gold, (III) for use with 20-carat gold, and (IV) for use with 22-carat gold; and two sizes—(1) one-pennyweight strip and (2) two-pennyweight strip. Gives requirements for material, workmanship, markings, composition, dimensions, weight tolerances, fusion characteristics, and suitability; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2748B; 1945. Gold Solder.

695. MAGNESIUM AND MAGNESIUM ALLOYS

695.0 GENERAL ITEMS

- American Society for Testing Materials, E35-45; 1945. Standard Methods of Chemical Analysis of Magnesium and Magnesium-Base Alloys. Gives scope, apparatus and reagents, precautions, and details for determining aluminum by the benzoate-hydroxyquinoline method, aluminum by the mercury cathode-aluminum oxide method, aluminum by the potentiometric method, zinc by the potassium ferrocyanide method, manganese by the bismuthate method, manganese by the persulfate method, copper by the electrolytic method, copper by the iodide method, silicon by the

sulfuric acid method, silicon by the perchloric acid method, silicon by the colorimetric method, iron by the rapid volumetric method, iron by the colorimetric (hydrobromic acid) method, iron by the colorimetric (thiocyanate) method, nickel by the gravimetric method, nickel by the colorimetric method, tin by the iodine method, and cadmium by the electrolytic method.

- American Society for Testing Materials, E61-46T; 1946. Tentative Photometric Methods for Chemical Analysis of Magnesium and Magnesium-Base Alloys. Gives scope, photometric practice, apparatus, reagents, precautions, and details for determining manganese by the periodate method, iron and copper by the hydrobromic acid method, iron by the bipyridine method, silicon by the molybdisilicic acid method, and lead by the dithizone method.
- Underwriters' Laboratories, Inc. Bulletin of Research, 34; 1945. Reactions of Aluminum and Magnesium With Certain Chlorinated Hydrocarbons. The object of the investigation was to obtain information relative to the fire and explosion hazards which may result from the contact of aluminum or magnesium with certain chlorinated hydrocarbons. Covers introduction, plan of investigation, tests at ordinary or moderately elevated temperatures, results, tests at higher temperatures, impact tests, and summary and conclusions.

695.1 MAGNESIUM METAL AND ALLOYS

- American Society for Testing Materials, B92-45; 1945. Magnesium Ingot and Stick for Remelting. Covers one grade containing not less than 99.8 percent magnesium. Gives manufacture, chemical composition, workmanship and finish, claims, sampling for umpire analysis, and settlement of claims.
- U. S. Gov., Federal Specification QQ-B-731b; 1945. Bronze, Manganese, and Manganese-Aluminum; Ingots (for Remelting). Covers one grade. Gives requirements for material, workmanship, chemical composition, and physical properties; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Joint Army-Navy Specification JAN-M-382; 1946. Magnesium Powder (for Use in Ammunition).
- U. S. Gov., Navy Dept. Specification 46M10; 1945. Magnesium; Ingots and Sticks (for Remelting).

695.2 MAGNESIUM ALLOY PLATES, SHEETS, AND STRIPS

- American Society for Testing Materials, B90-45T; 1945. Tentative Specifications for Magnesium-Base Alloy Sheet. Cover four designated commercial types of alloy sheet having a specific gravity of 1.8 or less. Gives manufacture, chemical composition, sampling for chemical analysis, tensile properties, test specimens, number of tests, methods of testing, permissible variations in dimensions, workmanship and finish, inspection, rejection, and explanatory notes.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2212; 1945. Tolerances—Magnesium Alloy Sheet. To publish established manufacturing tolerances. Gives application, thickness, width, length, camber, flatness, and special tolerances.

U. S. Gov., Army-Navy Aeronautical Specification AN-M-28-1; 1945. Magnesium Alloy (5.0 Aluminum, 1.0 Zinc); Sheet and Strip.

695.4 MAGNESIUM ALLOY BARS, RODS, AND SHAPES

American Society for Testing Materials, B107-45T; 1945. Tentative Specifications for Magnesium-Base Alloy Bars, Rods, and Shapes. Covers commercial magnesium-base alloy extruded bars, rods, and shapes in four types of alloys. Gives manufacture, chemical composition, sampling for chemical analysis, tensile properties, test specimens, number of tests, methods of testing, permissible variations in dimensions, workmanship and finish, inspection, rejection, and explanatory notes.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2211; 1945. Tolerances—Magnesium Alloy Bar, Rod, and Shapes. To publish established manufacturing tolerances. Gives application, diameter or thickness, width, length, straightness, flatness, and squareness of sawcuts.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4350B; 1946. Magnesium Alloy Bars (Extruded) AZ61X. For bars, rods, and shapes. Gives requirements for composition, condition, quality, tolerances, reports, identification, protective treatment, and rejections. Similar Specifications: Army-Navy Aeronautical AN-M-24; SAE 520; ASTM B107-44T, Alloy No. AZ61X; Alloy C578; Alloy J-1.

U. S. Gov., Army Air Forces Specification 11322A, 1945. Rod, Magnesium Alloy Welding (for Aeronautical Use).

695.5 MAGNESIUM ALLOY CASTINGS

American Society for Testing Materials, B80-45T; 1945. Endorsed by American Foundrymen's Assn. Tentative Specifications for Magnesium-Base Alloy Sand Castings. For commercial magnesium-base alloy sand castings having specific gravity of 1.9 or less, in seven designated types. Gives manufacture, heat treatment, chemical composition, sampling for chemical analysis, tensile properties, test specimens, number of tests, methods of testing, workmanship and finish, inspection, rejection, and explanatory notes.

American Society for Testing Materials, B93-45T; 1945. Tentative Specifications for Magnesium-Base Alloys in Ingot Form for Sand Castings, Die Castings, and Permanent Mold Castings. Cover commercial magnesium-base alloys in ingot form with specific gravity of 1.9 or less, in nine designated types. Gives manufacture, chemical composition, sampling for chemical analysis, and rejection.

American Society for Testing Materials, B199-45T; 1945. Tentative Specifications for Magnesium-Base Alloy Permanent Mold Castings. For commercial magnesium-base alloy permanent mold castings having a specific gravity not exceeding 1.9, in two designated alloys. Gives manufacture, heat treatment, chemical composition, sampling for chemical analysis, tensile properties, test specimens, number of tests, methods of testing, workmanship and finish, inspection, rejection, and explanatory notes.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4420C; 1946. Magnesium Alloy Castings, Sand, 6 Al, 3 Zn, As Cast. Gives requirements for composition, casting, test bars and analytical samples, condition, physical properties, quality, reports, identification, protective treatment, approval, and rejections. Similar specifications: Army-Navy Aeronautical AN-QQ-M-56, Composition A, Condition AC; SAE 50, As Cast; ASTM B80-44T, Alloy AZ63, As Cast.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4422D; 1946. Magnesium Alloy Castings, Sand, 6 Al, 3 Zn, Solution Heat-Treated. Gives requirements for composition, casting, test bars and analytical samples, heat treatment, physical properties, quality, reports, identification, protective treatment, approval, and rejections. Similar specifications: Army-Navy Aeronautical AN-QQ-M-56, Composition A, Condition HT; SAE 50, Heat-Treated; ASTM B80-44T, Alloy AZ63, Heat-Treated.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4424D; 1946. Magnesium Alloy Castings, Sand, 6 Al, 3 Zn, Solution and Precipitation Treated. Gives requirements for composition, casting, test bars and analytical samples, heat treatment, physical properties, quality, reports, identification, protective treatment, approval, and rejections. Similar specifications: Army-Navy Aeronautical AN-QQ-M-56, Composition A, Condition HTA; SAE 50, Heat-Treated and Aged; ASTM B80-44T, Alloy AZ63, Heat-Treated and Aged.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4430; 1945. Magnesium Alloy Castings—Sand, 9 Al, 2 Zn, As Cast. Gives composition, casting, test bars and analytical samples, condition, physical properties, quality, reports, identification, protective treatment, approval, and rejections. Similar specifications: AN-QQ-M-56, Composition C, Condition AC; SAE 500, As Cast; ASTM B80-44T, Alloy AZ92, As Cast.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4434C; 1946. Magnesium Alloy Castings, Sand, 9 Al, 2 Zn, Solution and Precipitation Treated. Gives requirements for composition, casting, test bars and analytical samples, heat treatment, physical properties, quality, reports, identification, protective treatment, approval, and rejections. Similar specifications: Army-Navy Aeronautical AN-QQ-N-56, Composition C, Condition HTA; SAE 500, Heat-Treated and Aged; ASTM B80-44T, Alloy AZ92, Heat-Treated and Aged.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4484A; 1946. Magnesium Alloy Castings, Permanent Mold, 9 Al, 2 Zn, Solution and Precipitation Treated. Gives requirements for composition, casting, test bars and analytical samples, heat treatment, physical properties, quality, reports, identification, protective treatment, approval, and rejections. Similar specifications: AAF 11349, Condition HTA; SAE 503.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4490B; 1946. Magnesium Alloy Castings, Die, 9 Al, 0.75 Zn, As Cast. Gives

requirements for composition, casting, condition, quality, reports, identification, protective treatment, approval, and rejections. Similar Specifications: Army-Navy Aeronautical AN-M-16; SAE 501; ASTM B94-44T, Alloy AZ90. U. S. Gov., Army Air Forces Specification 11348-A, 1945. Magnesium Alloy; (10.0 Al) Permanent Mold Castings.

U. S. Gov., Army Air Forces Specification 11349-A, 1945. Magnesium Alloy Castings; Permanent Mold (9.0 Aluminum, 2.0 Zinc).

U. S. Gov., Army-Navy Aeronautical Specification AN-M-16-1; 1945. Magnesium Alloy; Die Castings.

U. S. Gov., Army-Navy Aeronautical Specification AN-M-36; 1946. Magnesium Alloy; Sand Castings.

695.6 MAGNESIUM ALLOY FORGINGS

American Society for Testing Materials, B91-45T; 1945. Tentative Specifications for Magnesium-Base Alloy Forgings. Cover fully-worked commercial forgings having a specific gravity of 1.9 or less, for four types of alloys. Gives manufacture, chemical composition, sampling for chemical analysis, tensile properties, test specimens, number of tests, methods of testing, workmanship and finish, inspection, rejection, and explanatory notes.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 4360A; 1946. Magnesium Alloy Forgings, AZ 80X (Aged). Gives requirements for composition, condition, stock for forging, quality,

reports, identification, protective treatment, and rejections. Similar Specifications: Army-Navy Aeronautical AN-M-21, Condition FA; ASTM B-91-44T, Alloy No. AZ 80X; Alloy C56S-T5; Alloy O-1A.

697. FLUX FOR SOLDERING, WELDING, AND BRAZING

697.2 WELDING FLUX

U. S. Gov., Army Air Forces Specification 11314A, 1945. Flux; Gas Welding (for Corrosion and Heat-Resistant Steel).

U. S. Gov., Army-Navy Aeronautical Specification AN-F-44; 1945. Flux; Magnesium Alloy Welding.

U. S. Gov., U. S. Army, Corps of Engineers Specification 4-1118; 1944. Fluxes, Welding.

697.3 BRAZING FLUX

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3410B; 1946. Flux—Brazing (Silver). It is a paste containing not more than 30% water, by weight. Covers silver brazing non-ferrous and ferrous metals, including austenitic steels, at temperatures between 1200° and 1600°F. Gives requirements, quality, reports, packaging, approval, and rejections. Similar Specifications: Army Air Forces 11316; Navy 51F4.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 4-1121; 1944. Flux, Brazing (for Silver Solder).

700-799

MACHINERY AND VEHICLES

700-709

POWER GENERATING EQUIPMENT

(Except electrical)

700. GENERAL ITEMS

American Society of Mechanical Engineers. Power Test Codes, Auxiliary Sections. Code on Definitions and Values, 1945. Precise definitions of terms and exact values of the constants employed in the various power test codes are fundamentally important. This new code provides standard definitions and values required by individual codes and to supplement each of them. Tables 1, 2, and 3 enumerate the units to be employed in reporting results of tests made in accordance with the various test codes. These are followed by notes on data and computations of test codes and a table of letter symbols.

American Society of Mechanical Engineers. Power Test Codes, Auxiliary Sections. Code on General Instruction, 1945. No user of the Power Test Codes should be without this code for it contains important instructions and information not found in the test codes, such as rules for planning, conducting, and reporting tests; a discussion of respective responsibilities for conducting tests; relation of tests to purchase contracts; adjustment of controversies and arbitration.

701. STEAM ENGINES AND LOCOMOTIVES

701.2 STEAM TURBINES

American Institute of Electrical Engineers, No. 600; 1944. Recommended Specification for Speed Governing of Prime Movers Intended To Drive Electric Generators. To recommend functional and performance characteristics relating to the speed-governing of prime movers intended to drive electric generators and is limited to steam turbines intended to drive electric generators of not less than 10,000 kw. Gives terms and definitions, equipment specification, performance specifications, descriptive literature, acceptance tests, and figures.

American Institute of Electrical Engineers. Standard 601 and 602; 1945. Sponsored by American Society of Mechanical Engineers. Preferred Standards for Large 3600-Rpm 3-Phase 60-Cycle Condensing Steam Turbine-Generators (Larger Than 10,000-KW. Rated Capacity) and Standard Specification Data for Generators for Large 3600-Rpm 3-Phase 60-Cycle Condensing Steam Turbine Generators (Larger Than 10,000-KW. Rated Capacity). Gives data, figures, and specifications for both air-cooled generators and hydrogen-cooled generators.

American Society of Mechanical Engineers. Preferred Standards for Large 3600-Rpm 3-Phase 60-Cycle Condensing Steam Turbine Generators, 1945. These ratings and characteristics of steam turbine generator units were established by a Joint A.I.E.E.-A.S.M.E. Committee to fit the requirements of

purchasers, to permit the selection of operating pressures and temperatures for each standard unit, and to fix standard extraction temperatures for the various units.

National Electrical Manufacturers Assn. Recommended Standards for Turbine-Generator Units 75 to 400 KW, Inclusive, 45-101; 1945. These standards provide practical information concerning construction, performance and manufacture of turbine-generators, 75 to 400 KW, inclusive. Gives recommended standards for steam turbines for turbine-generator units, alternating-current generators for steam-turbine drive, and direct-current generators for steam-turbine drive.

National Electrical Manufacturers Assn. Specifying a Direct-Connected Steam Turbine, Synchronous Generator Unit, 45-103; 1945. Covers direct-connected, 60-cycle, 3600 rpm and 50-cycle, 3000 rpm steam turbine, synchronous generator units. Gives introduction, general requirements, features and accessories, installation services and accessories, rating and design conditions, detail specifications, transportation and installation, and proposal bid data.

701.3 LOCOMOTIVES

American Society of Mechanical Engineers. Boiler Construction Code. Boilers of Locomotives, 1943 with 1944-1945 Addenda. Recommendations here given are for materials, working pressures, thickness of plates and tubes, joint efficiency, braced and stayed surfaces, riveting, safety valves, fittings, hydrostatic tests, welding, stamping, etc.

U. S. Gov., Interstate Commerce Commission, Bureau of Locomotive Inspection. Laws, Rules, and Instructions for Inspection and Testing of Steam Locomotives and Tenders and Their Appurtenances, 1940. Includes rules and instructions for inspection and testing of locomotive boilers and their appurtenances. Covers responsibility for the general construction and safe working pressure, factor of safety, tensile strength of material, shearing strength of rivets, rules for inspection, inspection of interior of boiler, inspection of exterior of boiler, testing boiler, stay bolt testing, steam gauges, safety valves, water glass and gauge cocks, injectors, flue plugs, washing boilers, steam leaks, filling reports, and accident reports,

U. S. Gov., Interstate Commerce Commission, Bureau of Locomotive Inspection. Laws, Rules, and Instructions for Inspection and Testing of Steam Locomotives and Tenders and Their Appurtenances, 1940. Includes rules and instructions for inspection and testing of steam locomotives and tenders. Covers ash pans, brake and signal equipment, cabs, warning signals, and sanders, draw gear and draft gear,

driving gear, lights, running gear, tenders, throttle and reversing gear, filing reports, and accident reports.

U. S. Gov., Interstate Commerce Commission, Bureau of Locomotive Inspection. Laws, Rules, and Instructions for Inspection and Testing of Steam Locomotives and Tenders and Their Appurtenances, 1940. Includes safety appliance standards for locomotives, as fixed by order of the Commission dated March 13, 1911. Covers steam locomotives used in road service, steam locomotives used in switching service, and specifications common to all steam locomotives.

702. ACCESSORIES AND PARTS FOR STEAM ENGINES AND LOCOMOTIVES

702.9 MISCELLANEOUS PARTS FOR STEAM ENGINES AND LOCOMOTIVES

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Dry Pipes and Outside Steam Pipes, Recommended Practice, 1945. For locomotives, recommended diameters and thickness of eleven sizes of pipe.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Piston Rod and Key Taper in Crosshead, Recommended Practice, 1923. Gives dimensional drawing of taper for rod and key, with alternate.

703. BOILERS, FURNACES, EVAPORATORS, CONDENSERS

703.0 GENERAL ITEMS

American Petroleum Institute, Div. of Production. Standard 2; 1942. Supplement 1; 1946. Specification for Oil Field Boilers (Locomotive Type). Covers material, method of determining horsepower, workmanship and finish, special construction, standard openings and fittings, marking, inspection and rejection, and appendices.

American Society of Mechanical Engineers. A.S.M.E. Boiler Construction Code (Combined Edition), 1943 with 1944-1945 Addenda. Comprising the Combined Edition are the construction rules described on these pages, for locomotive, low-pressure heating, miniature, and power boilers; the rules for inspection, for care of power boilers, for unfired pressure vessels, for welding qualifications, and for materials. In this form the Code serves as a convenient reference work for those who need detailed information on the design and construction of several types of boilers and pressure vessels.

American Society of Mechanical Engineers. Boiler Construction Code. Low-Pressure Heating Boiler Code, 1943 with 1944-1945 Addenda. These rules apply to steel and cast iron boilers used exclusively for low-pressure steam heating, hot water heating, and hot water supply. Recommendations cover materials, joint efficiency, setting and installation, fittings, safety valves, stamping, hydrostatic tests, and welding.

American Society of Mechanical Engineers. Boiler Construction Code. Power Boiler Code, including

Rules for Inspection, 1943 with 1944-1945 Addenda. These rules apply to the boiler proper and piping connections up to and including the valve or valves as required by the Code, also to superheaters, reheaters, economizers, and other pressure parts connected directly to the boiler without intervening valves. Recommendations are provided for the materials; thicknesses of plates; joint efficiency; ligament efficiency; domes and manholes; dished and flat heads; braced and stayed surfaces; stays and stay tubes; combustion chambers; headers; riveting; calking; nozzle openings; safety valves; gages; fittings; piping; setting; inspection; and stamping.

American Society of Mechanical Engineers. Boiler Construction Code. Specifications for Materials, 1943 with 1944-1945 Addenda. These specifications are for the important materials used in the construction of boiler and pressure vessels. They recommend the chemical composition and outline the requirements for tensile properties, test specimens, finish, marking, inspection, annealing, heat treatment, etc. Materials for which specifications are provided include boiler steel plates and rivets, steel and iron castings, steel tubes, steel bolting materials, pipe and flanges, wrought iron, and non-ferrous metals.

American Society of Mechanical Engineers. Power Test Codes. Stationary Steam-Generating Units, 1945. For testing stationary steam-generating units defined as combinations of apparatus for producing, furnishing, or recovering heat, together with apparatus for transferring to a working fluid the heat thus made available. For purposes of this code such a unit may include boiler, water walls, water floor, water screens, superheater, reheater, economizer, air heater, furnace, and fuel-burning equipment. The Code establishes rules for conducting tests to determine (a) capacity, (b) efficiency, (c) superheater characteristics, (d) any other operating characteristics. Instructions are given for two acceptable methods of testing for efficiency and capacity—(a) direct measurements of input and output, and (b) direct measurement of heat loss and either the input or output.

Heat Exchange Institute. Condenser Section, 1939, revised 1940. This standard includes Part I—Surface Condenser Standards; covering nomenclature, definitions, condenser performance, materials of construction, atmospheric relief valve sizes, air pump capacity, tubing characteristics; and Part II—Barometric and Low Level Jet Condenser Standards; covering nomenclature, types, design, definitions, performance, construction, atmospheric relief valves, air pump capacity, and installation. Also includes air-water vapor mixture data, pressure temperature conversion tables, and logarithms base "E" applicable to both parts.

Heat Exchange Institute. Non-Deaerating Heater Section, 1942. This standard covers nomenclature, definitions, types and standards of construction, rating standards and guarantees, accessories, and typical specification.

Steel Boiler Institute, Inc. Rating Code, 1945. For commercial steel boilers, residential steel boilers, and testing oil-fired residential steel boilers.

Covers general requirements, rating of commercial steel boilers, rating of residential steel boilers, SBI code for testing oil fired residential steel heating boilers, procedure for obtaining SBI net ratings on oil fired residential steel boilers, SBI symbol, and index.

703.1 BOILERS AND DONKEY ENGINES

American Petroleum Institute, Div. of Production. Standard 2; 1942. Supplement 1; 1946. Specification for Oil Field Boilers (Locomotive Type). Covers material, method of determining horsepower, workmanship and finish, special construction, standard openings and fittings, marking, inspection and rejection, and appendices.

U. S. Gov., Joint Army-Navy Specification JAN-B-400; 1946. Boilers, Steam, Vertical, Skid-Mounted, 150-lb., 60-Hp.

703.2 BOILER TUBES

U. S. Gov., Navy Dept. Specification 44T3g, 1945. Tubes, Boiler, Seamless.

U. S. Gov., Navy Dept. Specification 44T11b; 1946. Tubes, Boiler, Steel, Commercial.

703.3 FURNACES AND BURNERS

U. S. Gov., Navy Dept. Specification 50F3a; 1946. Furnaces, Crucible, Tilting (Shipboard Use).

703.9 MISCELLANEOUS BOILER AND CONDENSER ACCESSORIES

American Society of Mechanical Engineers. Power Test Codes. Coal Pulverizers, 1944. Defines practice of testing pulverizers used for firing boiler furnaces, kilns, or industrial furnaces of various types.

Heat Exchange Institute. Condenser Section, 1940. Typical Specifications for Surface Condensers and Auxiliaries for Turbine Service. This standard covers general requirements (size, capacity, and operation), condenser details, data required with bid, steam jet air ejector, condensate pump, circulating water pump, drives, and accessories.

National Board of Fire Underwriters. Recommended by National Fire Protection Assn. and approved by American Standards Assn., Z12.1-1945. Installation of Pulverized Fuel Systems, No. 60A; 1945. Applies to new installations or major alterations or extensions to existing equipment. Covers introduction, definitions of pulverized-fuel systems, arrangements of direct-fired systems, arrangement of storage systems, hot-air supply, strength of equipment, piping, building, electricity for light and power, lighting pulverized-fuel furnaces, interlocks and starting sequence, flame detectors, furnace construction, extinguishing fires in pulverizers or piping, pulverizer outlet temperature, operating instructions, and eleven figures.

U. S. Gov., Joint Army-Navy Specification JAN-B-334; 1946. Boiler-Feed-Water-Treatment; Materials and Equipment (for Theater of Operations, Stationary use).

U. S. Gov., Navy Dept. Specification 17C19a; 1945. Contact-Makers (for Superheated Steam).

U. S. Gov., Navy Dept. Specification 45T1e; 1946. Traps, Steam, Open-Bucket and Continuous-Flow (Shipboard Use).

U. S. Gov., Navy Dept. Specification 45T2c; 1945. Traps, Steam, Thermostatic (Shipboard Use).

U. S. Gov., Navy Dept. Specification 60-I-2; 1945. Indicators, Smoke (Boiler) (Shipboard Use).

U. S. Gov., Treasury Dept., Procurement Div., 732; 1945. Cleaners, Vacuum; Furnace, Electric, Portable. Covers a heavy duty type in two sizes—(1) 3/4 horsepower and (2) 1 1/2 horsepower. Gives requirements for material, marking, exposed surfaces, reversibility, vacuum producer, motor, motor starter or switch, cord and attachment plug, dirt separator, attachments and tools, motor brushes, motor bearings, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

704. OIL ENGINES

704.0 GENERAL ITEMS

American Society of Mechanical Engineers. Automotive Diesel Engine Cost and Performance Data for 1943. The tabulated data collected for 1943 contain detailed information received from owners and operators of Diesel-powered busses and trucks on 848 vehicles. Information on type of vehicles; type of service; number of engine road failures and their causes, cost per mile or hour for fuel, lubricating oil, and engine maintenance is presented in tabular form. Published 1945.

American Society of Mechanical Engineers. Oil Engine Power Cost Report for 1943. Published 1945. This fifteenth annual survey of cost and performance data presents information supplied by 149 oil-engine generating stations containing 447 engines which generated 426,874,550 net kw. hr. Included in the Report is such significant information as: type of plants and load, number of engines, total capacity, total hours of operation, gross and net output, percentage of gross output used in plants, annual plant load factor, and running plant capacity factor. Important data on engine and plant operating statistics are given, also a summary of plant operating statistics and cost data for each plant over the entire period for which information is available.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-64a; 1945. Pre-Oiling and Ground Operation of Engines Installed in Aircraft.

U. S. Gov., Interstate Commerce Commission, Bureau of Locomotive Inspection. Laws, Rules, and Instructions for Inspection and Testing of Locomotives Other Than Steam, 1940. The railroad company is responsible for design, construction, inspection, and repair of all locomotives used on its line. Covers brake equipment, drawgear between locomotive units, connections between trucks and draft gear, running gear, wheels, cabs, cab aprons, pilots, lights, whistles, bells, sanders, train signal, electrical equipment, internal-combustion equipment, boilers used in connection with locomotives other than those propelled by steam power, specifications,

periodical reports, time out of service, accidents, and locomotive inspection report.

705. GASOLINE ENGINES AND GAS ENGINES

705.0 GENERAL ITEMS

U. S. Gov., Interstate Commerce Commission, Bureau of Locomotive Inspection. Laws, Rules, and Instructions for Inspection and Testing of Locomotives Other Than Steam, 1940. The railroad company is responsible for design, construction, inspection, and repair of all locomotives used on its line. Covers brake equipment, drawgear between locomotive units, connections between trucks and draft gear, running gear, wheels, cabs, cab aprons, pilots, lights, whistles, bells, sanders, train signal, electrical equipment, internal-combustion equipment, boilers used in connection with locomotives other than those propelled by steam power, specifications, periodical reports, time out of service, accidents, and locomotive inspection report.

U. S. Gov., Joint Army-Navy Specification JAN-P-196; 1945. Packaging and Packing for Overseas Shipment; Engines, Ground, Air-Cooled (32 Horsepower and Under) Spare Parts for.

705.3 PUMPING ENGINES

American Petroleum Institute, Div. of Production, Standard 11-E-1; 1941. Supplement 1; 1946. Specification for Rating of Roller Chain Speed Reducers for Pumping Machines. Covers scope, marking, limitations, design of drives, design of housing, shafts, bearings, service and application, formulas, inspection and rejection, and appendix.

705.4 GASOLINE ENGINES FOR ELECTRIC GENERATORS

U. S. Gov., U. S. Army, Signal Corps Specification 71-1596; 1945. Engine GE-12-B.

705.5 GASOLINE ENGINE ACCESSORIES AND PARTS

U. S. Gov., U. S. Army, Ordnance Dept. Specification 90-20; 1945. Sleeves, Dry (for General Purpose, Gasoline Engines).

705.6 AIRPLANE ENGINES

Society of Automotive Engineers, Inc. Aeronautical Information Report 6; 1945. Oil Dilution and Cold Starting of Aircraft Engines. This report submits definitions and methods for determination of oil dilution in aircraft engines. Covers definitions, method of determination, samples where taken and amount, limitations, and charts.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2574A, 1946. Preservation of Engines (Limited Period). Provides a procedure for preparing reciprocating aircraft engines to resist corrosion during shipment and limited storage under favorable conditions. Gives requirements for material and equipment, preliminary operation, preparation for storage procedure, recommended procedure for re-preservation, and general.

U. S. Gov., Army Air Forces Specification 28144A; 1939. Development Test of Aircraft Engines.

U. S. Gov., Army Air Forces Specification 28627; 1945. Engines; Process for Preparation for Storage of Turbo-Jet.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-80c-1; 1945. Corrosion Prevention; Method of Handling Aircraft Engines at Aircraft Plants for.

U. S. Gov., Army-Navy Aeronautical Specification AN-E-11-1; 1946. Engines; Preparation for Storage of Aircraft.

U. S. Gov., Army-Navy Aeronautical Specification AN-H-9a-2; 1946. Handbooks; Service Instruction (for Aircraft Engines).

U. S. Gov., Army-Navy Aeronautical Specification AN-F-10-2; 1946. Handbooks; Overhaul Instruction (for Aircraft Engines).

U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 13; 1941. Aircraft Engine Airworthiness.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 18; 1942. Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments.

705.9 MISCELLANEOUS ENGINES

U. S. Gov., U. S. Army, Ordnance Dept. Specification 90-13; 1944. Engine, Gasoline, Internal Combustion, 9-Cylinder, Radial Type, Air-Cooled, 800-Horsepower.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 90-14; 1944. Engine, Gasoline, Internal Combustion, 8-Cylinder, 60° V-Type, Liquid-Cooled, 500 HP.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 90-15; 1944. Engine, Gasoline, Internal Combustion, 6-Cylinder, Horizontally Opposed, Air-Cooled, 162 Horsepower.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 90-16; 1945. Engine, RD-1820, Internal Combustion, Compression Ignition, 9-Cylinder, Radial Type, Air-Cooled, 450 Horsepower.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 90-19; 1945. Engine, Internal Combustion, Liquid-Cooled, 110 HP., 346 Cu. In. Displacement.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 90-22; 1945. Engine, Gasoline, Internal Combustion, 9-Cylinder, Radial Type, Air-Cooled, 475 HP.

707. PACKING, PIPE COVERING, AND GASKETS

707.1 GASKETS

707.11 Asbestos and Metallic Gaskets

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3232E; 1946. Gaskets Oil Resisting (High Temperature). Gasket material made from selected long fiber asbestos and heat-resisting synthetic rubber compounds, bonded and felted together under pressure into a pliable and resilient sheet. Gives requirements, quality, tolerances, samples, reports, identification, packaging, approval, and rejections.

U. S. Gov., Navy Dept. Specification 33G5c; 1945. Gaskets, Metallic-Asbestos, Spiral-Wound (Symbol 2410) (for Flanged Joints in Piping Systems).

707.12 Paper and Fiber Gaskets

U. S. Gov., Navy Dept. Specification 33P36; 1946. Packing, Paper, Fabric, or Cork, Impregnated; Sheets, Strips, and Gaskets.

707.13 Rubber Gaskets

- U. S. Gov., Army-Navy Aeronautical Specification AN-G-23-1; 1945. Gaskets; Aircraft Lighting Equipment.
- U. S. Gov., Federal Specification HH-G-156b; 1946. Gaskets; Rubber (Natural or Synthetic), Molded, Sheet, and Strip. Covers one type. Gives requirements for material, workmanship, physical requirements, flexibility, tolerances in width, tolerances in thickness, dimensions of molded and strip rubber, thickness, width, and weight of sheet rubber, and gaskets; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 33G10; 1945. Gaskets, Cold-Storage-Door (Nonwatertight).
- U. S. Gov., Navy Dept. Specification 33G14c; 1945. Gaskets, Rubber-Tubing (for Paint Buckets).
- U. S. Gov., Navy Dept. Specification 33R1h; 1946. Rubber, Synthetic; Gaskets, Packing, Sheets, and Strips.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 20-124; 1945. Gaskets, Molded Rubber.

707.14 Cork Gaskets

- U. S. Gov., Navy Dept. Specification 33P36; 1946. Packing, Paper, Fabric, or Cork, Impregnated; Sheets, Strips, and Gaskets.

707.15 Sealing Compound

- U. S. Gov., Army Air Forces Specification 14144-1; 1945. Compound; Integral Fuel Tank, Sealing.
- U. S. Gov., Federal Specification SS-C-608; 1946. Compounds, Jointing; Sulfur (for Bell-and-Spigot Cast-Iron Pipe). Covers two types—(I) for cold water service and (II) for hot and cold water service. Gives requirements for material and workmanship, composition, temperature, and tensile strength; methods of sampling and tests; and packaging and marking for shipment.
- U. S. Gov., Joint Army-Navy Specification JAN-P-115-1; 1945. Packaging and Packing for Overseas Shipment; Compound, Sealing, Dipcoating.
- U. S. Gov., Joint Army-Navy Specification JAN-C-168; 1944. Compound, Calking (for Wooden Vessels).
- U. S. Gov., Joint Army-Navy Specification JAN-A-374; 1946. Adhesive, Paste, for Demolition Charges.
- U. S. Gov., Navy Dept. Specification 33C6a; 1945. Compound, Sealing, Boiler-Casing.
- U. S. Gov., Navy Dept. Specification 52C40; 1946. Compound, Calking, Synthetic-Rubber-Base (for Seams of Wooden Decks).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-200; 1945. Cement, Sealing or Plugging.

707.16 Synthetic Gaskets

- U. S. Gov., Army-Navy Aeronautical Specification AN-P-79-1; 1946. Packing and Gaskets; Hydraulic.
- U. S. Gov., Navy Dept. Specification 33R11; 1946. Rubber, Synthetic, Gasket (for Bolted Steel Tanks for Gasoline Storage).

707.19 Miscellaneous Specifications for Gaskets

- Society of Automotive Engineers, Inc. Aeronautical Standard 108; 1946. Gasket—Governor Mounting.

Covers the design and performance requirements of governor mounting gaskets. Gives construction, quality, requirements, test procedures, reports, approval, rejections, and drawing with dimensions and notes.

707.2 PACKING**707.20 General Items**

- U. S. Gov., Army-Navy Aeronautical Specification AN-P-74a; 1946. Packings; Installation and Gland Design of Hydraulic (General Specification for).

707.21 Asbestos Packing

- U. S. Gov., Federal Specification HH-P-34a; 1945. Packing; Asbestos, Rod, Braided. Covers two types—(A) plain, no wire and (B) with wire insertion. Gives requirements for material and workmanship, asbestos, lubrication; and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking.
- U. S. Gov., Federal Specification HH-P-51a; 1945. Packing; Asbestos, Valve-Stem. Covers four types—(I) braided and lubricated with oil; (II) braided and frictioned with rubber compound; (III) twisted and lubricated with oil; and (IV) twisted and frictioned with rubber compound; and two grades—(A) 90 percent asbestos and (B) 80 percent asbestos. Gives requirements for material and workmanship, asbestos, yarn, construction, lubricant, and friction compound; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 33P2h; 1946. Packing, Asbestos-Metallic-Cloth, Sheet and Tape.
- U. S. Gov., Navy Dept. Specification 33P5g; 1945. Packing, Asbestos, Rope, and Wick (Symbol 1102).
- U. S. Gov., Navy Dept. Specification 33P13d; 1945. Packing, Sheet, Asbestos, Compressed (Symbol 2150).
- U. S. Gov., Navy Dept. Specification 33P16c; 1945. Packing, Asbestos, Rod, High-Pressure (Symbol 1100).
- U. S. Gov., Navy Dept. Specification 33P38; 1945. Packing, Expansion-Joint, and Hydraulic (Symbols 1110 and 1220).

707.22 Flax or Hemp Packing

- U. S. Gov., Federal Specification HH-P-106b; 1944. Amend. 1; 1946. Packing; Flax, Hemp, or Cotton. Covers one grade. Gives requirements for material, workmanship, flax and hemp, cotton, cotton yarn, lubrication, and weight per linear yard for various sizes; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 33P1j; 1946. Packing, Flax- or Hemp-Fiber (Symbol 1260).

707.23 Metallic Packing

- U. S. Gov., Army-Navy Aeronautical Specification AN-P-80; 1945. Packing; Nickel-Chromium-Iron Alloy Braided.
- U. S. Gov., Federal Specification HH-P-126b; 1945. Packing; Metallic, Flexible. Covers one grade. Gives requirements for material, workmanship, cross section and size, construction, metal, core, lubrication, and coils; methods of sampling, inspection,

and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 33P33a; 1945. Packing, Semimetallic, for Stern Tubes (Symbol 1405).

U. S. Gov., Navy Dept. Specification 33P38; 1945. Packing, Expansion-Joint, and Hydraulic (Symbols 1110 and 1220).

707.24 Rubber Packing

U. S. Gov., Army Air Forces Specification 12023B; 1945. Tape; Cork—Synthetic Rubber Sealing (Adhesive Back).

U. S. Gov., Army-Navy Aeronautical Specification AN-T-84-1; 1948. Tape; Adhesive Sealing (Rubber and Cork Composition).

U. S. Gov., Federal Specification HH-P-61d; 1946. Packing; Diaphragm. Covers one type of rubber compound. Gives requirements for material, workmanship, construction, tolerance, thickness, fabric, rubber, compression-set, and immersion; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification HH-P-151b; 1945. Packing; Rubber, Cloth-Insertion. Covers one type. Gives requirements for material, workmanship, construction, physical tests of rubber, fabric, width, and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 33P81; 1945. Packing, Synthetic-Rubber, Cloth-Insertion (Symbol 2353).

U. S. Gov., Navy Dept. Specification 33P10e; 1945. Packing, Synthetic-Rubber, Wire-Insertion (Symbol 2354).

U. S. Gov., Navy Dept. Specification 33P23c; 1945. Packing, Synthetic Rubber-Graphite, Unvulcanized (Symbol 2352).

U. S. Gov., Navy Dept. Specification 33P31b; 1946. Packing, Diaphragm.

U. S. Gov., Navy Dept. Specification 33R1h; 1946. Rubber, Synthetic: Gaskets, Packing, Sheets, and Strips.

707.25 Cotton and Canvas Packing

U. S. Gov., Federal Specification HH-P-106b; 1944. Amend. 1; 1946. Packing; Flax, Hemp, or Cotton. Covers one grade. Gives requirements for material, workmanship, flax and hemp, cotton, cotton yarn, lubrication, and weight per linear yard for various sizes; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 33P32v; 1945. Packing, Cotton, Square, Braided (Symbol 1270).

707.26 Leather Packing

U. S. Gov., Army-Navy Aeronautical Specification AN-R-22-3; 1946. Rings; Hydraulic Packing (Back-Up).

U. S. Gov., Federal Specification KK-L-177a; 1946. Leather; Hydraulic-Packing, Mineral-Tanned. Covers one class; two types—(I) regular and (II) noncorrosive; two grades—(A) and (B); and three weights—medium, heavy, and extra heavy. Gives requirements for material, workmanship, tannage, finish, trim,

crackiness, tensile strength, shrinkage, curling temperature, and details for each grade; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

707.28 Fiber Packing

U. S. Gov., Federal Specification HH-P-91a; 1945. Packing; Fiber, Hard, Sheet. Covers one grade, that known commercially as B.H. or "Bone Hard." Gives requirements for material and workmanship, uniformity, color, machineability, hardness, specific gravity, thickness, tensile strength, and water absorption; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification HH-P-96b; 1945. Packing Fiber, Animal or Plant; Sheet (for) Lubricating and Fuel-Oil. Covers one grade. Gives requirements for material and workmanship and details; methods of sampling, inspection, and tests; and marking for shipment.

U. S. Gov., Navy Dept. Specification 33P27b; 1945. Packing, Fiber, Hard, Sheet (Symbol 2226).

707.29 Miscellaneous Specifications for Packings

U. S. Gov., Army-Navy Aeronautical Specification AN-P-79-1; 1946. Packing and Gaskets; Hydraulic.

U. S. Gov., Navy Dept. Specification 33P28c; 1946. Packing, Coil-Form, Stuffing-Tube and Terminal-Tube (for Electric Cables).

U. S. Gov., Navy Dept. Specification 33P36; 1946. Packing, Paper, Fabric, or Cork, Impregnated; Sheets, Strips, and Gaskets.

707.3 RUBBER VALVES FOR PUMPS

707.4 PIPE COVERINGS AND BOILER LAGGING

U. S. Gov., Federal Specification ZZ-V-51a; 1940. Amend. 1; 1946. Valves; Rubber. Covers three classes—(A) hard, (B) medium, and (C) soft. Shall consist of a compound of natural rubber, synthetic rubber, or a mixture. Gives workmanship, general requirements, hardness, dry heat test, steam test, and boiling-water test; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 11V1c; 1945. Valves, Pump, Synthetic-Rubber.

707.41 Cork Pipe Coverings

U. S. Gov., Navy Dept. Specification 32P11; 1945. Pipe-Covering, Cork, Molded (with Fire-Resistant Vapor-Barrier).

707.42 Asbestos Coverings for Pipes and Boilers

U. S. Gov., Federal Specification HH-I-561b; 1945 and Amend. 1; 1945. Insulation; Laminated-Asbestos. Covers three types—(I) asbestos or sponge felt insulation (700° F.); (II) indented asbestos paper insulation (500° F.); (III) corrugated or indented asbestos paper insulation (300° F.); and two classes—(A) blocks and (B) pipe covering. Gives requirements for tolerances and details covering construction, weight, conductivity, thickness,

sizes, jackets, bands, and loss on heating; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

707.43 Magnesia Coverings for Pipes and Boilers

U. S. Gov., Federal Specification HH-M-61a; 1945 and Amend. 1; 1945. Magnesia; Block, Cement, and Pipe-Covering (Molded). Covers one grade and four types—(I) standard thickness, (II) double standard thickness, (III) blocks, and (IV) cement or plaster. Shall contain not less than 85 percent of pure hydrated magnesium carbonate and not less than 10 percent long-fiber asbestos. Gives general requirements and detail requirements for each type; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 32P10b; 1946. Plaster, Magnesia.

707.44 Felt Pipe Coverings—Vegetable and Mineral

U. S. Gov., Federal Specification HH-P-387; 1946. Pipe-Covering; Mineral-Wool (Molded-Type and Blanket-Type for Heated Pipes). Covers one grade and two types—(I) molded pipe insulation (Class A—up to 500° F. and Class B—up to 1,000° F.) and (II) blanket pipe insulation (Class C—up to 1,000° F.) Gives requirements for material, workmanship, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

707.46 Glass Fiber Insulation

U. S. Gov., Navy Dept. Specification 32G5; 1945. Glass, Fibrous (Duct Insulation).

U. S. Gov., Navy Dept. Specification 32G6a; 1946. Glass, Fibrous; Board and Stripping Tape (Heat Insulation).

U. S. Gov., Navy Dept. Specification 32-I-1; 1945. Insulation, Glass, Fibrous; Sheets.

707.47 Mineral or Rock Wool Insulation

American Society for Testing Material, C195-45T; 1945. Tentative Specifications for Mineral Wool Thermal Insulating Cement. Covers thermal insulating material composed predominantly of mineral wool, in the form of dry cement or plaster. Gives physical properties, sampling and mixing, methods of testing, and rejection.

U. S. Gov., Federal Specification HH-C-168; 1946. Cement, Insulation; Thermal, Mineral-Wool. Covers one grade and type. Gives requirements for material, physical properties, temperature resistance, density, covering capacity, shrinkage, thermal conductivity, adhesion to steel, and loss in weight; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification HH-I-564; 1946. Insulation; Mineral-Wool, Block and Board (for Heated Surfaces). Covers one grade; one type; two forms—(I) 12 by 36 in. or smaller and (II) larger than 12 by 36 in.; and four classes—(A) up to 225° F., (B) up to 500° F., (C) up to 1,000° F., and (D) up to 1,500° F. Gives requirements for breaking

strength, linear shrinkage, water-vapor absorption, and details for each form and class; methods of sampling, inspection, and tests; and packing and marking for shipment.

U. S. Gov., Federal Specification HH-M-371a; 1945. Mineral-Wool, Impregnated; Blanket, Block, and Pipe Covering (Molded) (for Low Temperatures). Includes five types—(I) molded block; (II) molded sectional pipe covering, ice water thickness; (III) molded sectional pipe covering, brine thickness; (IV) molded sectional pipe covering, heavy brine thickness; and (V) felted blanket. Gives requirements for material, workmanship, sulphur, heat and cold test; moisture absorption, modulus of rupture, thermal conductivity, density, accessories, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification HH-P-387; 1946. Pipe-Covering; Mineral-Wool (Molded-Type and Blanket-Type for Heated Pipes). Covers one grade and two types—(I) molded pipe insulation (Class A—up to 500° F. and Class B—up to 1,000° F.) and (II) blanket pipe insulation (Class C—up to 1,000° F.). Gives requirements for material, workmanship, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 32-I-5; 1945. Insulation, Mineral-Wool, Pipe-Covering (for Low Temperatures).

707.49 Miscellaneous Covering for Pipes and Boilers

U. S. Gov., Federal Specification HH-I-578a; 1945. Insulation, Vermiculite; Block and Pipe Covering (Molded). Covers four types—(I) standard thickness, pipe-covering; (II) double standard thickness, pipe-covering; (III) solid thickness, pipe-covering; and (IV) block. Shall be made of expanded or ex-foliated mica, long fiber asbestos, and a suitable binder. Gives general requirements and detail requirements for each type; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 32P8c; 1946. Pipe-Covering, Thermal-Insulation.

709. INSULATION, THERMAL

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS131-46; 1946. Industrial Mineral Wool Products, All Types—Testing and Reporting. Provides uniform methods for testing and reporting the physical and chemical properties of mineral wool products made of rock, slag, or glass and describes equipment to produce standard results. Gives definitions; sampling; methods of testing and reporting adhesive strength, compressive strength, corrosion resistance, coverage, density and thickness, fire resistance, moisture adsorption, odor emission, shot content, temperature resistance, and thermal conductivity; warranty; and notes. Initiated by the Industrial Mineral Wool Institute.

U. S. Gov., Federal Specification HH-I-578a; 1945. Insulation, Vermiculite; Block and Pipe Covering

(Molded). Covers four types—(I) standard thickness, pipe-covering; (II) double standard thickness, pipe-covering; (III) solid thickness, pipe-covering; and (IV) block. Shall be made of expanded or exfoliated mica, long fiber asbestos, and a suitable binder. Gives general requirements and detail requirements for each type; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification HH-M-61a; 1945 and Amend. 1; 1945. Magnesia; Block, Cement, and Pipe-Covering (Molded). Covers one grade and four types—(I) standard thickness, (II) double standard thickness, (III) blocks, and (IV) cement or plaster. Shall contain not less than 85 percent of pure hydrated magnesium carbonate and not less than 10 percent long-fiber asbestos. Gives general requirements and detail requirements for each type; methods

of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification HH-M-371a; 1945. Mineral-Wool, Impregnated; Blanket, Block, and Pipe Covering (Molded) (for Low Temperatures). Includes five types—(I) molded block; (II) molded sectional pipe covering, ice water thickness; (III) molded sectional pipe covering, brine thickness; (IV) molded sectional pipe covering, heavy brine thickness; and (V) felted blanket. Gives requirements for material, workmanship, sulphur, heat and cold test; moisture absorption, modulus of rupture, thermal conductivity, density, accessories, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 32G7; 1945. Glass, Cellular (for Thermal Insulation).

710-719

ELECTRICAL MACHINERY AND SUPPLIES

710. GENERAL ITEMS

American Institute of Electrical Engineers. No. 503; 1945. AIEE Test Code for Synchronous Machines. Contains instructions for conducting the more generally applicable and acceptable tests to determine the performance characteristics of synchronous machines. Gives miscellaneous tests, segregated losses, efficiency, saturation and synchronous impedance, load excitation and voltage regulation, temperature tests, speed torque tests, and sudden short-circuit tests and synchronous machine quantities.

American Institute of Electrical Engineers, No. 700; 1945. Report on Aircraft D-C Apparatus Voltage Ratings. Many difficulties and much confusion will be eliminated by adopting suitable standard voltage ratings for all aircraft electrical equipment. Gives table showing proposed A.I.E.E. standard for aircraft D-C apparatus voltage ratings.

American Institute of Electrical Engineers and American Society of Mechanical Engineers, joint sponsors. American Standards Assn., Z32.3-1946. Graphical Symbols for Electric Power and Control. Covers basic symbols which have widespread use and application. Gives symbols for alarms, battery, capacitor, circuit breakers, coils, connections, electrical contacts, contactors, fuse, indicating lights, instruments and meters, lightning arrestors, machines, meters, plug connections, rectifiers, relays, relay function symbols, resistors, shielding, switches, thermal elements, thermocouples, transformers, windings, and wiring.

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. For the equipment of merchant vessels with electrical apparatus for lighting, signaling, communication, power, propulsion, either direct current or alternating current. Gives definitions including general, generator classification, motor classification, rotary converters, motor speed classification, ventilation of machines,

enclosure of machines, kinds of torque, duty classification, control apparatus and switchgear, classes of insulating material, types of circuits, and nature of supply.

American Society for Testing Materials, B155-45T; 1945. Tentative Method of Test for Temper of Strip and Sheet Metals for Electronic Devices (Spring-Back Method). Covers the procedure for determining the temper of strip and sheet metals for electronic devices, in thicknesses of 0.020 in. or less, by means of measurements of the "spring-back" when the specimen is released after bending in the prescribed manner. Gives apparatus, test specimen, procedure, and report.

American Society for Testing Materials, B157-45T; 1945. Tentative Methods of Testing Wire for Supports Used in Electronic Devices and Lamps. Cover the procedures for testing round wire (exclusive of molybdenum and tungsten) from 0.010 to 0.075 in. in diameter, used as support wire in electronic devices and lamps. Gives chemical composition, electrical resistivity, straightness, diameter, out-of-roundness, tension tests, and bend test.

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 12.21; 1945. Static Electricity—A Common Fire Cause and How It Can Be Eliminated. Covers how static electricity is generated, preventing static accumulation, and tests for static electricity.

International Association of Electrical Inspectors. A Guide to Effective Electrical Maintenance, 1943. Proper maintenance of electrical equipment will accomplish safety to persons and reduce losses in wages, operating costs, property, and production. Covers general requirements, substation equipment, wiring, lightning equipment, control equipment, motors, and arc welding sets.

International Association of Electrical Inspectors. A Manual for Investigating and Reporting Electrical Fires, 1932. To outline a standard method of investigating and reporting electrical fires. Covers

investigating and reporting fires due to heat from an electrical source, table showing types of fires that may occur on electrical equipment, table showing standard classification of fires of electrical origin, reporting electrical fires, and standard electrical fire report form.

Underwriters' Laboratories, Inc., 1946. List of Inspected Electrical Equipment. This catalog contains summaries of listing card reports on electrical equipment which has been examined with reference to fire and accident hazards and for conformity with the provisions of the National Electrical Code applying to its installation and use. There is an index and the items are arranged alphabetically in each section as to the subject and alphabetically by name of manufacturer under each subject.

U. S. Gov., Army-Navy Aeronautical Specification AN-E-16; 1946. Electrical Load Analysis; Method for Aircraft DC.

U. S. Gov., Army-Navy Aeronautical Specification AN-T-65-1; 1946. Test Procedure for Airborne Electronic Equipment.

U. S. Gov., Joint Army-Navy Specification JAN-E-251; 1945. Electrical-Equipment: Rotation, Connections, and Terminal Markings for.

711. ELECTRIC GENERATORS AND MOTORS

711.1 ELECTRIC GENERATORS

711.10 General Items

Associated Factory Mutual Fire Insurance Companies.

Factory Mutual Bulletin of Loss Prevention, 15.20; 1941. Protecting Electric Generators. Covers general discussion, engine-driven generators, steam turbo-generators, carbon dioxide, perforated water spray pipes, and hydro-generators.

National Electrical Manufacturers Assn. Motor and Generator Standards, 45-102; 1945. General Definitions. Covers protection of machines, classification of types of machines by mechanical protection and system of cooling, duty and service conditions, rating, performance and test, general classification-motors, types distinguished by features of design-motors, speed classification-motors, complete machines and parts, single-phase motor parts, isolated electric farm lighting plants, miscellaneous.

711.11 Alternating-Current Generators

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Alternating-Current Generating Sets. Gives installation and location, number and size, exciters, emergency sets, voltage regulators, generator windings, prime movers, mountings, insulation, lubrication, corrosion-resistant parts, terminal arrangements, tests, temperature limits, spare parts, etc.

American Institute of Electrical Engineers. Standard 601 and 602; 1945. Sponsored by American Society of Mechanical Engineers. Preferred Standards for Large 3600-Rpm 3-Phase 60-Cycle Condensing Steam Turbine-Generators (Larger Than 10,000-KW Rated Capacity) and Standard Specification Data for Genera-

tors for Large 3600-Rpm 3-Phase 60-Cycle Condensing Steam Turbine-Generators (Larger Than 10,000-KW Rated Capacity). Gives data, figures, and specifications for both air-cooled generators and hydrogen-cooled generators.

American Society of Mechanical Engineers. Preferred Standards for Large 3600-Rpm 3-Phase 60-Cycle Condensing Steam Turbine Generators, 1945. These ratings and characteristics of steam turbine generator units were established by a Joint A.I.E.E.-A.S.M.E. Committee to fit the requirements of purchasers, to permit the selection of operating pressures and temperatures for each standard unit, and to fix standard extraction temperatures for the various units.

National Electrical Manufacturers Assn. Recommended Standards for Turbine-Generator Units 75 to 400 KW, Inclusive, 45-101; 1945. These standards provide practical information concerning construction, performance and manufacture of turbine-generators, 75 to 400 kw, inclusive. Gives recommended standards for steam turbines for turbine-generator units, alternating-current generators for steam-turbine drive, and direct-current generators for steam-turbine drive.

National Electrical Manufacturers Assn. Motor and Generator Standards, 45-102; 1945. Synchronous Generators. Gives rating standards, performance standards, and manufacturing standards.

National Electrical Manufacturers Assn. Specifying a Direct-Connected Steam Turbine, Synchronous Generator Unit, 45-103; 1945. Covers direct-connected, 60-cycle, 3600 rpm and 50-cycle, 3000 rpm steam turbine, synchronous generator units. Gives introduction, general requirements, features and accessories, installation services and accessories, rating and design conditions, detail specifications, transportation and installation, and proposal bid data.

U. S. Gov., Army Air Forces Specification 32478-1; 1945. Generator, Engine-Driven Type V-1, Alternating-Current.

U. S. Gov., Army Air Forces Specification 32509-2; 1945. Alternator; Engine-Driven, Type A-1 (Aircraft).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3231; 1945. Generator G-7()/U.

711.12 Direct-Current Generators

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Direct-Current Generating Sets. Covers installation and location, number and size, emergency sets, windings, voltage regulation and compounding, parallel operation, prime movers, mountings, accessibility, insulation of windings, lubrication, corrosion-resistant parts, terminal arrangements, tests, temperature limits, sparking, insulation, etc.

National Electrical Manufacturers Assn. Recommended Standards for Turbine-Generator Units 75 to 400 KW, Inclusive, 45-101; 1945. These standards provide practical information concerning construction,

performance and manufacture of turbine-generators, 75 to 400 kw, inclusive. Gives recommended standards for steam turbines for turbine-generator units, alternating-current generators for steam-turbine drive, and direct-current generators for steam-turbine drive.

National Electrical Manufacturers Assn. Motor and Generator Standards, 45-102; 1945. Direct-Current Generators. Includes general-purpose sizes and larger than general-purpose sizes. Gives rating standards, performance standards, and manufacturing standards.

National Electrical Manufacturers Assn. Motor and Generator Standards, 45-102; 1945. Isolated Electric Farm Lighting Plants. Covers plants which furnish power from generator alone, plants which furnish power from generator and battery combined or from battery alone, and plants which furnish power from generator and battery combined or from either generator or battery alone. Gives rating standards, performance standards, and manufacturing standards. The Society of Automotive Engineers cooperated with the NEMA in the preparation of these standards.

U. S. Gov., Army Air Forces Specification 32299-B; 1945. Power Plant, Aircraft Accessory Electric Type D-2 (5 KW. D. C.).

U. S. Gov., Army Air Forces Specification 32486A; 1945. Generator; Engine-Driven, Type R-2 (Aircraft—28 Volts D.C.).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3089; 1945. Training Generator AN/URA-T1 (Principal Components of).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3108; 1945. Generator G-4 ()/TRC-10.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3141; 1945. Generator G-5 ()/TMQ-2.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3169; 1945. Generator G-3 ()/TRC-7.

711.2 ELECTRIC MOTORS

711.20 General Items

National Electrical Manufacturers Assn. Motor and Generator Standards, 45-102; 1945. General Definitions. Covers protection of machines, classification of types of machines by mechanical protection and system of cooling, duty and service conditions, rating, performance and test, general classification—motors, types distinguished by features of design—motors, speed classifications—motors, complete machines and parts, single-phase motor parts, isolated electric farm lighting plants, and miscellaneous.

Underwriters' Laboratories, Inc. Standard for Motor-Operated Appliances, 73; 1937. Covers scope, general, frame and enclosure, mechanical assembly, corrosion protection, supply connections, current-carrying parts, wiring, insulating material, motors, spacings, grounding, special safety features, power input, temperature, dielectric strength, and marking.

711.21 Alternating-Current Motors

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on

Shipboard, 45; 1945. (1) Alternating-Current Motors. All motors should be designed for the voltage, phase, and frequency of the supply system. Gives installation and location, accessibility, insulation and windings, lubrication, terminal arrangements, corrosion-resistant parts, nameplates, tests, temperature rises, and spare parts. (2) Propulsion Equipment. Includes turbines for electric propulsion, Diesel engines, a-c generators and motors for propulsion, exciters, control equipment, temperature limits, tests, cables, installation and operation, and maintenance.

National Electrical Manufacturers Assn. Motor and Generator Standards, 45-102; 1945. Alternating Current Motors. Includes standards for small power motors, large single-phase and polyphase induction, large synchronous, polyphase for elevator, crane, shell-type motors for woodworking and machine tool applications, and buffer and grinder motors. Gives classification, rating standards, application standards, performance standards, and manufacturing standards.

National Electrical Manufacturers Assn. Motor and Generator Standards, 45-102; 1945. Small-Power Motors—Universal. Covers plain series and compensated series. Gives classification, rating standards, performance standards, and manufacturing standards.

U. S. Gov., Army Air Forces Specification 50474; 1945. Motor, Electric 1/2 Horsepower (Machine Tool Drive).

U. S. Gov., Panama Canal, Purchasing Dept. Specification for Fractional Horsepower Motors, 1945. Single Phase for general purpose use.

U. S. Gov., Panama Canal, Purchasing Dept. Specification for Fractional Horsepower Motors, 1945. Single Phase for refrigerator use.

U. S. Gov., Panama Canal, Purchasing Dept. Specification for Integral Horsepower Motors, 1945. Single phase for general purpose use.

U. S. Gov., Panama Canal, Purchasing Dept. Specification for Integral Horsepower Motors, 1945. Three phase for general purpose use.

711.22 Direct-Current Motors

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. (1) Motors. Provides for use of 230 volts direct current, except for limited use. Gives installation and location, accessibility, insulation of windings, lubrication, terminal arrangements, corrosion-resistant parts, nameplates, tests, limits of temperature rises for d-c motors, ambient temperature, sparking, motor overload, insulation—voltage tests, spare parts, spare parts storage, and motor application. (2) Propulsion Equipment. Includes turbines for electric propulsion, Diesel engines, d-c generators and motors for propulsion, exciters, control equipment, temperature limits, tests, cables, installation, operation, and maintenance.

National Electrical Manufacturers Assn. Motor and Generator Standards, 41-102; 1945. Direct-Current Motors. Includes standards for small motors, large motors, and elevator motors. Gives classification,

rating standards, performance standards and manufacturing standards.

National Electrical Manufacturers Assn. Motor and Generator Standards, 45-102; 1945. Small-Power Motors—Universal. Covers plain series and compensated series. Gives classification, rating standards, performance standards, and manufacturing standards.

U. S. Gov., Army-Navy Aeronautical Specification AN-M-10a-1; 1945. Motors; Aircraft Direct Current, 28 Volt System.

U. S. Gov., Navy Dept. Specification 17M14b; 1946. Motor- and Control-Equipment, Direct-Current (for Shipboard and Motorboat Internal-Combustion-Engine Starting).

711.23 Motor-Driven Fans and Blowers

U. S. Gov., Joint Army-Navy Specification JAN-F-68-1; 1944. Fans, Electric, Bracket (Shipboard Use).

U. S. Gov., Joint Army-Navy Specification JAN-F-151-2; 1945. Fans, Electric, Refrigerator-Space (Shipboard Use).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 12-11; 1945. Fan, Exhaust, Nonsparking, 24-In. (for Paint Room).

711.24 Electric Tools

National Machine Tool Builders' Assn. Machine Tool Electrical Standards, 1945. For general industrial use, including "Automotive Standards." Applies to machine tools that are power driven, complete metal-working machines not portable by hand, having one or more tool and work holding devices, used for progressively removing metal in the form of chips. Covers general requirements, diagrams, control, motors, wiring, grounding, and electrical accessories and devices.

U. S. Gov., Federal Specification W-D-661; 1942. Amend. 2; 1945. Drills; Electric, Portable (Exclusive of High-Frequency Types). Covers four types—(I) for aluminum, (II) for corrosion-resistant steels, (III) for mild steels and various metals other than corrosion-resistant steels (class A—heavy duty, B—standard duty, and C—light duty), and (IV) radial drill. Gives requirements for construction, safety, motors, screws, bolts, nuts, bearings, gears and shafts, lubrication, wiring, cord and attachment plug, switch, chuck, dielectric strength, name plate, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification W-G-671; 1945. Grinders; Valve-Seat, Engine (Motor-Vehicle). Gives requirements for materials, workmanship, condition, grinding precision, grinding wheels, dielectric strength, lubrication, marking, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 40D1d; 1946. Drills, Radial, Motor-Driven (Shipboard Use).

U. S. Gov., Navy Dept. Specification 40D4e; 1945. Drills, Upright, Motor-Driven, 21-Inch (Shipboard Use).

U. S. Gov., Navy Dept. Specification 40D7; 1945. Drill-Presses, Sensitive, Motor-Driven, 16-Inch (Shipboard Use).

U. S. Gov., Navy Dept. Specification 40T6c; 1946. Tools, Woodworking (Shipboard Use).

U. S. Gov., U. S. Army, Corps of Engineers Specification 41-9; 1945. Sharpener, Chain Saw, Motor-Driven.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 56-100-1A; 1946. Cleaner, High-Pressure, Vapor-Generating, Rinsing, and Cleaning; Electric Motor-Driven, Portable.

U. S. Gov., U. S. Army, Signal Corps Specification 75-481; 1945. Chopper, Paper, Electric, V-Mail.

711.4 ACCESSORIES AND PARTS FOR MOTORS AND GENERATORS

711.42 Carbon Brushes for Motors and Generators

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R210-45; 1945. Carbon-Brush Terminals (Electric). To provide a practicable simplified list of sizes, types, and varieties of carbon-brush terminals, to satisfy normal requirements for all sizes and types of rotating electric apparatus. Gives guide chart for carbon-brush terminals (electric) showing sketches and dimensions for integral horsepower or industrial brush shunt terminals, fractional horsepower brush shunt terminals—box type holder, and fractional horsepower brush terminals—cartridge type holders.

712. BATTERIES AND ELECTROPLATING APPARATUS

712.0 GENERAL ITEMS

U. S. Gov., Joint Army-Navy Specification JAN-P-207; 1945. Packaging and Packing for Overseas Shipment—Electrolyte; Storage Battery (in U. S. 1-Gallon or Imperial 1-Gallon Bottles).

U. S. Gov., Joint Army-Navy Specification JAN-P-208; 1945. Packaging and Packing for Overseas Shipment—Batteries; Storage, Automotive and Navy Portable (Exceeding 15 Pounds Weight).

712.1 PRIMARY BATTERIES

U. S. Gov., Joint Army-Navy Specification JAN-B-18-1; 1945. Batteries, Dry.

U. S. Gov., U. S. Army, Signal Corps Specification 70-401; 1946. Battery BB-53.

712.2 STORAGE BATTERIES

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Storage Batteries. Covers installation and location, capacity, general description, accessibility, voltage, charging equipment, cable sizes, nameplates, and spare parts and boxing.

U. S. Gov., Army-Navy Aeronautical Specification AN-B-13a; 1946. Battery; 12-Volt 17-Ampere-Hour Shielded Storage.

- U. S. Gov., Army-Navy Aeronautical Specification AN-B-14a; 1946. Battery; 24-Volt 11-Ampere-Hour Shielded Storage.
- U. S. Gov., Army-Navy Aeronautical Specification AN-B-23; 1946. Battery; 12-Volt 34-Ampere Hour Shielded Storage.
- U. S. Gov., Army-Navy Aeronautical Specification AN-B-24; 1946. Battery; 24-Volt 17-Ampere-Hour Shielded Storage.
- U. S. Gov., Army-Navy Aeronautical Specification AN-B-25; 1946. Battery; 24-Volt 34-Ampere-Hour Shielded Storage.
- U. S. Gov., Army-Navy Aeronautical Specification AN-B-26; 1946. Batteries; Shielded Storage, General Specification.
- U. S. Gov., Navy Dept. Specification 17B4h; 1945. Batteries, Storage, Portable.
- U. S. Gov., Navy Dept. Specification 17C12c; 1945. Compound, Battery-Sealing.
- U. S. Gov., Navy Dept. Specification 18T28; 1945. Testers, Battery-Water, Conductivity-Type.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-88; 1945. Batteries, Storage (for) Military Motor Vehicles.
- U. S. Gov., U. S. Army, Signal Corps Specification 70-27-A; 1945. Battery BB-50 (Storage, 12 V., 55 Amp-Hr.).
- U. S. Gov., U. S. Army, Signal Corps Specification 70-405; 1945. Battery BB-205/U.
- U. S. Gov., U. S. Army, Signal Corps Specification 70-407; 1945. Battery BB-207/U.
- U. S. Gov., U. S. Army, Signal Corps Specification 70-451; 1946. Batteries BR-51 and BB-52.
- U. S. Gov., U. S. Army, Signal Corps Specification 70-454; 1945. Battery BB-54-A.
- U. S. Gov., U. S. Army, Signal Corps Specification 70-601; 1946. Battery BB-200/U (Storage, 14 V, 15 Amp-Hr.).
- U. S. Gov., U. S. Army, Signal Corps Specification 70-608; 1945. Battery Pack BB-208/AMT.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3149; 1946. Battery Tester TS-183/U.

712.3 BATTERY CASES

- U. S. Gov., Navy Dept. Specification 17C28a; 1946. Covers, Complete, and Ventilation-Parts, Rubber (Natural and Synthetic; Hard and Soft) (for Use With Storage Batteries in Submarines).
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2208C; 1945. Battery Box.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1687; 1945. Battery Cases CS-119 and CS-119-A.

712.9 MISCELLANEOUS BATTERY ACCESSORIES

- U. S. Gov., Army-Navy Aeronautical Specification AN-C-144-1; 1945. Clamps; Battery Hold-Down.
- U. S. Gov., Navy Dept. Specification 17S6c; 1945. Storage-Battery-Insulation (Sheet Material for Retainers, Sheathings, and Baffle-Disks).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 56-100-2; 1944. Still, Water: Portable, Gasoline-Operated (for Servicing of Storage Batteries).
- U. S. Gov., U. S. Army, Signal Corps Specification 70-500; 1945. Battery Charger PP-178/U.

- U. S. Gov., U. S. Army, Signal Corps Specification 70-503; 1945. Battery Charger PE-219- ().
- U. S. Gov., U. S. Army, Signal Corps Specification 70-504; 1946. Filler MX-692 ()/U.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3130; 1946. Battery Charger PE-163.

713. TRANSFORMERS, ELECTRIC CONVERTERS, AND CONDENSERS

713.0 GENERAL ITEMS

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention 15.30; 1943. Safe Transformer Installations. Gives general discussion and covers oil-insulated transformers, transformers filled with a non-flammable liquid, air-blast transformers, and dry-type transformers.

713.1 ELECTRIC CONDENSERS, STATIC

- National Electrical Manufacturers Assn. Standards for Shunt Capacitors, 45-100; 1945. These standards provide practical information concerning construction, test, performance, and manufacture of shunt capacitors. Gives service conditions, rating standards, manufacturing standards, testing standards, guide for the application and operation of shunt capacitors, and definitions.
- U. S. Gov., Joint Army-Navy Specification JAN-C-5-1; 1944. Capacitors, Mica-Dielectric, Fixed.
- U. S. Gov., Joint Army-Navy Specification JAN-C-20-2; 1945. Capacitors, Ceramic-Dielectric, Fixed (Temperature-Compensating).
- U. S. Gov., Joint Army-Navy Specification JAN-C-62-1; 1945. Capacitors, Dry-Electrolytic, Polarized.
- U. S. Gov., Joint Army-Navy Specification JAN-C-81; 1945. Capacitors, Ceramic-Dielectric, Variable.
- U. S. Gov., Joint Army-Navy Specification JAN-C-92-1; 1945. Capacitors, Air-Dielectric, Variable (Trimmer Capacitors).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1667; 1945. Capacitors, By-Pass, Suppression (Radio-Frequency Interference).

713.2 SYNCHRONOUS CONDENSERS AND CONVERTERS

- National Electrical Manufacturers Assn. Motor and Generator Standards, 45-102; 1945. Frequency Converters and Motors Above 60 Cycles for Industrial Purposes. Gives rating standards and performance standards.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1502; 1946. Converter M-222 (Ringling) (Telephone Switchboard, Emergency Ringing Current).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3051; 1946. Converter CF-4- () (Carrier, 2 Wire-4 Wire).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3055; 1946. Converter CV-2 ()/TX.

713.3 DYNAMOTORS

- U. S. Gov., U. S. Army, Signal Corps Specification 71-1658-A; 1945. Test Set I-199 (Dynamotor).

713.4 MOTOR GENERATORS

- National Electrical Manufacturers Assn. Motor and Generator Standards, 45-102; 1945. Motor-Generator

Sets. Includes induction or synchronous direct-current, general purpose generators—150 kw and smaller; motion-picture motor-generator sets, and synchronous motor-generator sets. Gives rating standards and performance standards.

713.5 TRANSFORMERS

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Transformers. Recommends use of dry type, air cooled; unless capacity, space or other restrictions warrant use of immersed (nonflammable liquid) self-cooled or other suitable type. Specifies limits of temperature rise and temperature measurement.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 83-44; 1945. Transformer, Dry Type, Self-Cooled. For providing a dry type transformer cooled by natural circulation of air. Gives drawings, tender, alternates, material and workmanship, type, windings, rating, frequency, core, insulation, leads and terminals, polarity of windings, name plate and diagram, housing, dielectric requirements, purchaser's order, tests, description of tests, inspection, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 84-44; 1945. Transformer, Oil-Immersed, Self-Cooled. Gives drawings, tender, alternates, material and workmanship, type, windings, rating, frequency, case, core, insulation, leads and terminals, name plate and diagram, hangers, oil, dielectric requirements, purchaser's order requirements, tests, description of tests, inspection, packing, marking, and warranty.

National Electrical Manufacturers Assn. Standards for Specialty Transformers, 45-98; 1945. Provides practical information concerning construction, test, performance and manufacture of specialty transformers. Covers general-purpose specialty transformer standards, control transformer standards, high-reactance control transformer standards, signalling transformer standards, luminous-tube transformer standards, ignition transformer standards, doorbell transformer standards, lead markings and terminal connections, and definitions.

National Electrical Manufacturers Assn. 112-1946. Edison Electric Institute 0-5. Joint Committee on Standards for Distribution Transformers. Establishes design standards for certain mechanical and electrical features of three-phase, pole-type distribution transformers rated 150 kva and smaller, high voltage 15,000 volts and below, low voltage 600 volts and below. Gives summary of electrical features, mechanical features, and nomenclature; and specifications covering scope, voltage rating, kva ratings, angular displacement and terminal designation, tolerance values, interchangeable mounting, bushings, external grounding provisions, nameplate, drain plugs and drain valves, lifting lugs, protective devices, and drawings.

U. S. Gov., Army Air Forces Specification 32498-2; 1945. Transformer; Instrument Current, Type D-1 (400 Cycle—Aircraft).

U. S. Gov., Army-Navy Aeronautical Specification AN-T-7a-1; 1946. Transformers; Series Multiple (Subway—with Detachable Couplings).

U. S. Gov., Navy Dept. Specification 17T19e; 1946. Transformers, Electric, Miscellaneous (Exclusive of Power or Distribution and Instrument Types).

U. S. Gov., Navy Dept. Specification 17T20f; 1946. Transformers, Electric; Single-Phase, 60 Cycles; and Balance-Coils, Dry Type.

U. S. Gov., U. S. Army, Signal Corps. Specification 71-1524-A; 1945. Transformer C-410.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3243; 1945. Transformers and Inductors, Treatment of (for Replacement Purposes).

713.6 CHOKE COILS, IGNITION COILS

U. S. Gov., U. S. Army, Signal Corps Specification 71-670-F; 1945. Coils C-105 and C-278 (Induction).

713.7 RECTIFIERS

U. S. Gov., Army Air Forces Specification 32455B; 1945. Rectifier; Direct-Current Power Supply, Type B-1 (Portable—100 Amperes, 28 Volts; 200 Amperes, 14 Volts).

U. S. Gov., Army Air Forces Specification 32517A; 1945. Rectifier; Direct-Current Power Supply, Type B-2 (Portable—200 Amperes, 28 Volts).

U. S. Gov., Army Air Forces Specification 32518; 1945. Rectifier; Battery-Charging, Type C-1 (Ten-Station).

U. S. Gov., Army Air Forces Specification 32519A; 1945. Rectifier; Direct-Current Power Supply, Type B-3 (Portable—400 Amperes, 28 Volts).

U. S. Gov., Army Air Forces Specification 32520; 1945. Rectifier; Battery-Charging, Type C-2 (Electric Truck).

U. S. Gov., Army Air Forces Specification 32523; 1945. Rectifier; Electroplating, Type E-1 (250/500 Amperes—12/6 Volts).

U. S. Gov., Army Air Forces Specification 32524; 1945. Rectifier; Electroplating, Type E-2 (700/1400 Amperes—12/6 Volts).

U. S. Gov., Army Air Forces Specification 32542-1; 1945. Rectifier; Direct-Current Power Supply, Type B-4 (Stationary—400 Amperes, 28 Volts).

U. S. Gov., Army Air Forces Specification 32544; 1945. Rectifier; Direct-Current Power Supply, Type B-5 (Stationary—200 Amperes, 28 Volts).

U. S. Gov., Army Air Forces Specification 32545; 1945. Rectifier; Direct-Current Power Supply, Type B-6 (Stationary—100 Amperes, 28 Volts; 200 Amperes, 14 Volts).

U. S. Gov., Navy Dept. Specification 17R10; 1946. Rectifiers, Metallic-Cell.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1302-A; 1946. Rectifier RA-43-() and Case CS-82-B.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1586; 1945. Rectifier RA-87 and Chest CH-158.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1634-C; 1945. Rectifier RA-91-() (Telephone Central Battery Charging).

- U. S. Gov., U. S. Army, Signal Corps Specification 71-3084; 1944. Vibrator Power Supplies PE-242-() and PE-243-().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3090; 1946. Rectifier RA-83-().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3154; 1945. Rectifier RA-120-().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3177; 1946. Rectifier Power Unit RA-133-().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3223; 1945. Rectifier Power Unit PP-34A/MSM.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3269; 1946. Rectifier RA-63-D.

714. SWITCHES, PANELS, METERS, AND CONTROLLING EQUIPMENT

714.1 CONTROLLING EQUIPMENT

714.11 Electric Controllers and Starters

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Control Apparatus. Covers general requirements, installation and location, types, protecting cases, manual starters and controllers, magnetic starters and controllers, push-buttons, resistors, circuit breakers, knife blade switches, enclosures as part of control, corrosion-resistant parts, nameplates, tests, limits of temperature rises, ambient temperature, insulation-voltage test, general requirements for contactors, spare parts, and control application.

National Electrical Manufacturers Assn. Standards for Industrial Control, 45-97; 1945. These standards provide practical information concerning construction, test, performance, and manufacture of industrial control equipment. Gives standards applying to all control, resistors, contactors, brakes, auto-transformers and reactors, a-c controllers, d-c controllers, general-purpose and machine-tool control, graphic arts control, mine hoist control, magnetic control for steel-mill auxiliaries, magnetic control for cab-operated cranes, synchronous motor control, magnetic control for floor-operated cranes, enclosed pressure-operated motor-starting switches, high interrupting capacity controllers, magnetic welder contactors and weld timers, terminal markings, guide to specifications for building equipment control apparatus, and definitions.

- U. S. Gov., Army Air Forces Specification 32511A; 1945. Regulator; Alternator Voltage (208 Volts, Alternating Current—Aircraft).
- U. S. Gov., Navy Dept. Specification 17R2c; 1945. Regulators, Automatic-Voltage (for Generators).
- U. S. Gov., U. S. Army, Corps of Engineers Specification 12-13; 1945. Starters, Motor, Across-the-Line and Reduced Voltage, Manual and Magnetic, 3/4 to 100 HP.

714.12 Resistors and Rheostats

- U. S. Gov., Army-Navy Aeronautical Specification AN-R-13a; 1945. Resistors; Thermocouple Lead Spool.
- U. S. Gov., Army-Navy Aeronautical Specification AN-R-14a-4; 1946. Rheostats; Aircraft Power.
- U. S. Gov., Joint Army-Navy Specification JAN-R-22-1; 1945. Rheostats, Wire-Wound, Power-Type.

- U. S. Gov., Joint Army-Navy Specification JAN-R-26-1; 1945. Resistors, Fixed, Wire-Wound, Power Type.
- U. S. Gov., Joint Army-Navy Specification JAN-R-29-2; 1945. Resistors, External Meter (High Voltage, Ferrule Terminal Type).
- U. S. Gov., Joint Army-Navy Specification JAN-R-93-1; 1945. Resistors, Accurate, Fixed, Wire-Wound.
- U. S. Gov., Joint Army-Navy Specification JAN-R-184; 1945. Resistors, Fixed, Wire-Wound (Low-Power).
- U. S. Gov., Navy Dept. Specification 17R4a; 1945. Resistors and Rheostats, Electric (Exclusive of Instrument Multipliers).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1585; 1945. Resistors-Suppressors, Suppression (Radio Frequency Interference).

714.13 Automatic Stations

Electrical Standards Committee of American Standards Assn., Sponsor. American Standards Assn., C37.2-1945. American Institute of Electrical Engineers' Standard C37.2. Standard for Automatic Station Control, Supervisory, and Telemetering Equipments. Relates to all types of devices for use in automatic switching equipment for controlling unattended or attended generating stations or substations. Gives scope, service conditions, definitions, ratings, temperature limitations, tests, nameplates, device function numbers, minimum protection, and table showing minimum protection for power apparatus and feeders.

714.14 Relays

- U. S. Gov., Army Air Forces Specification 32439A-3; 1945. Relay; Current Type B-9A, Single Pole, Double Throw Time Delay.
- U. S. Gov., Army Air Forces Specification 32471-1; 1945. Relay; Current, Type D-1 (115 Volts, 400 Cycle—Single Pole).
- U. S. Gov., Army Air Forces Specification 32538; 1945. Relay; Current, Type C-6 (24-28 Volts D.C.—Double Pole).
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-123-1; 1946. Cabinet and Relay Assembly; Distribution.
- U. S. Gov., Army-Navy Aeronautical Specification AN-R-20b-1; 1946. Relays; Direct Current.
- U. S. Gov., Navy Dept. Specification 17R6a; 1946. Relays, Electric (Shipboard Use).

714.2 FUSES AND FUSE HOLDERS

714.21 Fuses

American Institute of Electrical Engineers, No. 25; 1945. Standards for Fuses Above 600 Volts. Applies to all types of fuses whether for indoor or outdoor service. Covers service conditions, definitions, rating, tests, name plate markings, appendix A—recommended methods for determining the rms value of sinusoidal current wave, and appendix B—recommended method of determining the equivalent steady-state rms current.

714.22 Fuse Blocks, Cut-Out Bases, and Clips

- U. S. Gov., Army Air Forces Specification 32506-1; 1945. Fuse Blocks; Alternating-Current, 400 Cycle, Aircraft.

714.3 INSTRUMENTS AND METERS, ELECTRICAL

714.31 Ammeters

U. S. Gov., Army-Navy Aeronautical Specification AN-A-19a-1; 1945. Ammeters and Voltmeters; Direct-Current.

714.32 Voltammeters

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-52; 1944. Volt-Ammeter, Hook-On Type, Portable, w/Leather Carrying Case.

714.33 Voltmeters

U. S. Gov., Army Air Forces Specification 32371B; 1945. Voltmeter, Portable Direct-Current (0-30 Volts).

U. S. Gov., Army-Navy Aeronautical Specification AN-A-19a-1; 1945. Ammeters and Voltmeters; Direct-Current.

U. S. Gov., Army-Navy Aeronautical Specification AN-V-19a-1; 1945. Voltmeters; 0-150 Volt, 400 Cycle, Alternating-Current.

714.39 Miscellaneous Electrical Measuring Instruments

U. S. Gov., Army Air Forces Specification 24868A; 1945. Tester; Electrical Circuit Type B-1, 24-28 1/2 Volts D. C.

U. S. Gov., Army Air Forces Specification 24971-1; 1945. Tester; Electrical Circuit Type B-2, 24-28 1/2 Volts D. C.

U. S. Gov., Army Air Forces Specification 32508A; 1945. Meter; Alternating-Current Frequency, Type B-1 (400 Cycle—Aircraft).

U. S. Gov., Joint Army-Navy Specification JAN-A-185; 1945. Adapters and Spacers (for Electrical Indicating Instruments).

U. S. Gov., Navy Dept. Specification 17D4; 1945. Dynamometer-Test-Stands, Electrically-Driven (for Loading and Testing Hydraulic Transmissions).

U. S. Gov., Navy Dept. Specification 17-I-20a; 1946. Instruments, Electrical—Measuring; Resistors, Shunts, Instrument Transformers, and Transformer Protective Devices (Accessories) for.

U. S. Gov., Navy Dept. Specification 17-I-22a; 1945. Instruments, Electrical—Measuring, Circuit-Characteristic-Indicating; Voltage-Testers, Frequency, Phase, Rotation, and Synchroscopes.

U. S. Gov., Navy Dept. Specification 17-I-23a; 1945. Instruments, Electrical—Measuring, Temperature-Indicating.

U. S. Gov., Navy Dept. Specification 17-I-28; 1946. Instruments, Electrical—Indicating, Light (Light Meters).

U. S. Gov., Navy Dept. Specification 17-I-43; 1945. Instruments, Electrical—Measuring, Insulation-Resistance-Indicating.

U. S. Gov., Navy Dept. Specification 17T33; 1946. Testers (Growlers), Armature-and-Stator, Electric, Portable.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1689; 1945. Meter Test Equipment AN/GSM-1 ().

U. S. Gov., U. S. Army, Signal Corps Specification 71-1768; 1946. Voltammeter I-166.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3034; 1946. Test Set TS-26/TS4.

U. S. Gov., U. S. Army, Signal Corps Specification 74-73; 1945. Frequency Standard TS-65 ()/EMQ-1.

714.4 PANELS, PANEL BOARDS, SWITCHBOARDS

714.41 Panels and Panel Boards

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 45, Revised 1945. Panel Assembly—Electrical Connector. Gives drawing with dimensions and notes. Developed by National Aircraft Standards Committee.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-59a; 1945. Panels; Airport Lighting Control.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1610-A; 1945. Panel BD-132 (Power).

714.42 Switchboards

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Switchboards. Covers installation and location, construction, device design characteristics, temperatures, interrupting requirements for air circuit breakers and fuses, arrangement of switchboard equipment, protective functions, grounding three-wire dual voltage systems, bus bars and copper connections, wire and conductor terminal connectors, nameplates, minimum equipment for generator switchboards, insulation—voltage tests, emergency and interior communication switchboards, and spare parts.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, Specification 107-45; 1946. Switchboard and Equipment. For the control and distribution of electric power in railway signal service. Covers drawings, alternates, material and workmanship, design, panels, cubicle and metal clad type switchboards, supporting framework, instruments, transformers, fuses, circuit breakers, knife switches, busses and terminals, instrument switches, handles and buttons, plates, finish, insulation, dielectric requirements, identification, inspection, tests, packing, marking, and warranty.

National Electrical Manufacturers Assn. Power Switching Equipment Standards, 45-94; 1945. These standards cover manufacture, test, and performance of power switching equipment. Gives general requirements, bus supports and air switches, interrupter switches, power fuses, outdoor substations, definitions of terms, and instructions for installation, operation, and care.

714.5 SWITCHES AND CIRCUIT BREAKERS

714.50 General Items

American Society for Testing Materials, B182-46T; 1946. Tentative Method for Life Test of Electrical Contact Materials. Covers the procedure for the determination of the life and some operating characteristics of materials used for electrical contacts. Gives apparatus, power supply, adjustment of testing machine, preparation of test specimens,

procedure for initial measurements, procedure for periodic measurements, final measurements, and report.

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 15.21; 1941. Safeguarding Electrical Switching Equipment. Gives general discussion and covers location, selection of new equipment, types of switchboards, arrangement of other types, current-interrupting capacity of circuit breakers, fuses, and wiring.

Electrical Standards Committee of the American Standards Assn., sponsor, C37.5-1945. Methods for Determining the Rms Value of a Sinusoidal Current Wave and a Normal-Frequency Recovery Voltage. Covers current waves and normal-frequency recovery voltage, together with figures and data.

Electrical Standards Committee of The American Standards Assn., sponsor, C37.8-1945. Rated Control Voltages. Gives tables for direct-current manual, solenoid, or motor operation; and alternating-current manual, solenoid, motor or rectifier-solenoid operation.

714.51 Circuit Breakers

Electrical Standards Committee of The American Standards Assn., sponsor, C37.4-1945. Alternating-Current Power Circuit-Breakers. Apply to all indoor and outdoor types of alternating-current power circuit-breakers rated in excess of 600 volts. Covers service conditions, general definitions, construction definitions, qualifying terms, rating, heating, dielectric tests, and nameplate markings.

Electrical Standards Committee of the American Standards Assn., sponsor, C37.6-1945. Schedule of Preferred Ratings for Power Circuit Breakers. Gives tables covering indoor oil power circuit breakers, indoor oilless power circuit breakers, outdoor oil power circuit breakers, and outdoor oilless and low oil content power circuit breakers.

Electrical Standards Committee of The American Standards Assn., sponsor, C37.7-1945. Operating Duty (Duty Cycle) for Standard and Reclosing Service Applicable to Oil Circuit-Breakers Only. Gives tables covering percentages for determining the interrupting rating for oil-tight oil circuit-breakers at various operating duties and covering percentages for determining the interrupting rating for non-oil-tight oil circuit breakers at various operating duties.

Electrical Standards Committee of The American Standards Assn., sponsor, C37.9-1945. Test Code for Power Circuit Breakers. While it is not possible to define a single standard method of testing power circuit breakers this code does supply much needed information. Covers general considerations and scope, test methods, effects of laboratory characteristics and testing procedure, general characteristics and their effects on circuit-breaker tests, transient recovery voltages and transient recovery rates, comparison of types of operations and tripping schemes upon circuit-breaker performance, and use of current transformers versus shunts for short-circuit measurements.

National Electrical Manufacturers Assn. Standards for Large Air Circuit Breakers, 46-109; 1946. These standards provide practical information concerning construction, performance and manufacture of large air circuit breakers. Gives general standards, large air circuit breakers, enclosed large air circuit breakers, definitions, and instructions for installation, operation, and care of large air circuit breakers.

National Electrical Manufacturers Assn. Standards for Power Circuit Breakers, 46-116; 1946. Provides practical information concerning the rating, testing, application and manufacture of power circuit breakers. Covers general standards, rating standards, testing standards, manufacturing standards, application standards, accessory standards, definitions, and instructions for the installation, operation, and care of power circuit breakers.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-77a-1; 1945. Circuit breakers; Non-Trip Free.

U. S. Gov., Navy Dept. Specification 17C24; 1945. Circuit-Breakers, Air, Electric, Low-Voltage (Ship-board Use).

U. S. Gov., U. S. Army, Corps of Engineers Specification 12-10; 1945. Circuit Breaker, Surface-Mounting, Weatherproof Cabinet.

714.52 Switches

U. S. Gov., Army Air Forces Specification 27645-1; 1945. Switch; Differential Pressure, Type K-1 (Aircraft).

U. S. Gov., Army-Navy Aeronautical Specification AN-B-21; 1945. Boots; Toggle Switch.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-7-2; 1945. Switches; Generator Control Relay.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-20a-2; 1945. Switches; Aircraft Toggle.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-39b; 1945. Switches; Push Button and Limit.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-42a; 1946. Switches; Generator Control Relay (Differential).

U. S. Gov., Army-Navy Aeronautical Specification AN-S-45-1; 1945. Switches; Voltmeter Selector.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-47-1; 1945. Switches; Shielded Ignition.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-50; 1945. Switch Assemblies and Actuators; Push Button and Limit.

U. S. Gov., Army-Navy Aeronautical Specification AN-T-77; 1945. Tips; Toggle Lever Luminescent.

U. S. Gov., Joint Army-Navy Specification JAN-S-23; 1945. Switches, Toggle (for Electronic and Communications Use).

U. S. Gov., Joint Army-Navy Specification JAN-S-63-1; 1945. Switches, Sensitive.

U. S. Gov., Navy Dept. Specification 17C16c; 1945. Contact-Makers, Motor-, Pressure-, and Temperature-Operated; Interior-Communication and Fire-Control.

U. S. Gov., Navy Dept. Specification 17S16c; 1946. Switching-Equipment, Bus-Transfer, Magnetically and Manually Operated.

U. S. Gov., U. S. Army, Signal Corps Specification 72-58; 1944. Switch Locking Plate.

715. TRANSMISSION AND DISTRIBUTION APPARATUS

715.1 CONDUITS AND SWITCHBOXES

715.11 Electric Conduit, Wire Raceways, and Fittings

U. S. Gov., Federal Specification W-C-571; 1942. Amend. 1; 1945. Conduit and Fittings; Asbestos-Cement (for) Electrical Purposes. Covers two types—(I) for use encased in concrete after installation and (II) for use without encasement in concrete; sizes—2, 2 1/2, 3, 3 1/2, 4, 4 1/2, 5, and 6 in. Gives requirements for bore, joints, fittings, lengths, thickness of wall; absorption, flexural strength and crushing strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification W-C-581; 1939. Amend. 2; 1946. Conduit and Fittings; Fiber, Ritu-minized. Covers two types—(I) for use encased in concrete (sizes—1, 2, 3, 4, 4 1/2, 5, and 6 in.) and (II) for use without encasement in concrete (sizes—2, 3, 4, and 5 in.). Gives requirements for material, workmanship, bore, joints, length and wall thickness, water absorption, chemical properties, boiling, heat resistance, resistance to flattening, crushing strength, beam strength, and impact strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification W-F-406; 1937. Amend. 3; 1945. Fittings; Cable and Conduit. Covers six types—rigid steel conduit, electrical metallic (steel) tubing, armored cable, oval steel tubing, service-entrance cable, and nonmetallic sheathed cable; twenty-two classes; and fourteen sizes. Gives requirements for material and workmanship, and details for each type, class, and size; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification WW-C-571; 1933. Amend. 1; 1945. Conduit; Steel, Rigid, Enameled. Shall be furnished in electrical trade sizes. Gives requirements for material and workmanship, enamel coating, threading and reaming, couplings, marking, dimension of threads for conduit, pitch of threads, taper of threads, and fittings; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification WW-C-581a; 1935. Amend. 3; 1945. Conduit; Steel, Rigid, Zinc-Coated. Shall be furnished in electrical trade sizes. Gives requirements for material, workmanship, zinc-coating, threading and reaming, couplings, marking, length, weight, wall thickness, dimensions of threads for conduit, taper of threads, fittings, and elbows and nipples, methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification WW-T-806a; 1935. Amend. 2; 1945. Tubing; Electrical, Metallic. Shall

be furnished in the electrical trade sizes. Gives requirements for material, workmanship, zinc coating, dimensions, and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking.

715.12 Switch Boxes, Outlet and Junction Boxes, Cabinets

U. S. Gov., Army-Navy Aeronautical Specification AN-C-123-1; 1946. Cabinet and Relay Assembly; Distribution.

U. S. Gov., U. S. Army, Signal Corps Specification 71-701-A; 1945. Switchboard BE-60 (Telephone Switching).

U. S. Gov., U. S. Army, Signal Corps. Specification 71-1000-B; 1945. Junction Boxes JB-19 and JB-80.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1001-A; 1945. Cabinet BE-75 (Telephone, Power).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1018-A; 1946. Cabinet BE-72 (Test and Power Distribution).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3158; 1945. Switchbox BC-658-C; 1945.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3181; 1945. Control Box BC-739-A.

715.2 SOCKETS, RECEPTACLES, LIGHTING SWITCHES, ROSETTES

715.21 Sockets, Receptacles, Plugs

U. S. Gov., Federal Specification W-L-142; 1945. Lampholders (Sockets); Medium-Screw-Shell, General Service. Covers lampholders to be used with incandescent lamps having medium screw bases in ten types. Gives general design, assembly design, current-carrying parts, lamp cavity, corrosion resistance, terminals, insulating base, screw shell, center contact, wattage and voltage, temperature rise, heat resistance, dielectric strength, color, finish, marking, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification W-L-146; 1945. Lampholders (Sockets); Medium-Screw-Shell, Weatherproof. Covers three types—(I) pigtail, (II) pin terminal, and (III) conduit. To be used with incandescent lamps having medium screw base. Gives general design, screw shell, center contact, insulating base, color, wattage and voltage, temperature rise, dielectric strength, finish, marking, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification W-R-151a; 1945. Receptacles (Convenience-Outlets), Adapters, Attachment-Plug-Caps, Cord-Connector-Bodies, Current-Taps, Motor-Base-Plugs, and Plug-Bodies; 250-Volts. Covers five types. Gives requirements for material, general design, current-carrying parts, sealing compound, terminals, identification of polarized terminals, bladed devices, slotted devices, strain relief, bushings, finish, color, marking, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification W-R-161; 1945. Receptacles, Flashlight-Cell; With Rheostat. Covers one type. Gives requirements for material, workmanship, description, length, shell, top, bottom, rheostat, hook, stamping, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Joint Army-Navy Specification JAN-S-213; 1945. Sockets, Electric-Lamp, Pendant and Fixture (Shipboard Use).
- U. S. Gov., Navy Dept. Specification 17C15d; 1945. Caps, Attachment-Plug, Separable, for Connection to Flexible Electrical Conductors.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3142; 1945. Adapter Plug U-4/GT.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3161; 1945. Bridging-Access Plug U-23/G.

715.3 WIRING AND WIRING SUPPLIES

715.30 General Items

- Illuminating Engineering Society. Handbook of Residential Wiring Design (Single Family Dwellings), 1946. Covers wiring for modern electrical needs, electrical symbols, general requirements and definitions, outlet requirements, circuit requirements, service requirements, special requirements, summary of required outlets—table, and specification form.
- National Adequate Wiring Bureau. Industrial committee on Interior Wiring Design. Sponsored by American Home Lighting Institute, Edison Electric Institute, International Assn. of Electrical Inspectors, National Electrical Contractors Assn., National Electrical Manufacturers Assn., National Electrical Wholesalers Assn., and Radio Manufacturers Assn. Endorsed by American Institute of Electrical Engineers, American Society of Agricultural Engineers, and Illuminating Engineering Society. Handbook of Residential Wiring Design (Single Family Dwellings), 1948. Represents the opinion of the electrical industry as the minimum for residence wiring systems to provide adequacy for present and anticipated future needs. Not a booklet on how to install wiring but on how to plan wiring. Covers wiring for modern electrical needs, electrical symbols, general requirements and definitions, outlet requirements, circuit requirements, service requirements, special requirements, summary of required outlets—table, and specification form.

715.35 Terminals and Tags

- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 287 and 288; 1945. Terminal. NAS 287, Chain to Cable (for Swaging); NAS 288, Chain to Turnbuckle. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- U. S. Gov., Army-Navy Aeronautical Specification AN-N-9; 1945. Nipples; Electrical Terminal.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-2b-1; 1946. Terminals; Steel Cable (for Swaging).
- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Miscellaneous Publication M180; 1945. Guide—Chart for Carbon—Brush Terminals (Electric).

Gives figures and tables showing dimensions for integral horsepower or industrial brush shunt terminals, fractional horsepower brush shunt terminals—box type holder, and fractional horsepower brush terminals—cartridge type holders.

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R210-45; 1945. Carbon-Brush Terminals (Electric). To provide a practicable simplified list of sizes, types, and varieties of carbon-brush terminals, to satisfy normal requirements for all sizes and types of rotating electric apparatus. Gives guide chart for carbon-brush terminals (electric) showing sketches and dimensions for integral horsepower or industrial brush shunt terminals, fractional horsepower brush shunt terminals—box type holder, and fractional horsepower brush terminals—cartridge type holders.
- U. S. Gov., Navy Dept. Specification 17C13e; 1945. Connectors and Lugs, Terminal, Pressure-Grip (Solderless) (for Electric Cable).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-436-D; 1945. Tag MC-72. (Paper; for Wire Identification).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-480-C; 1945. Cable Terminals, Telephone, Unprotected. (Terminal Boxes JB-10, JB-11, JB-12, and JB-13).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1554; 1946. Telegraph Terminal CF-2 () (Carrier).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3077; 1946. Telegraph Terminal TH-1()/TCC-1.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3078; 1946. Telegraph Terminal CF-6-() (Carrier).
- 715.36 Cable Reels and Wire Spools
- U. S. Gov., U. S. Army, Corps of Engineers Specification 84-51; 1944. Reel, Wire, Electric Lighting Equipment, With Stand, Collapsible.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-575-E; 1945. Reels DR-4, DR-5, DR-7, and DR-15.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-865-C; 1945. Axles RL-27-A, RL-27-B, and RL-27-C (for Laying Field Wire).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-886-G; 1945. Reel Unit RL-26-E (Engine-Driven for Laying and Recovering Field Wire).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-911-B; 1945. Reel Unit RL-31-C (Wire).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-976; 1945. Reel Cart RL-35-A.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1010-A; 1945. Reel RL-39-B.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3097; 1945. Reel Assembly RL-106/VI.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3147; 1945. Reel Frame FM-81.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3195; 1945. Spool DR-8-A.

715.39 Miscellaneous Wiring Supplies

- U. S. Gov., U. S. Army, Signal Corps Specification 71-3020; 1945. Single-Tube Wire Splicing Sleeves.

715.4 WIRES, CORDS, AND CABLES

715.40 General Items

American Institute of Electrical Engineers, No. 30; 1944. American Standards Assn., C8-1-1944. American Standard Definitions and General Standards for Wire and Cable. Applicable to wires and cables for power purposes. Covers definitions, conductivity standards, designation standards, high-voltage test, insulation resistance, capacitance or electrostatic capacity.

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 15-50; 1941. Grouped Power Cables. Gives general discussion and covers typical cable fires, flame-resisting insulation, method of flameproofing, and grouped elevator cables.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-135b; 1945. Cable Assemblies; Proof Testing and Prestretching of.

715.41 Cables, Electrical

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 302 to 310, 312 to 320, and 322 to 330; 1945. Cable Assembly Swaged Type. NAS 302 to 310, Type I Terminals; NAS 312 to 320, Type I and Type II Terminals; NAS 322 to 330, Type II Terminals. Gives drawings, tables, materials, cable and terminal, corrosion protection, notes, and tolerances. Developed by National Aircraft Standards Committee.

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Wires and Cables—Construction. Covers copper conductors, insulation, rubber filled tape, braid, color code, cabling, fillers, reinforced rubber sheath, lead sheath, bituminous compound, armor, paint, dimensional tolerances, tests on finished cable, cable construction, cables—applications, and cable installation.

American Society for Testing Materials, B172-45T; 1945. Tentative Specifications for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Members, for Electrical Conductors. Cover members made from round copper wires, either uncoated or coated with tin, lead, or lead-alloy coatings, for use as electrical conductors. Gives classification, requirements for wires, joints, lay, construction, physical and electrical tests, density, weight and resistance, variation in area, packing and shipping, marking, inspection, and explanatory notes.

American Society for Testing Materials, B173-45T; 1945. Tentative Specifications for Rope-Lay-Stranded Copper Conductors Having Concentric-Stranded Members, for Electrical Conductors. Cover members made from round copper wires, either uncoated or coated with tin, lead, or lead-alloy coatings, for use as electrical conductors. Gives classification, requirements for wires, joints, lay, construction, physical and electrical tests, density, weight and resistance, variation in area, packing and shipping, marking, inspection, and explanatory notes.

American Society for Testing Materials, B174-45T; 1945. Tentative Specifications for Bunch-Stranded Copper Conductors for Electrical Conductors. Cover conductors made from round copper wires, either uncoated or coated with tin, lead, or lead-alloy coatings, for use as electrical conductors. Gives classification, requirements for wires, joints, lay, construction, physical and electrical tests, density, weight and resistance, variation in area, packing and shipping, marking, inspection, and explanatory notes.

American Society for Testing Materials, D754-46T; 1946. Tentative Specifications for Insulated Wire and Cable: Heat-Resisting Synthetic Rubber Compound. Intended to permit the use of the compound known as "Government Rubber," type GR-S, but are not restricted to this type. Gives physical properties, high voltage test, insulation resistance, thickness, workmanship, rejection, and methods of testing. A.S.T.M. Emergency Alternate Provision EA-D754; 1944, affected section 5, thickness.

U. S. Gov., Army Air Forces Specification 32516A, 1945. Cable Assembly; External Power Connection (Aircraft).

U. S. Gov., Army Air Forces Specification 32534; 1945. Cable; High-Tension, Shielded (Single Conductor).

U. S. Gov., Army-Navy Aeronautical Specification AN-C-130a-1; 1946. Cable; High Tension Ignition.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-161-1; 1946. Cable; Aircraft Aluminum Electric.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-441; 1942. Addendum 1; 1942. Cable; Electrical; Rubber Insulated; Non-Metallic Armor.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-612; 1943. Cable; Electrical, Paper Insulated.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-701; 1944. Cable; Electrical; Synthetic Rubber Insulated; Non-Metallic Armor.

U. S. Gov., Federal Specification J-C-86; 1943. Amendment 2; 1945. Cable, Cord, and Wire; Electric, Flexible, Cotton-Covered (General Service). Covers four types. Gives requirements for scope, types and sizes, service application, material and workmanship, general design, conductor wire, separator, conductor insulation, conductor insulation covering, polarity identification, conductor lay, barrier, cable covering, moisture-resistance, flame-retardance, flexibility, and rejection; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification J-C-103; 1941. Amendment 3; 1945. Cable and Wire; Rubber-Insulated, Building-Type (0 to 5,000-Volt Service). The term "rubber" as used throughout this specification includes synthetic rubber. Covers all listed sizes of rubber-insulated wire and cable in two types—R, code grade; and RH, heat-resistant grade. Gives

requirements for conductors, insulation, coverings, dielectric strength, insulation resistance, and marking of wire and cable; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification J-C-138; 1943. Amend. 1; 1946. Cable and Wire; Varnished-Cloth-Insulated (0 to 5,000-Volt Service). Covers varnished-cloth insulated wires and cables of all wire sizes listed in table and designates four types. Gives requirements for material, resistance, sizes, strands, tinning, splices, separator, insulation, coverings, cabling, dielectric strength, and insulation resistance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification J-C-145; 1945. Cable and Wire; Weather-Resistant. Covers URC single conductor, fibrous covered, asphalt compound saturated, weather-resistant wire and cable in two classes—(A) two coverings and (B) three coverings. Gives requirements for hardness, sizes, material, workmanship, conductors, covering, saturant, finish, and resistance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Joint Army-Navy Specification JAN-C-17-2; 1945. Cables; Coaxial and Twin Conductor for Radio Frequency.
- U. S. Gov., Joint Army-Navy Specification JAN-C-76-1; 1946. Cable (Hook-Up Wire); Electric, Insulated, Radio and Instrument.
- U. S. Gov., Navy Dept. Specification 15C7; 1945. Cables; Electric, Merchant-Degaussing.
- U. S. Gov., Navy Dept. Specification 15C9; 1945. Cable (Cord); Electric, Tinsel-Cordage.
- U. S. Gov., Treasury Dept., Procurement Div., 321B; 1942. Cable; Ignition, High-Tension, Automotive. Covers one type and one grade; and conductor shall comprise 19 copper wires each wire covered with lead-alloy coating. Gives requirements for insulation, braid, date and identification markers, size, tests, finish, and rejection; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 90-12A; 1945. Cable; Electric, Low-Tension (Single Conductor).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-96; 1945. Cable; 2-Conductor (for Automotive Vehicle Applications).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-428-D; 1946. Cable WC-621 to WC-634, Inclusive.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-430-C; 1946. Cables WC-661 to WC-674, Inclusive (Power).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-983; 1946. Cable; Field Telephone (5- and 10-Pair Rubber Jacketed).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1501; 1946. Cable WC-548-S, Cable Assembly CC-356-S, Cable Assembly CC-368-S, and Cable Stub CC-356-S (Spiral-Four Field Carrier Cable, Cable Assemblies, and Cable Stub).

715.42 Cords, Electrical

- U. S. Gov., Army Air Forces Specification 7094; 1945. Cordage WF-5/U (4-Conductor, A.W.G. No. 22) (Close Spiral Construction, Buna S Jacketed) (for Use in Military Aircraft).
- U. S. Gov., Federal Specification J-C-86; 1943. Amendment 2; 1945. Cable, Cord, and Wire; Electric, Flexible, Cotton-Covered (General Service). Covers four types. Gives requirements for scope, types and sizes, service application, material and workmanship, general design, conductor wire, separator, conductor insulation, conductor insulation covering, polarity identification, conductor lay, barrier, cable covering, moisture-resistance, flame-retardance, flexibility, and rejection; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 12-12; 1945. Cords, Extension; and Plugs, Attachment.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-471-E; 1945. Cordages CO-98, CO-208, CO-209 (No. 20 AWG).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-684-C; 1945. Cordage CO-144, Cordage CO-145, and Cords (No. 18 AWG, Close Spiral Construction).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-700-D; 1945. Cordages and Cords, Shielded, Synthetic Rubber Insulated and Jacketed (Radio Power).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-886-A; 1942. Cordage CO-122-A and CO-122-B (3-Conductor, A. W. G. No. 22 or No. 20) Close Spiral Construction, Buna S Jacketed. Also Cords CO-76-A and CO-76-B.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-925-D; 1946. Cordage CO-146 and Cords (No. 20 AWG Close Spiral Construction).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-971-A; 1945. Cord CD-318-B.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1019-A; 1945. Cords and Cordage, Multipair (No. 22 AWG).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1525-A; 1945. Cords CD-604, CD-605, CD-874, and CD-933.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1618-A; 1945. Cordage CO-212 and Cords (No. 8 AWG Concentric Battery Cordage).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-2428; 1945. Cord CX-227/TVQ-1.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3145; 1945. Cordages WD-9/U, WT-2/U, and WF-4/U (Retractable).
- U. S. Gov., U. S. Army, Signal Corps Specification 75-111; 1945. Cord CX-229/TVQ-1 (20 Conductor).

715.43 High Resistance Wires

- American Society for Testing Materials, B84-45; 1945. Method of Test for Temperature-Resistance Constants of Alloy Wires for Precision Resistors. For materials normally used in the temperature range of from 0 to 80C. Gives sampling, test specimen, terminals, preliminary treatment of specimen, apparatus, baths, temperature measurements, resistance

measurements, procedure, resistance-temperature equation, calculation of constants, report, and record.

American Society for Testing Materials, B114-45; 1945. Method of Test for Temperature-Resistance Constants of Sheet Materials for Shunts and Precision Resistors. Applicable to materials normally used in temperature range of from 0 to 80C. Gives test specimen, terminals, preliminary treatment of manganin samples, apparatus, baths, temperature measurement, resistance measurements, procedure, report, record, and appendix.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-8b; 1945. Wire; Iron and Constantan Thermocouple.

U. S. Gov., Navy Dept. Specification 17W2c; 1945. Wire and Ribbon, Resistance.

715.44 Low Resistance Wires

American Society for Testing Materials, B3-45; 1945. Society of Automotive Engineers Specification No. 83. Soft or Annealed Copper Wire. Covers drawn and annealed or soft round bare copper wire for electrical purposes. Gives material, tensile properties, resistivity, dimensions and permissible variations, density, joints, finish, packing and shipping, and inspection.

American Society for Testing Materials, B33-45; 1945. American Standards Assn., H4.4-1945. Tinned Soft or Annealed Copper Wire for Electrical Purposes. Gives material, tensile properties, resistivity, dimensions and permissible variations, continuity of coating, specimens for coating tests, special solutions required, procedure for coating test, mechanical test for adhesion of coating, joints, finish, packing and shipping, inspection, and rejection.

American Society for Testing Materials, B48-45; 1945. Soft Rectangular and Square Bare Copper Wire for Electrical Conductors. Covers soft or annealed bare copper wire, rectangular or square in shape with rounded corners, in two types, for edgewise bending, and other applications. Gives material, manufacture, tensile properties, bending properties, resistivity, dimensions and permissible variations, density, finish, packaging and shipping, and inspection.

American Society for Testing Materials, B180-45T; 1945. Tentative Method of Test for Density of Fine Wire and Ribbon for Electronic Devices. Covers a procedure for determining, to an accuracy of 1.0 percent, the density of fine wires ranging from 0.010 to 0.001 in. in diameter, or ribbons of similar thicknesses, for electronic devices. Gives definition, apparatus, test liquid, test specimen, preparation of specimen, procedure, calculation, and report.

American Society for Testing Materials, B189-45T; 1945. Tentative Specifications for Lead-Coated and Lead-Alloy-Coated Soft Copper Wire for Electrical Purposes. Gives scope, material, tensile properties, resistivity, dimensions and permissible variations, continuity of coating, ammonium persulfate test for continuity of coating, sodium polysulfide-hydrochloric acid test for continuity of coating,

joints, finish, packing and shipping, inspection, rejection, and explanatory notes.

American Society for Testing Materials, B203-45T; 1945. Tentative Method of Test for Strength of Welded Joints of Lead Wires for Electronic Devices and Lamps. Gives scope, definitions, nature of test, apparatus, test specimen, procedure, and report.

American Society for Testing Materials, B204-45T; 1945. Tentative Method of Test for Surface Flaws in Tungsten Seal Rod and Wire. Gives scope, definitions, apparatus, test specimen, and procedure.

American Society for Testing Materials, B205-45T; 1945. Tentative Method of Test for Diameter by Weighing of Fine Wire Used in Electronic Devices and Lamps. Covers the procedure for determining by weight methods the diameter of wire too fine to be measured directly with sufficient accuracy by micrometers, and refers more particularly to wire up to 0.005 in. in diameter. Gives apparatus, test specimens, number of specimens, calibration and checking of torsion balance, calibration with standard weights, procedure, report, calculation, and permissible variations.

American Society for Testing Materials, D754-46T; 1946. Tentative Specifications for Insulated Wire and Cable: Heat-Resisting Synthetic Rubber Compound. Intended to permit the use of the compound known as "Government Rubber," type GR-S, but are not restricted to this type. Gives physical properties, high voltage test, insulation resistance, thickness, workmanship, rejection, and methods of testing. A.S.T.M. Emergency Alternate Provision EA-D754; 1944, affected section 5, thickness.

Underwriters' Laboratories, Inc., 1945. Standard for Thermoplastic-Insulated Wires. Covers wires having thermoplastic insulation for use in accordance with the National Electrical Code. Gives scope, conductors, insulation, finish, dielectric strength, insulation resistance, mechanical equivalence to Type R, marking, general, cost of service, necessary cooperation from the manufacturer, test equipment at the factory, instructions to inspectors, and field inspection program.

U. S. Gov., Federal Specification J-C-86; 1943. Amendment 2; 1945. Cable, Cord, and Wire; Electric, Flexible, Cotton-Covered (General Service). Covers four types. Gives requirements for scope, types and sizes, service application, material and workmanship, general design, conductor wire, separator, conductor insulation, conductor insulation covering, polarity identification, conductor lay, barrier, cable covering, moisture-resistance, flame-retardance, flexibility, and rejection; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification J-C-103; 1941. Amendment 3; 1945. Cable and Wire; Rubber-Insulated, Building-Type (0 to 5,000-Volt Service). The term "rubber" as used throughout this specification includes synthetic rubber. Covers all listed sizes of rubber-insulated wire and cable in two types—R, code grade; and RH, heat-resistant grade. Gives requirements for conductors, insulation, coverings, dielectric strength, insulation resistance, and

marking of wire and cable; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification J-C-138; 1943. Amend. 1; 1946. Cable and Wire; Varnished-Cloth-Insulated (0 to 5,000-Volt Service). Covers varnished-cloth insulated wires and cables of all wire sizes listed in table and designates four types. Gives requirements for material, resistance, sizes, strands, tinning, splices, separator, insulation, coverings, cabling, dielectric strength, and insulation resistance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification J-C-145; 1945. Cable and Wire; Weather-Resistant. Covers URC single conductor, fibrous covered, asphalt compound saturated, weather-resistant wire and cable in two classes—(A) two coverings and (B) three coverings. Gives requirements for hardness, sizes, material, workmanship, conductors, covering, saturant, finish, and resistance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification QQ-W-341a; 1945. Amend. 1; 1946. Wire; Copper, Soft or Annealed. Covers one grade of soft or annealed copper wire. Gives requirements for material, workmanship, sizes, tensile strength, elongation, mass resistivity, coils and reels or spools; methods of sampling, inspections, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 22W3e; 1945. Wire; Copper, Hard-Drawn and Hard-Rolled.
- U. S. Gov., Navy Dept. Specification 22W9b; 1946. Wire; Copper, Soft or Annealed.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-41-B; 1945. Wire W-63-A (No. 20 AWG, Extra-Flexible, Buna S Insulated).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-128-I; 1945. Wire W-117 and W-118.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-136-B; 1945. Wire W-27 (No. 6 AWG, Bronze Antenna Wire).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-139-D; 1946. Wire W-30.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-180-D; 1946. Wire W-65 (No. 16 AWG, Buna S Insulated).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-312-D; 1945. Wire W-69-A (No. 22 AWG, Twisted Pair) (Synthetic Rubber Insulated).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-726-B; 1945. Wire W-124, W-125, W-128, W-142 (No. 14 A.W.G., Buna-S Insulated).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3189; 1945. Wire W-146 (No. 12 AWG, Polyethylene Insulated).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3266; 1946. Wire WD-1 () TT (Infantry Field Wire, Twisted Pair).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3271; 1946. Wires W-121, W-122, W-123, WD-15/U, WD-16/U, and WT-3/U (Distributing Frame Wires).

715.49 Miscellaneous Wires, Cords, and Cables

- U. S. Gov., Army-Navy Aeronautical Specification AN-S-36a-1; 1945. Shunts; 50 Millivolt, External Ammeter.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 49-32; 1945. Wire; Firing, 2-Conductor, Vinyl Polymer Covered.

715.5 PROTECTIVE APPARATUS FOR ELECTRICAL EQUIPMENT

715.50 General Items

- U. S. Gov., Dept. of Commerce, National Bureau of Standards, P40; 1945. Joint sponsor with American Institute of Electrical Engineers. American Standards Assn., C5.1-1937, C5.2-1937, and C5.3-1944. Code for Protection Against Lightning. Part I, Protection of Persons (C5.1-1937). Part II, Protection of Buildings and Miscellaneous Property (C5.2-1937). Part III, Protection of Structures Containing Inflammable Liquids and Gases. Fundamental principles of protection, materials for lightning rods, requirements on minimum sizes and weights of rods, strength, and electrical resistance of joints, size, and installation of elevation rods, coursing of conductors, number, and location of down conductors, grounding, interconnection of metallic masses, recommendations on structural features of oil and gas tanks for self-protection against lightning.

715.51 Lightning Arresters

- American Institute of Electrical Engineers. Standard 47; 1945. Expulsion Type Distribution Lightning Arresters (Proposed AIEE Standard for Trial Use). Applies to all types of expulsion lightning arresters designed to limit voltage surges for the protection of 60 cycle distribution apparatus conforming to the basic insulation level standards. Gives definitions, service conditions, ratings, characteristics and performance, design tests, routine tests, acceptance tests, test wave tolerance, nameplate data, and deferment of design tests.
- Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 15.65; 1945. Lightning Rods for Factory Stacks. Possibilities of damage and specifications for lightning rod protection. Covers how lightning occurs, factory stacks, lightning rods, and specifications for lightning rod equipments.
- National Electrical Manufacturers Assn. Standards for Expulsion-Type Distribution Lightning Arresters, 45-95; 1945. These standards provide practical information concerning construction, test, performance and manufacture of expulsion-type distribution lightning arresters. Gives general standards, rating standards, manufacturing standards, testing standards, test and test procedures, insulation tests, tests on completely assembled arresters, and definitions.
- U. S. Gov., U. S. Army, Signal Corps Specification 46-1B; 1945. Protector AR-8-A (Sound and Flash Ranging).

- U. S. Gov., U. S. Army, Signal Corps Specification 71-67-E; 1945. Telephone Set Protectors AR-6-A and AR-9-A.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-7121; 1945. Ground Rod MX-148/G.

716. ELECTRIC LAMPS AND LIGHTING EQUIPMENT

716.1 ELECTRIC LAMPS

716.10 General Items

- American Medical Assn. Council on Physical Medicine. Acceptance of Sunlamps, 1940. Utilizes the erythema reaction as a basis for judging the effectiveness of ultraviolet lamps and includes requirements for acceptance of sunlamps and regulations to control advertising of sunlamps sold to the public.
- American Medical Assn. Council on Physical Medicine. Ultraviolet Lamps for Disinfecting Purposes, Present Status, 1945. Gives a general discussion of ultraviolet lamps that are in use and includes tentative requirements for acceptance of ultraviolet lamps for disinfecting the air.
- Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 15.06; 1945. Pendent Lights Can Be Hazardous. Covers general discussion, why drop cords are risky, ceiling fixtures safety type, protecting the lamp bulb, extension lamps, and drawings.
- Fluorescent Lighting Assn. Handbook of Cold-Cathode Illumination. Computation of Lumen Requirements, 1945. Results of any general lighting system are governed by four major factors. These are (1) the location and mounting height of the luminary, (2) room proportion, (3) condition of the reflecting surface or surfaces, and (4) the generated lumens of the light source. Gives general discussion, formulae, and example.
- Fluorescent Lighting Assn. Handbook of Cold-Cathode Illumination. Important Factors Governing Cold-Cathode Application, 1945. Wide flexibility of design and application are inherent advantages of cold-cathode fluorescent luminaries. Discusses multiplicity of choice in selection of lamp diameter, length, color and surface brilliancy, as well as their application, with or without fixtures, and in straight lines or curves.
- Fluorescent Lighting Assn. Handbook of Cold-Cathode Illumination. Tables, 1945. Gives tables showing footcandle standards of illumination, lumen output—incandescent lamps, lumen output—hot cathode lamps, lumen output and overall efficiency of standard cold-cathode lamps, recommended transformer loading and related current values for F.L.A. standard lamps, luminaire spacing—direct line and indirect lighting, comparative brightness hot-cathode and cold-cathode lamps, gas pressures for cold cathode lamps (with mercury), color temperatures of light sources, room index (classification of rooms according to their proportions), coefficients of utilization, reflection and transmission value of materials, spectral quality of light sources, and standard lumen output cold-cathode fluorescent lamps.

716.11 Ordinary Incandescent Lamps

- U. S. Gov., Federal Specification W-L-101e; 1942 with 1947 Supplement. Lamps; Electric, Incandescent, Large, Tungsten-Filament. Manufacturer is given widest range in selection of materials and processes of manufacture in order that lamps of maximum quality may be produced. Shall meet manufacturers' standard shapes, sizes, and finishes of bulbs, forms of filament and types of leading-in wires and bases on file at the National Bureau of Standards. Gives detail requirements; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification W-L-111b; 1937 and Amend. 5; 1943, with 1947 Supplement. Lamps; Electric, Incandescent, Miniature, Tungsten-Filament. "Miniature" lamps designate broadly lamps for automotive, flashlight, and similar types of service. Manufacturer is given widest range in selection of materials and processes of manufacture in order that lamps of maximum quality may be produced. Shall be so designed and made that they will meet manufacturers' standard on file at the National Bureau of Standards. Gives detail requirements for life to burn out, manufacturer's declared efficiency, and candlepower maintenance; methods of sampling, inspection, and tests; and packaging, packing, and marking.

716.12 Lamps for Automobiles and Motor Boats

- U. S. Gov., Federal Specification W-L-111b; 1937 and Amend. 5; 1943, with 1947 Supplement. Lamps; Electric, Incandescent, Miniature, Tungsten-Filament. "Miniature" lamps designate broadly lamps for automotive, flashlight, and similar types of service. Manufacturer is given widest range in selection of materials and processes of manufacture in order that lamps of maximum quality may be produced. Shall be so designed and made that they will meet manufacturers' standard on file at the National Bureau of Standards. Gives detail requirements for life to burn out, manufacturer's declared efficiency, and candlepower maintenance; methods of sampling, inspection, and tests; and packaging, packing, and marking.

716.13 Electric Hand Lamps and Lanterns

- U. S. Gov., Federal Specification W-F-421a; 1940. Amend. 3; 1945. Flashlights; Electric, Hand (Without Batteries). Covers two types—(I) with metal cases (class A—seamless hand-drawn brass and B—seamless steel or continuous welded steel) and (II) with rigid cases having a non-conducting exterior; and eleven styles for type I and six styles for type II. Gives requirements for location of bulb in focusing, reflectors, lenses, switches, body tube, exterior finish, lamp holder, and marking; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification W-L-111b; 1937 and Amend. 5; 1943, with 1947 Supplement. Lamps; Electric, Incandescent, Miniature, Tungsten-Filament. "Miniature" lamps designate broadly lamps for automotive, flashlight, and similar types of service.

Manufacturer is given widest range in selection of materials and processes of manufacture in order that lamps of maximum quality may be produced. Shall be so designed and made that they will meet manufacturers' standard on file at the National Bureau of Standards. Gives detail requirements for life to burn out, manufacturer's declared efficiency, and candlepower maintenance; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Navy Dept. Specification 17F7c; 1946. Flashlights, Electric, Hand.

U. S. Gov., Navy Dept. Specification 17L11b; 1945. Lanterns; Electric, Automatic, Floating.

U. S. Gov., U. S. Army, Signal Corps Specification 17-197; 1945. Flashlight TL-122-D.

U. S. Gov., U. S. Army, Signal Corps Specification 17-205; 1946. Flashlight MX-212/U.

U. S. Gov., U. S. Army, Signal Corps Specification 17-206; 1946. Lantern MX-290/GV.

716.16 Arc Lamps

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2941A; 1945. Lamp; Therapeutic, Mercury Arc, Air-Cooled, Portable.

716.18 Fluorescent Lamps

Fluorescent Lighting Assn. Handbook of Cold-Cathode Illumination. Description of Standards, 1945. Gives description of lamp diameter, lamp length, bulb length, color, operating currents, lumen output, watts, electrodes, carrier gas pressure, mercury, processing of fluorescent lamps, and rated life of cold-cathode fluorescent lamps.

Fluorescent Lighting Assn. Handbook of Cold-Cathode Illumination. General Specifications for Cold-Cathode Fluorescent Lighting, 1945. A set of general specifications covering essentials details of an installation and is offered as a guide to those undertaking the surveying, estimating or specifying of proposed installations. Gives general conditions, color of lamps, diameter of lamps, length of lamps, electrode housings, transformers, installation, and performance.

Fluorescent Lighting Assn. Handbook of Cold-Cathode Illumination. Specifications for Standard Lamps, 1945. Specifications for standard cold-cathode fluorescent lamps are listed in condensed form. Gives diameter, over-all length, bulb length, color, operating current, lumens per lamp, watts per lamp, lumens per watt, electrodes, carrier gas, mercury, pumping and bombarding, rated life, type designations, class A, B, and C, special class, color, diameter, length, radius of curvature, and examples.

U. S. Gov., Army Air Forces Specification 32451-A; 1945. Lamp Assembly; Cockpit, Type C-8 (Ultra-Violet, 28 volt, Direct-Current).

716.19 Miscellaneous Lamps

U. S. Gov., Army-Navy Aeronautical Specification AN-L-28-1; 1946. Lamp; Red Coated Miniature Incandescent.

U. S. Gov., Federal Specification W-L-122; 1945. American Standards Assn., Z52.43-1944. Lamps;

Photographic, Flash. Lamps shall be of the non-repetitive photographic flash-lamp type. Covers four classes—(F) for use in essentially open shutter photography with fast synchronized between-the-lens shutter speeds, (M) for use with conventional between-the-lens shutter synchronizers, (S) for use similar to that for class F lamps except that much slower shutter speeds are used, and (FP) for use with focal-plane shutters. Gives material and workmanship, identification marking, definition of lot, shapes and dimensions, luminous flow vs. time characteristics, and spectral energy distribution; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-8-88; 1945. Safelights; Darkroom and Viewing. Covers two types—(I) adjustable, with removable filters, on adapter or stand (class A—with X-ray filter and Class B—with photo-fluorographic filter) and (II) cabinet style with two window illumination. Gives requirements for material, workmanship, lightproofness, rating, cord and attachment plug cap, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-49; 1944. Lamp; Electric, Blackout.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 1-35A; 1946. Lamp; Desk, Flexible Arm.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1692; 1945. Lamps LM-20-A, LM-21-A, LM-22, LM-51-A, LM-55, LM-60-A, and LM-61 (High Speed Signal Lamps).

U. S. Gov., U. S. Army, Signal Corps Specification 75-480; 1945. Safelights; Darkroom.

U. S. Gov., U. S. Army, Signal Corps Specification 75-509; 1945. Safelight Lamp; Darkroom.

U. S. Gov., U. S. Maritime Commission. Specification 17-MC-9 (Tentative) 1944, amended 1945. Lights; Cargo, Portable. -Covers one type and size. Gives requirements for materials, workmanship, general construction, housing, reflecting surface, thermal insulation, guard, hanging ball and rings, socket, cord, accessories, and finish; sampling, inspection, and methods of test; and packaging and marking for shipment.

U. S. Gov., U. S. Maritime Commission Specification 17-MC-10; 1945. Lights (Water); Electric, Floating, Automatic (with Bracket for Mounting). Covers one type, grade, and size. Gives requirements for materials, workmanship, general construction, size, case, lens, bezel ring, gasket, cell, switch, dehydrator plug, lamps, socket, reflector, contacts and springs, finish of light, mounting bracket, instruction and name plate, ruggedness, dimensional stability and vaporproofness, watertightness, and direction of illumination; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

716.2 SEARCHLIGHTS, PROJECTORS, LOCOMOTIVE HEADLIGHTS, AND REFLECTORS

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on

Shipboard, 45; 1945. Searchlights. Includes incandescent and arc types. Gives recommendations on reflectors of parabolic or mangin type, angle of rotation, location, corrosion resistance, mounting and operating gear.

Illuminating Engineering Society. Specifications for Testing Lighting Equipment. Section III, undated. Narrow Beam Enclosed Projectors and Asymmetric Show-Window Reflectors. Narrow beam enclosed projectors includes introduction, description of floodlight, description of lamp, procedure for making observations, computation of results, results to be reported, and appendix of constants; and asymmetric show-window reflectors includes general requirements, selection, physical measurements, output, candlepower distribution, lumen distribution, typical show-window example, appendix, other data to be reported, remarks, and tables.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-4a; 1946. Lamp Assembly; 24-Inch Rigid Drum Type Rotating Beacon.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-9a; 1945. Lamp Assembly; Runway Marker.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-10a-2; 1946. Lamp Assembly; Boundary and Obstruction Marker.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-25a-1; 1946. Lamps; All-Glass Sealed Reflector.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-26a; 1945. Lamp Assembly; Runway Marker (for Snow Areas).

U. S. Gov., Joint Army-Navy Specification JAN-F-220; 1945. Floodlights; Incandescent (Shipboard Use).

U. S. Gov., Navy Dept. Specification 17D3c; 1945. Door-Glasses; Dome, Searchlight.

U. S. Gov., Navy Dept. Specification 17R8; 1945. Reflectors; Searchlight, Parabolic.

U. S. Gov., Navy Dept. Specification 17R15; 1946. Reflectors; Metal, Parabolic, 12-Inch.

U. S. Gov., Navy Dept. Specification 17S14c; 1946. Spotlights; Incandescent, Power-Boat.

U. S. Gov., Navy Dept. Specification 17S20; 1945. Searchlights; Signaling, 12-Inch.

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-47A; 1945. Reflector, Lamp, 8-Inch Diameter Conical Type, with Holder.

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-50A; 1946. Floodlight; Electric, Open Type, Wide Angle, Standard, 300-500 Watt.

U. S. Gov., U. S. Army, Signal Corps Specification 74-27; 1945. Ceiling Light Projector ML-121- ().

U. S. Gov., U. S. Army, Signal Corps Specification 74-79; 1945. Ceiling Light Projector ML-318/TM1Q-2.

U. S. Gov., U. S. Maritime Commission Specification 17-MC-13; 1945. Floodlights; Incandescent, Marine, Projector Type. Shall be the fixed focus type. Gives requirements for classes, sizes, materials, workmanship, design and construction, housing, interior assembly, door, cover glass, mounting, base, cord, finish, nameplate, dielectric strength, insulation resistance, weight and dimensions, and spare parts; sampling, inspection, and methods of test; and packing and marking for shipment.

716.3 LIGHTING REQUIREMENTS AND EQUIPMENT

716.30 General Items

American Standards Assn., A53.1-1946. Sponsored by National Housing Agency and U. S. Public Health Service. Light and Ventilation. Intended to govern the lighting and ventilation of buildings and other structures customarily covered in building codes. Covers general requirements, rooms, stairways and public hallways, windows, skylights, yards, courts, mechanical ventilation, and appendix.

Illuminating Engineering Society. Correlating Portable Lamp Design With the Society's Performance Recommendations, 1946. Covers general discussion, I.E.S. performance recommendations, definitions and testing procedures, illumination, shielding and brightness, distribution, efficiency, appendices, and conclusions.

Illuminating Engineering Society. Further Data on Glare Ratings, 1946. Covers general discussion, influence of angular position, influence of adaptation, treatment of non-uniform light sources, other details of calculation, glare factor vs. discomfort glare appraisals, summary, and supplementary notes A, B, and C.

Illuminating Engineering Society. Lessons in Practical Home Illumination, undated. Outline of an elementary and refresher course. Covers general recommendations, light and sight, fundamentals of illumination, light sources, color and light, home wiring practice, home lighting fixtures, influence of period styles on lighting fixtures designs, portable lamps and lamp shades, materials and designs in portable lamps, lighting the rooms of the home, and Christmas and garden lighting.

Illuminating Engineering Society. Lessons in Practical Illumination, undated. An elementary and refresher course. Covers general recommendations, light and sight, fundamentals of illumination, light sources, illumination design, industrial applications, office, school and public building applications, store applications, exterior applications, residential applications, fundamentals of wiring, and lighting economics.

Illuminating Engineering Society. Lighting Data. Lighting data sheets describing actual lighting installations, published in yearly series. Each sheet represents the solution of a particular lighting problem and contains the pertinent engineering data, illustrations, and line drawings.

Illuminating Engineering Society. Recommended Practice of Home Lighting, 1945. Covers introduction, the objectives of good lighting, the essentials of good lighting, lighting recommendations for the major rooms of the home, and adequate wiring.

Illuminating Engineering Society. Recommended Practice of Street and Highway Lighting, 1945. Covers introduction, classification of streets and highways, luminaire characteristics and application, design of street and highway lighting, situations requiring special consideration, use of utilization-efficiency charts in street and highway lighting design, aspects of good street and highway lighting, glossary of terms used in street and highway lighting, and bibliography.

Illuminating Engineering Society. Specifications for Testing Lighting Equipment. Section III, undated, Narrow Beam Enclosed Projectors and Asymmetric Show-Window Reflectors. Narrow beam enclosed projectors includes introduction, description of floodlight, description of lamp, procedure for making observations, computation of results, results to be reported, and appendix of constants; and asymmetric show-window reflectors includes general requirements, selection, physical measurements, output, candlepower distribution, lumen distribution, typical show-window example, appendix, other data to be reported, remarks, and tables.

Illuminating Engineering Society. Studies of Illumination and Brightness in Residential Interiors, 1946. The material offered is intended to aid in the direction of rationalizing two of the basic elements of lighting design in residential interiors—(a) illumination values for visual application and (b) the associated brightness values of practically all parts of the interior in which the visual applications are going to take place. The problem even goes beyond this informal definition since the brightness of highly shielded light sources must be included. Illumination is intended to imply supplied light or recommended values for specific applications, while brightness is used in its normal sense—the effect produced when light enters the eye from a surface object, etc.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-56-3; 1945. Colors; Aeronautical Lights and Lighting Equipment.

U. S. Gov., Navy Dept., Bureau of Yards and Docks. Specification 38Y; 1945. Airport Field Lighting.

716.32 Electric Lighting Fixtures

U. S. Gov., Navy Dept. Specification 17F14a; 1945. Fixtures, Lighting; Anchor-, Running-, and Signal-Light, Bureau-Design.

U. S. Gov., U. S. Army, Signal Corps Specification 71-712-A; 1945. Lamp Fixture M-142 (Portable).

716.39 Miscellaneous Lighting Equipment

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Emergency Light and Power System. Gives general requirements, cargo vessels, cargo vessels less than 1,600 gross tons, passenger vessels of 1,600 gross tons or over, passenger vessels 100 to 1,600 gross tons, and passenger vessels less than 100 gross tons.

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Lighting Equipment. Covers location of fixtures, illumination requirements, lamps, arc lamps, outlets for portable lighting equipment, lighting for cargo handling, permanent waterproof fixtures, portable waterproof fixtures, portable non-waterproof fixtures, explosion-proof lighting fixtures, portable cargo fixtures, interior fixtures, switching fixtures, fans, desk lights, and door switches.

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Running, Signal, and Instrument

Lights. Covers running, signal and instrument lights, and running light indicator panel.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-11a-2; 1946. Light Assemblies; Electrically Retractable Landings.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-12a-2; 1945. Light Assemblies; Aircraft.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-14-1; 1946. Light Assemblies; Work Table.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-23-2; 1945. Light Assemblies; Ultraviolet-Fluorescent Cockpit.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-31; 1945. Lamp Assembly; Disconnection Obstruction Marker.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-33; 1946. Light Assembly; Cockpit, Utility.

U. S. Gov., Army-Navy Aeronautical Specification AN-L-34; 1946. Light Assemblies; Press to Test Indicator.

U. S. Gov., Army-Navy Aeronautical Specification AN-R-17-2; 1945. Regulator Assembly; Brightness Control.

U. S. Gov., Federal Specification GG-I-446; 1946. Illuminators; for X-Ray Film. Covers two types—(I) incandescent lighting and (II) fluorescent lighting; and five classes—(A) single illuminator, with table mounting, (B) multiple-unit illuminator, with table mounting, (C) single illuminator, with wall recess mounting (type II only), (D) multiple-unit illuminator, with wall recess mounting (type II only), and (E) multiple-unit illuminator, on mobile base. Gives requirements for material, workmanship, function, construction, outer frame and viewing glass, drip tray, cord and attachment plug cap, name plate, finish, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-48; 1944. Electric Lighting Equipment, Set No. 2, 1 1/2 KW. (Less Generator Set).

U. S. Gov., U. S. Maritime Commission. Specification 17-MC-4 (Tentative) 1942. Holder; Lamp, Hand Portable, Electric, Vapor Proof. Covers one grade; two types—(I) general purpose and (II) non-sparking; and three sizes—(1) 60 watts, (2) 75 watts, and (3) 100 watts. Gives requirements for materials, workmanship, construction, housing, globe guard, receptacle, handle, gasket, cable gland, cable, attachment plug, marking, and details; sampling, inspection, and methods of test; and packaging, packing, and marking.

717. HOUSEHOLD DEVICES, HEATERS, AND X-RAY APPARATUS

717.0 GENERAL ITEMS

American Standards Assn., Z54.1-1946. Safety Code for the Industrial Use of X-Rays (American War Standard). To protect employees who work with or near X-rays against overexposure to the X-rays. Covers general requirements, use and storage of radium in the field of industrial radiography, methods and materials of X-ray protection, specific applications for 400 kilovolts and lower, X-ray

protection for voltages of one and two million, electrical protection, tables, and figures.

717.1 ELECTRIC HEATING AND COOKING DEVICES

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Heating Equipment. For convector and radiant type, luminous type, and glow type. Gives recommended voltages and wattages, design details, guards, corrosion protection, heating elements, temperature and test, and nameplates.

National Electrical Manufacturers Assn. Standards for Electric Water Heaters, 45-104; 1945. These standards provide practical information concerning performance, rating, testing, and manufacture of electric water heaters. Gives voltage ratings, pressure rating for tanks, wattage ratings of elements for electric water heaters, standard wattages for single-element heaters, standard wattages for twin-unit heaters, temperature setting of thermostat, standard temperature differential of thermostats, standard temperature adjustment range for thermostats, standard color coding, diagram showing connections and color coding, and test specifications.

National Electrical Manufacturers Assn. NEMA Standards for Hot Plates and Disc Stoves, 46-113; 1946. These standards provide practical information concerning rating, performance, testing, and manufacture of hot plates and disc stoves. Gives rating standards, performance standards, manufacturing standards, and definitions.

National Electrical Manufacturers Assn. NEMA Standards for Portable Radiant Heaters, 46-114; 1946. These standards provide practical information concerning rating, performance, testing, and manufacture of portable radiant heaters. Gives rating standards, performance standards, manufacturing standards, and definitions.

National Electrical Manufacturers Assn. NEMA Standards for Roasters, 46-115; 1946. These standards provide practical information concerning rating, performance, testing, and manufacture of roasters. Gives rating standards, performance standards, manufacturing standards, and definitions.

Underwriters' Laboratories, Inc. Standard for Temperature-Indicating and Regulating Equipment, 1945. Covers electrical control equipment for air-conditioning, heating, cooking, and refrigeration, intended to be employed on lighting and power circuits in ordinary locations in accordance with the National Electrical Code. Gives requirements for frame and enclosure, mounting, strength of parts, operating mechanism, corrosion protection, insulating material, supply connections, stationary devices, portable devices, current-carrying parts, internal wiring, grounding, transformers, capacitors, fuse-holders, overcurrent relays, mercury-tube switches, coil windings, spacings, wiring space, separation of circuits, performance, rating, marking, and inspection of listed product.

U. S. Gov., Army Air Forces Specification 27633-1; 1945. Heater; Central Air Filter, Type O-1.

U. S. Gov., Army Air Forces Specification 32525; 1945. Heater; Electrical Immersion, Type L-1 (One- and Two-Gallon).

U. S. Gov., Army Air Forces Specification 40439-A-2; 1945. Heater; Oxygen Mask, Electric, Type E-1 (24 Volt D.C.—for Type A-14 Mask).

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-220; 1942. Amend. 1; 1945. Heaters; Fan Type, With or Without Separate Control Thermostat.

U. S. Gov., Joint Army-Navy Specification JAN-H-194; 1945. Heaters; Electric, Air (Ship Type).

U. S. Gov., Navy Dept. Specification 64C11; 1945. Coffee-Makers; Electric.

U. S. Gov., Navy Dept. Specification 65C14; 1946. Cooking-Equipment; Electrical (Shipboard Use).

U. S. Gov., Navy Dept. Specification 65T4a; 1946. Toasters; Electric, Automatic.

U. S. Gov., Navy Dept. Specification 65U1c; 1946. Urns; Coffee.

U. S. Gov., U. S. Army, Corps of Engineers Specification 12-7; 1944. Iron; Flat, Electric, 115-Volt, with Cord and Resistor.

717.2 MOTOR-DRIVEN HOUSEHOLD DEVICES

U. S. Gov., Federal Specification W-C-421a; 1940. Amend. 2; 1945. Cleaners, Vacuum; Electric, Portable. Covers two types in various classes and sizes. Type I—enclosed separator, suction only; and type II—exposed separator. Gives requirements for material, marking, exposed surfaces, stability, dirt separation, reversibility, nozzles, agitators, vacuum producer or fan, motor, brushes, motor starter or switch, cord, dust bag, attachments, and detail requirements for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 66M4e; 1946.

Machines; Vegetable-Peeling, Electrically-Operated.

U. S. Gov., Navy Dept. Specification 66M12v; 1946.

Machines, Dishwashing; and Dish-Baskets.

U. S. Gov., Navy Dept. Specification 66M13; 1946.

Machines; Meat-Bone-and-Fish-Cutting, Electrically-Operated.

U. S. Gov., Navy Dept. Specification 66M15; 1945.

Machines; Steak-Cubing (Shipboard Use).

717.3 X-RAY AND CATHODE RAY APPARATUS AND EQUIPMENT

U. S. Gov., Army-Navy Aeronautical Specification AN-X-2-1; 1945. X-Ray Laboratories; Procedure for the Certification of.

U. S. Gov., Federal Specification GG-H-603; 1945. Holders; X-Ray-Film Exposure. Covers one type and five sizes—(1) 5 by 7 in., (2) 8 by 10 in., (3) 10 by 12 in., (4) 11 by 14 in., and (5) 14 by 17 in. Gives requirements for material, workmanship, marking, construction, mountboards, hinge, steel clasp, film envelope paper, lead backing, and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-H-606; 1945. Holders, X-Ray-Film; Exposure, Dental. Covers one type. Gives requirements for material, workmanship, design, and size; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-H-111; 1945. Ringers, X-Ray Film (Dental); Developing and Drying. Covers two types—(I) clip and (II) clipless. Gives requirements for material, workmanship, marking, and details for each type; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-M-125; 1946. Markers; X-Ray Film, Lead Letters and Numerals. Covers one type; three classes—(A) complete alphabet, (B) letters R and L, and (C) numerals 0 to 9; two sizes—(1) 1/4 in. high and (2) 1/2 in. high. Gives requirements for material, workmanship, description, holder, lead letters and numerals, and box; methods of sampling and inspection; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification ZZ-A-621; 1945. Aprons, X-Ray; Protective, Lead-Impregnated-Rubber (Natural and Synthetic). Covers one type, grade, and class. Gives requirements for material, workmanship, general description, dimensions, shoulder straps, flexibility, X-ray protective requirements, rubber and synthetic rubber sheet—tensile strength, accelerated aging test, metal finish, marking, and bid samples; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification ZZ-G-458; 1945. Gloves; X-Ray, Protective, Gauntlet-Style. Covers one type—(I) five finger design with sewed-in fabric lining; and two classes—(A) without removable fabric inner gloves and (B) with removable fabric inner gloves. Gives requirements for rubber, leather, fabric, workmanship, marking, description, dimensions, rubber, synthetic rubber, and lead impregnation, covering, lining, seams and stitching, flexibility and texture, class A, and class B; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2689A; 1945. Fluoroscope; Two-Position, Complete.

717.4 ELECTRICALLY-HEATED CLOTHING

U. S. Gov., Army Air Forces Specification 3211B-1; 1945. Suit; Flying, Electric Type F-3A, 24-Volt D.C.

U. S. Gov., Army Air Forces Specification 3212C; 1945. Trousers; Flying, Electrically-Heated, for Type F-3A Suit.

U. S. Gov., Army Air Forces Specification 3213C; 1945. Jacket; Flying, Electrically-Heated, for Type F-3A Suit.

U. S. Gov., Army Air Forces Specification 3250-1; 1945. Blanket; Electrically-Heated Casualty, Type Q-1.

718. TELEPHONE, TELEGRAPH, RADIO, AND SIGNAL APPARATUS

718.0 GENERAL ITEMS

U. S. Gov., U. S. Army, Signal Corps Specification 71-1578; 1946. Tabular List of Parts (for Signal Corps Equipment).

U. S. Gov., U. S. Army, Signal Corps Specification 72-53; 1946. Finishes (for Ground Signal Equipment).

718.1 TELEGRAPH APPARATUS

U. S. Gov., U. S. Army, Signal Corps Specification 71-1532; 1945. Teletypewriter Paper M-327.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1690; 1946. Test Set TS-2/TG.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3113; 1945. Filter F-2()/GG.

718.11 Telegraph Instruments

U. S. Gov., U. S. Army, Signal Corps Specification 71-468-C; 1945. Switchboard BD-57-B (Code Practice).

U. S. Gov., U. S. Army, Signal Corps Specification 71-556-D; 1946. Telegraph Set TG-5-B.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1039-B; 1945. Line Unit BE-77-A (Telegraph Printer).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1310-A; 1945. Switchboard BD-100 and Chest CH-70.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1316-B; 1945. Relay BK-27-() (Telegraph Repeater).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1646-A; 1946. Repeater TG-30-() (Terminal).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3002; 1945. Switchboard BD-114 (Code Practice).

U. S. Gov., U. S. Army, Signal Corps Specification 72-10-C; 1946. Typewriter MC-88 (Telegrapher's).

718.12 Telegraph Keys

U. S. Gov., U. S. Army, Signal Corps Specification 71-721-A; 1945. Key J-45 (Telegraph).

718.2 TELEPHONE APPARATUS

718.20 General Items

Assn. of American Railroads. Telegraph and Telephone Section, 2-J-40; 1942. Installation and Maintenance of Type C Three-Channel Carrier Telephone Equipment. Gives scope, general requirements, drawings, description and functions of component units, power supply, transmission performance, effect on other services, characteristics of open-wire lines and cables, installation, testing equipment, tests and adjustments, and vacuum tubes.

718.21 Telephone Instruments

U. S. Gov., U. S. Army, Signal Corps Specification 71-529-A; 1945. Panel BD-65.

U. S. Gov., U. S. Army, Signal Corps Specification 71-631-C; 1946. Telephones EE-8-A, EE-8-B, and EE-8-D (Portable).

U. S. Gov., U. S. Army, Signal Corps Specification 71-667-F; 1945. Handset TS-9-().

U. S. Gov., U. S. Army, Signal Corps Specification 71-1315-A; 1945. Handset TS-14-().

U. S. Gov., U. S. Army, Signal Corps Specification 71-1533; 1945. Chest Set TD-3.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1575; 1945. Headset HS-29-U.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3060; 1945. Telephone TP-9-().

- U. S. Gov., U. S. Army, Signal Corps Specification 71-3063; 1945. Head and Chest Set HS-25-C.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3070; 1946. Telephone Unit EE-105- ().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3122; 1945. Chest Set TD-4.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3157; 1945. Handsets H-22 ()/U and H-23 ()/U.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3186; 1945. Chests Sets H-12/GT, H-16/GT, and H-28/OR.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3270; 1946. Panel BD-66-A (Telephone Power Supply).

718.22 Telephone Switchboards

- U. S. Gov., U. S. Army, Signal Corps Specification 71-1015-A; 1946. Switchboard BD-110- ().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1312; 1945. Switchboard BD-91- ().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1611-A; 1945. Switchboard BD-120.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3143; 1945. Emergency Switchboard SB-16/GT.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3246; 1946. Switchboard SB-4()/GTC-1.

718.29 Miscellaneous Telephone Equipment

- U. S. Gov., Army Air Forces Specification 7025A; 1945. Interphone Equipment AN/AIC-3; Bench, Pre-Flight and Flight Tests of.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-295-E; 1945. Test Set I-51 (Cable Repairman's).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-492; 1945. Test Set I-61- () (Transmission Measuring).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-616-B; 1945. Cabinet BE-70- () (Wire Chief's Testing).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-668-D; 1945. Generators GN-38, GN-38-A, and GN-38-B.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-669-D; 1946. Ringer MC-131 (Telephone).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-662-E; 1945. Coil C-111 (Telephone, Repeating).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1016; 1945. Frame FM-19 (Main Distributing Frame).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1552-A; 1946. Telephone Terminal CF-1- () (Carrier).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1553; 1946. Repeater CF-3- () (Carrier).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1555; 1945. Ringing Equipment EE-101- () (Voice Frequency) (1000/20 Cycle Ringer-Oscillator Double Circuit).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1609-A; 1945. Frame FM-64.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3003-A; 1945. Test Set TS-27-A/TSM.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3052; 1946. Repeater CF-5- () (Carrier, 2-Wire).

- U. S. Gov., U. S. Army, Signal Corps Specification 71-3098; 1945. Telephone Repeater TP-14- ().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3156; 1945. Interphone Control Box BC-606-H.

718.3 SIGNAL DEVICES, OTHER THAN RAILWAY AND HIGHWAY SIGNALS

718.31 Burglar Alarms

Underwriters' Laboratories, Inc., 1946. Lists of Inspected Appliances Relating to Accident Hazard, Automotive Equipment, and Burglary Protection. This catalog contains three lists that have been inspected by the Underwriters'. The lists are—appliances inspected for accident hazard, inspected automotive appliances, and inspected burglary protection appliances. The listings are arranged alphabetically as to subject and alphabetically by name of manufacturer under each subject.

Underwriters' Laboratories, Inc. Standard for Tear-Gas Systems, Subject 600; 1945. Covers manually operated systems for protection of premises against robbery and automatically operated systems for protection of safes or vaults against burglary. Gives general requirements, robbery protection systems, safe and vault systems, and certification of installation.

Underwriters' Laboratories, Inc. Standard for Holdup Alarm Systems, Subject 636; 1945. Covers holdup alarm systems of the remote-station type intended for installation in banks, stores, cashiers' cages, pay offices, and the like. Gives types of remote stations, classification as to extent of protection, design and construction, operation and electrical supervision, installation, maintenance, marking, and inspection of listed product.

718.32 Fire Alarms

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Fire Alarm Systems. Gives general requirements, automatic fire alarm system, classification of types, wiring, electric and pneumatic systems, location of detectors—electric systems, pneumatic systems, zoning, manual fire alarm system, smoke pipe systems, automatic sprinkler systems, and power supply and supervision for all fire alarm systems.

U. S. Gov., Federal Specification W-F-391a; 1945. Fire-Alarm-Systems; Electric, Manual, Coded, Positive Noninterfering-Type. Covers three classes—(A) nonrecording, (B) recording, with punch register, and (C) recording, with punch register and time stamp; and three types—(I) indoor box, (II) outdoor box, and (III) special box. Gives requirements for material and workmanship, systems, installation, operating power, supervisory power, boxes, electro-mechanical gongs, tapper bell, other signalling devices, control board, cabinets, circuits, storage battery and rack, rectifier and charging panel, dielectric strength, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification W-F-396a; 1945. Fire-Alarm-Systems; Electric, Manual, Coded, Shunt

Noninterfering-Type. Covers two types--(I) general-alarm-system and (II) presignal-alarm-system; and three classes--(A) nonrecording, (B) recording, with punch register, and (C) recording, with punch register and time stamp. Gives requirements for boxes, material and workmanship, systems, installation, operating power, supervisory power, boxes, gongs, other signalling devices, control board, cabinets, circuits, dielectric strength, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

718.39 Miscellaneous Signal Devices

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Signal and Communication Systems. Covers source of current supply, installation and location of instruments, instrument construction, pushbuttons, bells, buzzers, telegraphs, alarms, signals, siren and whistle control, telephone equipment, loud speaker systems, and voice tubes.

U. S. Gov., Navy Dept. Specification 18H3b; 1945. Holders, Sounding-Tube, Sounding-Machine.

U. S. Gov., Navy Dept. Specification 38C1a; 1945. Calls, Boatswains'.

U. S. Gov., U. S. Army, Signal Corps Specification 71-965-C; 1945. Time Interval Signal BE-85.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1009; 1945. Time Interval Apparatus EE-86-A.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1397-A; 1946. Signal Lamp Equipment FE-80-A.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1616; 1945. Signal Generator I-208- ().

U. S. Gov., U. S. Army, Signal Corps Specification 71-1637; 1946. Keyer TC-34- ().

U. S. Gov., U. S. Army, Signal Corps Specification 74-103; 1945. Time Interval Unit ML-138.

U. S. Gov., U. S. Army, Signal Corps Specification 75-102-A; 1945. Signal Lamp Equipment SE-11-A.

U. S. Gov., U. S. Army, Signal Corps Specification 75-106; 1945. Time Interval Device PH-465.

U. S. Gov., U. S. Army, Signal Corps Specification 75-440; 1945. Timers, Interval, Electric.

718.4 RAILWAY SIGNAL AND TRACK CONTROL EQUIPMENT

718.40 General Items

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1945. Centralized Traffic Control. Gives detailed instructions for the location, necessities of, and selection of safety control signals.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1930. Guide for Allocating Train Control Expenditures. For railway signal purposes, expenditures are divided into wayside apparatus, shop or wayside apparatus, and locomotive or other rolling stock equipment.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1946. Non-Coded Direct

Current Track Circuits. Covers adjustment, circuit controllers, ballast, rail and bond resistance, batteries, bonding, insulated rail joints, rectifiers, relays, shunting sensitivity, and general conditions.

718.41 Railway Signals

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1946. General Classification for Signal Failures and Signal Interruptions. Two classes of signal failures--false restrictive and false proceed. They are divided as to those chargeable to the Signal Department and all other causes.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1946. Technical Terms Used in Signaling. Standard nomenclature of electrical engineering usage and related subjects defined.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, Specification 63-45; 1946. Automatic Block Signal System. Covers track to be signaled, buildings, power supply, distributing system (aerial, surface, underground, submarine), communication system, foundations, wayside signals, conduits, wires and cables, instrument and battery housings, insulation, painting, bonding, and energy for operating signals, track circuits, etc.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 174-44; 1945. Electric Lamp Case. Case for electric lamp to be used with reflector for semaphore signal lighting. Covers drawings, tender, alternates, material and workmanship, general requirements, gray iron castings, reflector, reflector tests, dielectric requirements, paint and painting, inspection, tests, packing, marking, and warranty.

718.42 Switch-Operating Mechanisms and Signals

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1945. Electric Locks Applied to Hand-Operated Switches for Protection of Main Track Movements. The apparatus shall, as far as practicable, be so installed and circuits so arranged that failure of any part will not result in unlocking the electric locks. Gives details for this type of locks.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1945. Mechanically Locking the Levers of Interlocking Machines. Gives details for derail or smashboard, switch and movable point frog, facing point lock, signal, and traffic or route.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1945. Signal Protection for Spring Switches. Spring switch consisting of spring oil buffer and reinforced pair of switch points. Mechanism may be locked or non-locked type.

Covers marker, signal protection, and speed restrictions.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1946. Spring Switches. For the care of railway signal service switches, adjustment of buffers, oil in buffer, wear, rod packing, and tests.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, Specification 76-45; 1946. Electric Interlocking Machine. Covers purpose, drawings, tender, alternates, material and workmanship, design, levers, mechanical locking, electric lever locks, electric lever locking, time locks, circuit controllers, lever lights, binding posts, cases, finish, paint and painting, coil insulation, dielectric requirements, identification, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 95-44; 1945. Universal Switch Circuit Controller. Apparatus for application to track switches, derails, or other movable apparatus for the control of signal circuits. Gives drawings, tender, alternates, material and workmanship, general, case, cover, operating shaft, operating crank, ventilation, bonding posts, terminal board, operating cams, contacts, flexible connections, finish, dielectric requirements, painting, purchaser's order requirements, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 138-44; 1945. Interlocking Lever Circuit Controller. For application to interlocking machine. Gives drawings, tender, alternates, material and workmanship, design, binding posts, contacts, finish, paint and painting, insulation, dielectric requirements, identification, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, Specification 157-45; 1946. Color Light Signal, Searchlight Type. Covers purpose, drawings, tender, alternates, material and workmanship, design, signal mechanism case, operating mechanism, operating characteristics, sealing and calibration, backgrounds and hoods, electric lamps, lenses and roundels, range, spread, mounting, wire and wiring, paint and painting, binding posts, coil insulation, dielectric requirements, identification, purchaser's order requirements, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 209-44; 1945. Highway Grade Crossing Automatic Gates. Gives track to be signaled, power supply, distribution system, foundations, signals, gates, gate operating mechanism, conduits and supports, wires and cables, instrument and battery housings, insulation, painting, bonding, and energy for operating gates, signals, track circuits, etc.

718.43 Relays

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 203-44; 1945. All-Relay Interlocking. Gives buildings, electric and pneumatic power supply, distributing system, control apparatus, control machine, foundations, switch operating mechanism and fittings, signals, communication system, wires and cables, conduit and supports, instrument and battery housings, insulation for track circuits, rail bonding, and painting.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 208-44; 1945. All-Relay Interlocking Control Machine. To provide a machine for the control of signals, switches and other apparatus of an all-relay interlocking. Gives drawings, tender, alternates, material and workmanship, design, levers, circuit controllers, binding posts, light indicators, tools, case, finish, paint and painting, coil insulation, dielectric requirements, identification, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, Specification 212-45; 1946. Direct Current Code-Following Polar Relay. For providing a direct current code-following polar relay to follow d.c. coded energy of a given polarity. Covers drawings, tender, alternates, material and workmanship, design, mounting, armature supports, contacts, flexible connections, binding posts, coil insulation, dielectric requirements, identification, inspection, tests, packing, marking, and warranty.

718.49 Miscellaneous Railway Signals

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 128-44; 1945. Mechanical Time Release. Device for introducing a time interval in the control of signal and switch circuits and levers of interlocking machines. Gives drawings, tender, alternates, material and workmanship, design, timing period, binding posts, contacts, finish, paint and painting, insulation, dielectric requirements, identification, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, Specification 179-45; 1946. Mechanically Applied Rail Head Type Bonds and Track Circuit Connectors. For providing mechanically applied rail head type bonds and track circuit connectors for track circuits where rails do not carry return propulsion current. Covers drawings, material and workmanship, design, conductors, terminals, plating and tinning, identification, resistance of installed bonds, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 204-44; 1945. Tractive Armature Direct Current Neutral Relay, Plug-In Type. For the purpose of providing

tractive armature direct current neutral relays of the plug-in type for use in railway signaling. Gives drawings, tender, alternates, material and workmanship, design, mounting, armature support, air gap, magnetic structure, coils, contacts, dielectric requirements, operating characteristics, finish, sealing and calibration, name plate, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 206-44; 1945. Decoding Unit. To provide a decoding unit to respond to a given code frequency. Gives drawings, tender, material and workmanship, design, output, binding posts, coil insulation, dielectric requirements, identification, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 207-44; 1945. Coded Track Circuit Unit. To provide a coded track circuit which is inserted between an a.c. track circuit and a code-following track relay to convert the a.c. from the track circuit to d.c. for operation of the track relay. Gives drawings, tender, material and workmanship, design, frequency, binding posts, coil insulation, dielectric requirements, identification, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, Specification 210-45; 1946. Alternating Current Motor-Operated Code Transmitter. The contacts may be inserted in a steady a.c. or d.c. supply in order to interrupt the energy at a given code. Covers drawings, tender, alternates, material and workmanship, design, mounting, gears, cams, motor, bearings, contacts, flexible connections, binding posts, dielectric requirements, identification, inspection, tests, packing, marking, and warranty.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, Specification 211-45; 1946. Direct Current Code Transmitter. The contacts may be inserted in a steady a.c. or d.c. supply in order to interrupt the energy at a given code. Covers drawings, tender, alternates, material and workmanship, design, mounting, contacts, flexible connections, binding posts, coil insulation, dielectric requirements, identification, inspection, tests, packing, marking, and warranty.

718.5 TRAFFIC AND HIGHWAY SIGNALS

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 199-44; 1945. Electric Motor Mechanism and Gate Arm for Highway Grade Crossing Signal. For providing gates as an adjunct to A.A.R. recommended crossing signals of the flashing light or wig-wag type. Covers gate arm, mechanism, gears, motor, hold-clear device, circuit controller, wiring, finish, dielectric requirements, identification, painting, inspection, tests, packing, marking, and warranty.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-8; 1943. Neon Lamps for Approach Lights.

718.6 RADIO APPARATUS AND EQUIPMENT

718.60 General Items

Illuminating Engineering Society. A Preliminary Study of Radio Interference as Caused by Fluorescent Lamps in the Home, 1946. Covers general discussion, radio noise as a function of distance of lamp from antenna, variation of radio noise generated by the same lamp, variation of radio noise generated by different lamps, spectral distribution of radio noise, threshold and maximum tolerable noise levels, effect of filters on radio noise suppression, effect of screens on radio noise suppression, radio noise suppression with a portable table lamp, and conclusions.

Radio Manufacturers Assn. Standards, M1-111 to M1-125 and M2-111 to M2-114; 1930. Gives terms and definitions, voltage breakdown test for cords, plugs, and jacks; soldering tests for cord terminals; insulation and electrolysis test for audio transformers, and voltage tests for fixed paper capacitors.

Underwriters' Laboratories, Inc. Bulletin of Research, 33; 1945. Measurement of Electric Shock Hazard in Radio Equipment. This bulletin provides a general description of the factors relating to electric shock in radio receivers. Covers introduction, electric shock hazard, body resistance, shock hazards of radio equipment, methods of measuring shock hazard, development of measuring equipment, radio leakage measurement with diode-peak meter, shock hazard measurement specification for radio equipment, discussion of specification, conclusion, appendix, and bibliography.

U. S. Gov., Army Air Forces Specification 40139A; 1946. Maintenance Parts List for Communications Equipment.

U. S. Gov., Army Air Forces Specification 41017; 1945. Handbook; Ground Radio and Radar Equipment Maintenance.

U. S. Gov., Army Air Forces Specification 41018; 1945. Handbook; Ground Radio and Radar Equipment Operating.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-100a-1; 1945. Catalogs; Radio and Radar Equipment Spare Parts.

U. S. Gov., Army-Navy Aeronautical Specification AN-H-19a-2; 1946. Handbooks; Radio and Radar Equipment Operating.

U. S. Gov., Army-Navy Aeronautical Specification AN-H-20a-2; 1946. Handbooks; Radio and Radar Equipment Maintenance.

U. S. Gov., Army-Navy Aeronautical Specification AN-H-21a-1; 1945. Handbooks and Catalogs; Radio and Radar Equipment (General Specification for Printing of).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1303; 1945. Suppression, Radio Interference; General Requirements for Vehicles.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3004; 1946. Suppression, Radio Interference; Requirements for Engine-Generator Units.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3214; 1946. Suppression, Radio Interference, of Engines for Miscellaneous Equipments (Exclusive of Vehicles and Engine-Generator Units).

718.61 Antennas and Equipment

U. S. Gov., Army Air Forces Specification 7087; 1945. Antenna Assembly AS-273 ()/ARN (Marker Beacon).
 U. S. Gov., Army Air Forces Specification 7085; 1945. Antenna Assembly AS-215 ()/ARN (Marker Beacon).
 U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-233; 1940. Emergency Addendum, 1942. Ground Rods.
 U. S. Gov., Joint Army-Navy Specification JAN-W-287; 1946. Wave-Guide-Assemblies, Flexible.
 U. S. Gov., U. S. Army, Signal Corps Specification 71-1521; 1945. Box TM-206-A (Antenna Terminal).
 U. S. Gov., U. S. Army, Signal Corps Specification 71-1600-A; 1946. Antenna A-27 (Phantom).
 U. S. Gov., U. S. Army, Signal Corps Specification 71-1617; 1945. Terminal Boxes TM-210 (Antenna), TM-211 (Antenna), and TM-218.
 U. S. Gov., U. S. Army, Signal Corps Specification 71-1642; 1945. Antenna A-83.
 U. S. Gov., U. S. Army, Signal Corps Specification 71-2257; 1946. Pedestal AB-8 ()/GP.
 U. S. Gov., U. S. Army, Signal Corps Specification 71-2444; 1945. Antenna Equipment RC-307- () (Components for).
 U. S. Gov., U. S. Army, Signal Corps Specification 71-3075; 1945. Mast Bases AB-15/GR, MP-65-A. Mast Sections MS-116-A, MS-117-A, MS-118-A, AB-21/GR, AB-22/GR, AB-23/GR, AB-24/GR.
 U. S. Gov., U. S. Army, Signal Corps Specification 71-3080; 1945. Antenna Assemblies AS-51/MRQ-2 and AS-93/MRQ-2.
 U. S. Gov., U. S. Army, Signal Corps Specification 71-3219; 1945. Phantom Antenna A-34.

718.62 Electron Tubes

U. S. Gov., Joint Army-Navy Specification JAN-1A; 1945. Radio Electron Tubes. This specification includes individual specifications for over 800 different types of electron tubes.
 U. S. Gov., Navy Dept. Specification 17T21b; 1945. Tubes; Electron, Power Types.

718.63 Radio Transmitting Apparatus

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Radio Communication Equipment. Gives general requirements, technical requirements, lifeboats, operators' quarters, tube transmitters, nameplates, automatic alarm receiver, receiving equipment, antenna, standing rigging, radiotelephone, auxiliary equipment, tools and spare parts, and high-frequency installations.
 U. S. Gov., Joint Army-Navy Specification JAN-C-16A; 1945. Crystal-Units, CR-1()/AR.
 U. S. Gov., Joint Army-Navy Specification JAN-C-289; 1945. Crystal-Units, CR-5B/U.
 U. S. Gov., U. S. Army, Signal Corps Specification 71-693-A; 1945. Chest CH-27 (Carrying, Radio Transmitter).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1057; 1945. Radio Receiver and Transmitter BC-620- () and Associated Equipment, for Radio Sets SCR-509- () and SCR-510- ().

U. S. Gov., U. S. Army, Signal Corps Specification 71-1314-A; 1946. Radio Transmitter BC-653- () (Amplitude Modulated) Radio Receiver BC-652- () (Amplitude Modulated) and Associated Equipment.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1317; 1945. Radio Receiver BC-683- () and Radio Transmitter BC-684- ()—components of Radio Sets SCR-608- () and SCR-628- ().

U. S. Gov., U. S. Army, Signal Corps Specification 71-1318; 1945. Radio Receiver and Transmitter BC-659- () and Associated Equipment, for Radio Sets SCR-609- () and SCR-610- ().

U. S. Gov., U. S. Army, Signal Corps Specification 71-1373-A; 1945. Radio Set SCR-511- ().

U. S. Gov., U. S. Army, Signal Corps Specification 71-1601; 1945. Radio Set SCR-300- () (Components for).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1606; 1945. Radio Set SCR-694- () (Components for).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1683-A; 1946. Radio Sets SCR-399- () and SCR-499- ().

U. S. Gov., U. S. Army, Signal Corps Specification 71-3010; 1945. Radio Set AN/TRC-1- (), Radio Terminal Set AN/TRC-3- (), and Radio Relay Set AN/TRC-4- () (Components of).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3018-A; 1945. Radio Transmitter BC-1253.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3096; 1945. Radio Receiver and Transmitter BC-1335- () and Associated Equipment for Radio Set SCR-619- ().

U. S. Gov., U. S. Army, Signal Corps Specification 71-3103; 1945. Radio Set AN/TRC-7() (Components for).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3112; 1946. Radio Set AN/TRC-6() (Auxiliary Components of).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3166; 1946. Modulator MD-39/MRQ-2.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3174; 1946. Radio Set AN/CRD-2().

U. S. Gov., U. S. Army, Signal Corps Specification 71-3213; 1946. Radio Set AN/GRC-9().

U. S. Gov., U. S. Army, Signal Corps Specification 71-3238; 1946. Radio Set AN/MRC-2().

718.64 Radio Receiving Apparatus

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Radio Communication Equipment. Gives general requirements, technical requirements, lifeboats, operators' quarters, tube transmitter, nameplates, automatic alarm receiver, receiving equipment, antenna, standing rigging, radiotelephone, auxiliary equipment, tools and spare parts, and high-frequency installations.

Radio Manufacturers Assn. Radio Receivers, M3-141 to M3-145, 1936; M3-161 to M3-163 and M3-165 to M3-167, 1939; M3-210, M3-211, M3-213, and M3-214, 1937;

M3-215 to M3-217, 1939; M3-220 and M3-221, 1936; and M3-271, 1936. Includes uniform selectivity, uniform sensitivity, automatic tuning, remote control, automatic volume control, broadcast receivers frequency range, all-wave receivers frequency range, controls receiving set, control marking of receivers, intermediate frequency superheterodyne receivers, storage battery circuits fusing, terminal markings receiving sets, power cable connection to receiver, design and rating of socket power devices and electric radio receivers, color coding of antenna and ground leads, antenna installation instructions, and safety standards.

U. S. Gov., Joint Army-Navy Specification JAN-C-16A; 1945. Crystal-Units, CR-1()/AR.

U. S. Gov., Joint Army-Navy Specification JAN-C-239; 1945. Crystal-Units, CR-5E/U.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1053-A; 1945. Radio Set SCR-536-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-1057; 1945. Radio Receiver and Transmitter BC-620-() and Associated Equipment, for Radio Sets SCR-509-() and SCR-510-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-1314-A; 1946. Radio Transmitter BC-653-() (Amplitude Modulated) Radio Receiver BC-652-() (Amplitude Modulated) and Associated Equipment.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1317; 1945. Radio Receiver BC-683-() and Radio Transmitter BC-684-()—Components of Radio Sets SCR-608-() and SCR-628-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-1318; 1945. Radio Receiver and Transmitter BC-659-() and Associated Equipment for Radio Sets SCR-609-() and SCR-610-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-1373-A; 1945. Radio Set SCR-511-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-1527; 1945. Radio Set SCR-593-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-1601; 1945. Radio Set SCR-300-() (Components for).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1606; 1945. Radio Set SCR-694-() (Components for).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1622; 1945. Panoramic Adaptor BC-1031-() and Panoramic Adapter BC-1032-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-1683-A; 1946. Radio Sets SCR-399-() and SCR-499-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-2404; 1946. Radio Receiver BC-967-() and Chest CH-310-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-3010; 1945. Radio Set AN/TRC-1-() , Radio Terminal Set AN/TRC-3-() , and Radio Relay Set AN/TRC-4-() (Components of).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3022; 1946. Amplifier Equipment AN/TRA-1-() Major Components of.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3049; 1946. Radio Set SCR-616-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-3096; 1945. Radio Receiver and Transmitter

BC-1335-() and Associated Equipment for Radio Set SCR-619-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-3103; 1945. Radio Set AN/TRC-7-() (Components for).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3112; 1946. Radio Set AN/TRC-6-() (Auxiliary Components of).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3216; 1945. Radio Receiver R-100()/URR.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3174; 1946. Radio Set AN/CRD-2-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-3213; 1946. Radio Set AN/GRC-9-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-3238; 1946. Radio Set AN/MPC-2-() .

718.65 Radio Instruments and Testing Apparatus

U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 16; 1941. Aircraft Radio Equipment Airworthiness.

U. S. Gov., Joint Army-Navy Specification JAN-I-225; 1945. Interference Measurement, Radio, Methods of, 150 Kilocycles to 20 Megacycles (for Components and Complete Assemblies).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1053-A; 1945. Radio Set SCR-536-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-1355-B; 1944. Crystal Unit DC-9-AJ.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1607-B; 1945. Adapter FT-384-A.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1670-A; 1945. Alignment Equipment ME-73-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-1685-A; 1945. Adapters M-394-A and M-399-A.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1757; 1946. Tube Tester I-177 (Part of Test Set I-56-K).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1767; 1945. Test Unit I-176.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3083; 1945. Vibrator Pack PP-68-() /U.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3132; 1945. Code Training Set AN/GSC-T1-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-3168; 1945. Test Equipment IE-75-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-3172; 1946. Standard Crystal Test Set AN/TSM-1.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3224; 1945. Test Equipment IE-17-() .

U. S. Gov., U. S. Army, Signal Corps Specification 71-3230; 1946. Crystal Test Oscillator TS-412/TSM.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3234; 1945. Test Set TS-113/GRM.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3236; 1945. Tuning Equipment IE-37-() (Components for).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3245; 1946. Record Set AN/GNC-11-() .

718.66 Applications of Radio

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Radio Direction Finder (Radio

Compass). Covers where required and gives technical requirements, elements, location, installation, interference, calibration, operation, nameplate, and spare parts.

718.69 Miscellaneous Radio Apparatus and Equipment

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Depth Sounding Equipment. Gives general requirements; details for three classes of fathometers—(1) coastwise navigational equipment, (2) universal equipment, and (3) survey equipment; and location and installation.

U. S. Gov., Army Air Forces Specification 7014; 1945. Tuning Shaft MC-124 (Parts and Complete Assembly).

U. S. Gov., Army Air Forces Specification 40867-A; 1945. Trainer; Demonstrator, Type G-21 (Radio Range Ground).

U. S. Gov., Joint Army-Navy Specification JAN-C-172; 1945. Cases and Mounting Cases, Radio, Aircraft.

U. S. Gov., Joint Army-Navy Specification JAN-S-28-1; 1944. Sockets, Electron-Tube, Miniature.

U. S. Gov., U. S. Army, Signal Corps Specification 46-11; 1946. Microphone T-23 (Double Hot-Wire Grid).

U. S. Gov., U. S. Army, Signal Corps Specification 71-913-E; 1945. Headset HS-16-A (Code Practice).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1058-A; 1945. Handsets TS-13-() and TS-15-().

U. S. Gov., U. S. Army, Signal Corps Specification 71-1346; 1946. Microphone T-35 (Chest).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1388-A; 1945. Frequency Meter Set I-129-() (Absorption Type).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1518; 1946. Headset HS-30-U.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1563; 1945. Power Supply Unit PE-120-() and Associated Equipment.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1640; 1946. Power Supply Unit RA-61-() and Mounting FT-414.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1663; 1945. Mountings FT-346 and FT-508.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1668; 1945. Filters, Suppression (Radio-Frequency Interference).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1693; 1946. Head and Chest Set H-9/UT.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3017; 1945. Generator GN-58-().

U. S. Gov., U. S. Army, Signal Corps Specification 71-3043; 1945. Remote Control Unit RM-52 and Control Unit RM-53 (Components of Remote Control Equipment RC-261).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3046; 1946. Crystals, Quartz, Pressure Mounted.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3048; 1946. Filter FL-39.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3074; 1946. Electron-Tube Sockets.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3086; 1945. Remote Control Equipment AN/TRA-2() (Components for).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3107; 1946. Facsimile Transceiver TT-1 ()/TXC-1 and Rectifier Power Unit PP-86 ()/TXC-1.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3117; 1945. Jacks JK-53 and JK-55.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3119; 1945. Attenuator CN-7/UFA-T1.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3128; 1945. Headset H-16/U.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3164; 1945. Vibrator Power Unit PE-237-() and Vibrator VB-16-().

U. S. Gov., U. S. Army, Signal Corps Specification 71-3205; 1946. Remote Control Units RM-59-() and RM-60-().

U. S. Gov., U. S. Army, Signal Corps Specification 71-3212; 1945. Vibrator Power Supply FP-31()/TIQ-2.

718.7 SOUND RECORDING AND REPRODUCING APPARATUS

American Medical Assn. Council on Physical Medicine. Minimum Requirements for Acceptable Audiometers, 1945. An instrument for measuring at prescribed frequencies the auditory threshold of any individual in decibels referred to a standard intensity level known as the "normal threshold of hearing." Gives requirements for frequency range, purity of test tones, intensity range and calibration, bone conduction receivers, inherent noise, guarantees, and marketing and advertising.

American Medical Assn. Council on Physical Medicine. Minimum Requirements for Acceptable Electrical Hearing Aids, 1945. Hearing aids shall be demonstrably capable on increasing the intensity of sound between 300 and 3,000 cycles by at least 30 decibels. Gives detailed requirements.

U. S. Gov., Army Air Forces Specification 40704-3; 1945. Recorder and Reproducer; Sound (Magnetic Tape Type).

U. S. Gov., U. S. Army, Signal Corps Specification 71-3057; 1945. Speech Recorder MC-502-().

U. S. Gov., U. S. Army, Signal Corps Specification 71-3058; 1945. Speech Reproducer MC-503-().

U. S. Gov., U. S. Army, Signal Corps Specification 71-3123; 1946. Recording Equipment RC-169-() (Components for).

719. MISCELLANEOUS ELECTRICAL APPARATUS

719.3 MAGNETOS

U. S. Gov., Army-Navy Aeronautical Specification AN-M-4a; 1946. Magnetos; Aircraft, Engine Driven.

719.4 SPARK PLUGS

Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 344; 1946. Spark Plug Leads—Detachable. Covers two types—(I) rewirable and (II) non-rewirable. Gives general requirements, laboratory tests, radio shielding, engine tests, and drawings with dimensions and notes.

Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 345; 1946. Filled Detachable Spark Plug Elbow—Heat Resisting. Gives scope,

general requirements, laboratory tests, radio shielding, engine tests, and drawings with dimensions and notes.

Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 346; 1946. Integral Spark Plug and Lead Assembly. Gives scope, general requirements, laboratory tests, radio shielding, engine tests, and drawings with dimensions and notes.

Society of Automotive Engineers, Inc. Aeronautical Standard 9B; 1945. Protector and Cable Attachment, Spark Plug Terminal (Aircraft Engine). Gives drawing with notes and table showing dimensions and data.

Society of Automotive Engineers, Inc. Aeronautical Standard 368; 1946. Spark Plug Thread Form and Data (60° Thread Angle). Gives drawings with notes and tables showing sizes and dimensions.

U. S. Gov., Army-Navy Aeronautical Specification AN-E-10-1; 1946. Elbows; Shielded Spark Plug.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-4-6; 1945. Plugs; Aircraft Engine Spark.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-67-2; 1946. Plugs; 14 MM Spark.

719.5 ELECTRICAL INSULATING MATERIALS

719.50 General Items

American Society for Testing Materials, D48-45T; 1945. Tentative Methods of Testing Molded Materials Used for Electrical Insulation. Apply to solid electrical insulating materials (except dry-process porcelain) formed by a molding operation employing pressure with or without heat. Gives molding of test specimens, conditioning of test specimens, test conditions, arc resistance, dielectric strength, insulation and volume resistance, power factor, dielectric constant, and loss factor, compressive strength, flexural strength, impact strength, tensile strength, deformation under load, stiffness in flexure, brittle temperature, distortion under heat, linear coefficient of thermal expansion, flammability, water absorption, chemical resistance, acetone extraction, powder tests, flow temperature, mobility, and shrinkage.

American Society for Testing Materials, D150-45T; 1945. Tentative Methods of Test for Power Factor and Dielectric Constant of Electrical Insulating Materials. Procedures for the determination of the power factor and dielectric constant of solid and fluid electrical insulating materials at frequencies from 25 cycles per second to 100 megacycles per second. Gives definitions, theory of test, test specimens, electrodes, apparatus and procedure, report, appendices, and bibliography.

American Society for Testing Materials, D257-45; 1945. Standard Methods of Test for Insulation Resistance of Electrical Insulating Materials. Cover the determination of insulation and volume resistance and approximate surface resistance of electrical insulating materials. Gives definitions, test specimens and types of electrodes, measurements, procedure, calculations, and report.

American Society for Testing Materials, D350-45; 1945. Standard Methods of Testing Flexible Varnished Tubing Used for Electrical Insulation.

Cover the procedure for the testing of flexible varnished tubing and saturated sleeving used as electrical insulation for leads on electrical apparatus. Gives sampling, conditioning, apparatus, test specimens, procedure, and report for determining dimensions, dielectric strength, aging test, heat endurance, and rate of burning.

Varnished Tubing Assn., Inc. Standards for Varnished Tubing and Saturated Sleeving Used for Electrical Insulation, 1946. Covers the physical requirements and procedure for testing flexible varnished tubing and saturated sleeving used as electrical insulation. Gives definitions, grades, material, color, dimensions, yarn content, sampling, conditioning, test accessories and specimens, diameter and wall thickness tests, dielectric tests, dielectric test procedure, aging test and procedure, heat endurance tests and procedure, burning test and procedure, packing, marking, inspection, rejection, and re-hearing.

719.51 Asbestos and Mica

American Society for Testing Materials, D748-45T; 1945. Tentative Specifications for Natural Block Mica and Mica Films Suitable for Use in Fixed Mica-Dielectric Capacitors. Gives scope, forms, grades, classes, electrical and physical properties, and visual qualities, methods of testing, and appendix.

National Electrical Manufacturers Assn. Standards for Manufactured Electrical Mica, 46-117; 1946. Includes standard classification of muscovite mica splittings, standard classification of phlogopite (amber) mica splittings, standard composition, tolerance and properties of manufactured mica sheets and wrappers, tolerances for dimensions of standard sheets, tolerances for fabricated mica segments, standard composition, tolerances and properties of manufactured round mica tubes, standard tolerances for manufactured rings, standard methods of testing pasted mica used in electrical insulation, standard methods of test for dielectric strength of electrical insulating materials at commercial power frequencies, and standard methods of testing laminated tubes used in electrical insulation.

719.52 Insulating Fiber and Paper

American Society for Testing Materials, D202-45T; 1945. Tentative Methods of Sampling and Testing Untreated Paper Used in Electrical Insulation. Gives scope, sampling, conditioning, moisture content, thickness, weight, apparent density, tensile strength, tearing strength, bursting strength, folding endurance, absorption, air resistance, ash, acidity or alkalinity, conducting paths, deterioration, and rate of impregnation.

National Electrical Manufacturers Assn. Standards for Vulcanized Fibre, 46-111; 1946. American Standards Assn., C59.20-1945. Does not apply to the special grade of vulcanized fibre intended for use in insulation in railroad block signal systems. A reference work of practical information concerning the manufacture and test of vulcanized fibre. Covers description and standard grades; standard colors; dimensions of vulcanized fibre sheets,

blocks, rods, and tubes; and standards for physical, electrical, and chemical properties.

- U. S. Gov., Navy Dept. Specification 17-I-10b; 1946. Insulation, Electrical, Paper, Pressboard.
- U. S. Gov., Navy Dept. Specification 17-I-34; 1945. Insulation, Electrical, Synthetic-Fiber, Untreated (Group SFU).
- U. S. Gov., Navy Dept. Specification 17-I-46; 1945. Insulation, Electrical, Synthetic-Fiber, Treated (Group SFT).
- U. S. Gov., Navy Dept. Specification 17-I-55; 1945. Insulation, Electrical, Paper (Slot-Cell).
- U. S. Gov., U. S. Army, Signal Corps Specification 75-112; 1945. Paper PH-438.

719.54 Porcelain Insulation

- U. S. Gov., Joint Army-Navy Specification JAN-I-10-1; 1944. Insulating Materials, Ceramic Radio, Class L.
- U. S. Gov., Joint Army-Navy Specification JAN-I-12-1; 1944. Insulating Materials, Ceramic Radio Dielectric, Class H.

719.55 Rubber Compounds and Tapes

- American Society for Testing Materials, D866-46T; 1948. Tentative Specifications for GR-S Synthetic Rubber Sheath Compound for Electrical Insulated Cords and Cables. Cover a durable, vulcanized synthetic rubber compound, type GR-S, suitable for use as the outside covering or sheath on insulated electrical cords and cables. Gives character of sheath, methods of testing, physical requirements, sampling for original physical tests, sampling for accelerated aging tests, test specimens, and rejection.
- U. S. Gov., Federal Specification HH-T-111b; 1945. Tape; Rubber (and Synthetic-Rubber), Insulating. Covers one grade. Gives requirements for material, workmanship, dimensions, separator, tensile strength and elongation, fusion, tackiness, and dielectric strength; methods of sampling, inspection, and tests; and packing, packaging, and marking for shipment.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3082; 1945. Taper TL-192 (DR Tape).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3197; 1948. Tapes TL-317/U and TL-318/U (Rubber, Vulcanizing).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-4945; 1945. Rubber Substitutes, for Use in Cords, Cordages, and Cables.

719.56 Textiles Used for Electrical Insulation

- American Society for Testing Materials, D89-38; 1938. Friction Tape for General Use for Electrical Purposes. Applies to tape commonly used for protecting and binding in place joints of electrical wires and other electrical and mechanical purposes. Requirements for cotton sheeting, frictioning compound, impregnation, adhesiveness, tackiness, discoloration of copper, pinholes, tensile strength, dielectric strength, parallelism of threads, sizes, and methods of testing. A.S.T.M. Emergency Alter-

nate Provisions EA-D69b; 1945 affected sections 6, 7, 13, 14, 17, 19, 20, and 21.

- American Society for Testing Materials, D372-45T; 1945. Tentative Specifications for Flexible Treated Cotton and Rayon Sleeving Used in Electrical Insulation. Covers five grades of tubing. Gives material, color, dielectric strength, aging test, heat endurance, rate of burning, dimensions, methods of testing, packing, marking, inspection, rejection, and rehearing.
- National Electrical Manufacturers Assn. Black and Yellow Straight-Cut Varnished Cloth, 45-110; 1945. Provides practical information concerning manufacture and testing of black and yellow straight-cut varnished cloth. Covers scope, dimensions and permissible variations, physical properties and tests, manufacture, packing and marking, and inspection and rejection.
- U. S. Gov., Federal Specification HH-C-471; 1945. Cloth and Tape; Cotton, Varnished (for Electrical Insulation). Covers two types—(I) yellow varnish and (II) black varnish; and two classes—(A) straight cut and (B) bias cut. Gives requirements for material, workmanship, dielectric strength, weave, cut, number of yarns, thickness tolerance, width tolerance, length tolerance, splices, continuity, flexibility, and additional requirements; methods of sampling, inspection, and tests; and packaging and packing for shipment.
- U. S. Gov., Federal Specification HH-T-101a; 1939. Amend. 1; 1945. Tape; Friction. Covers one grade. Gives requirements for material and workmanship, sulfur, adhesion, raveling, physical properties, friction, dielectric strength, tackiness, and age; method of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 17C8b; 1946. Cambric, Insulating, Varnished.
- U. S. Gov., Navy Dept. Specification 17-I-37; 1946. Insulation, Electrical, Glass-Fiber, Treated; Cloth, Tape, and Cordage (Resin-Filled) (Group GF).
- U. S. Gov., Navy Dept. Specification 17S10c; 1946. Sleeving, Insulating, Cotton.
- U. S. Gov., Navy Dept. Specification 17T15c; 1946. Tape, Insulating, Linen-Finish, Plain.

719.57 Electrical Insulating Varnishes

- Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1946. Varnish for Treatment of Electrical Windings. Shall be an electrical insulating, oil-proof, moisture-resistant, baking type suitable for application to electrical windings by either an impregnation or dipping process. Covers composition, thermal properties, electrical insulating properties, moisture resistance, oil-proof properties, action of varnish on other materials, protection against corrosion, plasticity, and service life.
- U. S. Gov., Navy Dept. Specification 52V13g; 1946. Varnish, Insulating (Electrical).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-210; 1945. Varnish, Moisture- and Fungus-Resistant.

719.58 Molded and Laminated Insulating Materials, Bakelite and Similar Products

American Society for Testing Materials, D618-45T; 1945. Tentative Method for Conditioning Plastic and Electrical Insulating Materials for Testing. Many plastics and electrical insulating materials respond to temperature and relative humidity in a manner that materially affects test results. Gives definitions, conditioning prior to test, tests at normal temperatures, tests at other standard test temperatures, selection of conditioning procedure, report, and appendix.

National Electrical Manufacturers Assn. Recommended Practice for Fabricating Laminated Plastics, 45-107; 1945. Covers cutting laminated plastics, punching, shaving and broaching, drill-press operations, screw machines and turret lathes, lathe operations, threading (internal and external), milling and gear cutting, marking, sanding and grinding, and finishing.

National Electrical Manufacturers Assn. Standards for Laminated Thermosetting Products, 46-118; 1946. Provides practical information concerning the manufacture, test and performance of laminated thermosetting sheets, tubing, and rods used in the manufacture of electrical apparatus and supplies. Covers general requirements, sizes and variations, physical and electrical properties, and test methods for physical and electrical properties and dimensions.

U. S. Gov., Joint Army-Navy Specification JAN-P-14-1; 1945. Plastic-Materials, Molded, Thermosetting.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3026; 1945. Arc Resistant Laminated Thermosetting Material.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3263; 1946. Insulator IL-3/G.

719.59 Miscellaneous Electrical Insulating Materials

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice, 1946. Compound for Impregnation of Electrical Windings. Shall be a fusible, electrical insulating, moisture-resistant, organic type suitable for use in heated, vacuum and pressure equipment. Covers thermal properties, electrical insulating properties, moisture resistance, action of compound on other materials, protection of windings against corrosion, plasticity, and service life.

Underwriters' Laboratories, Inc., 1945. Standard for Thermoplastic-Insulated Wires. Covers wires having thermoplastic insulation for use in accordance with the National Electrical Code. Gives scope, conductors, insulation, finish, dielectric strength, insulation resistance, mechanical equivalence to Type R, marking, general, cost of service, necessary cooperation from the manufacturer, test equipment at the factory, instructions to inspectors, and field inspection program.

U. S. Gov., Navy Dept. Specification 17-I-15c; 1946. Insulation, Electrical, Plastic-Sealer.

U. S. Gov., Navy Dept. Specification 17-I-17; 1945. Insulation, Electrical, Synthetic-Resin-Composition, Group as (All-Synthetic), Flexible and Semi-Rigid.

U. S. Gov., Navy Dept. Specification 17-I-37; 1946. Insulation, Electrical, Glass-Fiber, Treated: Cloth, Tape, and Cordage (Resin-Filled) (Group GF).

U. S. Gov., Navy Dept. Specification 17-I-42; 1945. Insulation, Electrical, Thermoplastic (for stationary Electric Coils).

U. S. Gov., Navy Dept. Specification 17-I-53; 1946. Insulation, Electrical, Synthetic-Resin-Composition: Cords, Yarns, and Monofilaments.

U. S. Gov., Navy Dept. Specification 17-I-56; 1946. Insulation, Electrical, Liquid, Impregnating, High-Temperature.

719.6 ELECTRICAL LINE MATERIALS, AERIAL AND UNDERGROUND

719.61 Electric Wire and Cable Supports

U. S. Gov., U. S. Army, Corps of Engineers Specification 29-102; 1945. Grip, Wire, Wire Rope and Cable.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3167; 1945. Cable Hanger PF-203/G.

719.62 Poles and Appurtenances

U. S. Gov., U. S. Army, Signal Corps. Specification 23-76C; 1945. Lance Pole PO-2.

719.7 CUT-OUT BASES AND CONNECTORS

719.72 Connectors and Clips

U. S. Gov., Army-Navy Aeronautical Specification AN-S-53-1; 1945. Splices; Electrical Disconnect.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-C-591b-2; 1946. Connectors; Electrical.

U. S. Gov., Joint Army-Navy. Specification JAN-C-71; 1945. Connectors, "N," for Radio Frequency Cables.

U. S. Gov., Navy Dept. Specification 17C20; 1945. Clips, Electrical, Jaw-Grip.

U. S. Gov., U. S. Army, Corps of Engineers Specification 84-57; 1944. Connectors, Ground, Electrical.

719.9 MISCELLANEOUS ELECTRICAL MACHINERY AND SUPPLIES

719.92 Hotel and Restaurant Electrical Equipment

U. S. Gov., Federal Specification 00-M-38; 1942. Amend. 2; 1946. Machines, Food-Mixing; Electrically Operated, Commercial Type (Cake and Kitchen). Covers the vertical pedestal type having either a cast, fabricated, or formed pedestal; and six sizes—12-, 20- to 22-, 30- to 36-, 60-, 80-, and 100- to 110-qt. bowl capacity. Gives requirements for material, workmanship, condition, service requirements, base, column, spindle, safety device, lubrication, drive, instructions, finish, accessories, motors, starters, clutch, seals, and details for each size; methods of inspection and tests; and packing and marking for shipment.

U. S. Gov., Navy Dept. Specification 66G1a; 1946. Grinders, Garbage.

719.93 Microphones, Loudspeakers, and Amplifiers

- U. S. Gov., U. S. Army, Signal Corps Specification 71-958-C, 1945. Loudspeaker LS-3 and LS-9.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-986; 1945. Interphone Amplifiers BC-367 and BC-667.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1514-A, 1945. Loudspeaker LS-7 and LS-11.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3023; 1945. Public Address Set AN/TIQ-2 (Components for).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3091; 1945. Public Address Set AN/TIQ-3 (Components for).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3162; 1945. Intercommunication Set PA-8- ().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3163; 1945. Public Address Set AN/PIC-1 (Components for).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3192; 1945. Public Address Set AN/UIQ-1.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3202; 1945. Microphone T-32- ().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3247; 1945. Public Address Set AN/UIQ-3- ().
- U. S. Gov., U. S. Maritime Commission Specification 17-MC-12; 1945. Megaphones; Electric, Portable. Gives requirements for materials, workmanship, plastic materials, metal, wire, solder and soldering

flux, power supply, resistors, fixed capacitors, transformers, horn, microphone, reproducer, amplifier, cable, weight, temperature range of operation, position of operation, speed of operation, ruggedness, overall gain and frequency response, distortion, case, carrying straps, and finish; inspection, sampling, and methods of test; and packaging, packing, and marking for shipment.

719.94 Gyroscopes, and Gyro Controlled Equipment

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Gyro Compass Equipment and Gyro Pilot. Gives general requirements, installation and location, and wiring for gyro compass equipment and general requirements, power supply, wiring and installation, and standard parts for gyro pilots.

719.99 Miscellaneous

- U. S. Gov., Army Air Forces Specification 40727A-1; 1945. Bench, Electrical Repair, Type A-1 (Generator).
- U. S. Gov., Navy Dept. Specification 17A9b; 1945. Armature-Stands, Electrical, Coil-Winding.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1805; 1945. Reperforator Transmitter TG-26- () and TG-27- ().

720-729**VEHICLES**

(Except Agricultural Vehicles and Steam Locomotives)

721. ELECTRIC VEHICLES**721.1 ELECTRIC LOCOMOTIVES**

- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Standard Method of Rating Electric Locomotives, Recommended Practice. Gives conditions of rating, for maximum start, one hour, and continuous. Data required for speed in miles per hour, tractive effort in pounds, and horsepower.
- U. S. Gov., Interstate Commerce Commission, Bureau of Locomotive Inspection. Laws, Rules, and Instructions for Inspection and Testing of Locomotives Other Than Steam, 1940. The railroad company is responsible for design, construction, inspection, and repair of all locomotives used on its line. Covers brake equipment, drawgear between locomotive units, connections between trucks and draft gear, running gear, wheels, cabs, cab aprons, pilots, lights, whistles, bells, sanders, train signal, electrical equipment, internal-combustion equipment, boilers used in connection with locomotives other than those propelled by steam power, specifications, periodical reports, time out of service, accidents, and locomotive inspection report.

722. MOTOR TRUCKS AND AUTOMOBILES, EXCEPT ELECTRIC**722.0 GENERAL ITEMS**

National Conservation Bureau. Motor Vehicle Inspection Manual, 222; 1940. Published jointly with American Assn. of Motor Vehicle Administrators. Covers development of motor vehicle inspection; legislation; state and municipally owned and operated stations—organization and administration, station location, design and construction, equipment type and installation, maintenance of equipment and building, personnel, record system, public support and information, and cooperation with garages; state appointed stations; combination of state owned and state appointed inspection program; and standard inspection requirements for motor vehicles.

722.1 AUTOMOBILE MOTOR TRUCKS

- U. S. Gov., U. S. Army, Army Air Forces Specification 91-101; 1945. Truck, Six-Wheel, Six-Wheel-Drive 7 1/2 Ton (for Type F-1 Crane Truck).

722.3 AUTOMOBILE ACCESSORIES AND PARTS**722.31 Automobile Power-Plant Parts**

Society of Automotive Engineers, Inc. Aeronautical Material Specification 7310A; 1945. Rings, Piston—Cast Iron. Gives composition, condition, hardness, microstructure, quality, finish, circularity, light-tightness of periphery, flatness, corrosion prevention, approval, reports, and rejections.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 7312; 1945. Rings, Piston—Centrifugally Cast, Alloy Cast Iron. Gives composition, condition, physical properties, microstructure, quality, finish, circularity, light-tightness of periphery, flatness, heat stability, corrosion prevention, approval, reports, and rejections.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 90-17; 1945. Filters, Lubricating Oil, Engine (Bypass Filtration Only).

722.36 Automobile Tires and Rims

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Deep Well Rim Contours for Wide Base Rear Tractor Tires. Standard, 1945. Gives dimensional drawings.

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Rim Contours for Tractor and Implement Tires. Standard, 1943. Dimensional drawings for various rim contours.

Tire and Rim Assn., Inc. Agricultural Handbook, 1946. Rim Contours for Wide Base Rear Tractor Tires. Standard, 1940. Gives dimensional drawings.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. "Hump" Type Bead Seat Contours for 16 In. Diameter and Smaller Low Pressure Balloon Tires, Optional Standard. Dimensional diagrams for rim flanges.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Load Table for Full Drop Center Rims for 16 In. Diameter (and Smaller) Low Pressure Balloon Tires, Standard. Covers rim contour and maximum recommended load for standard rim and heavy duty rim.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Rim Contours for 16 In. Diameter (and Smaller) Low Pressure Passenger Balloon Tires, Standard. Dimensional diagrams for various sizes of rim contours for use on passenger cars and similar chassis.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Rim Contours for Slow Speed Industrial Vehicles, Standard. Gives dimensional diagrams of contours of rims.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Rim Contours for Slow Speed Industrial Vehicles and Passenger Car Baggage Trailers, Drop Center Type, Standard. Gives dimensional diagrams of contours of rims.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Rim Contours for Slow Speed Industrial Vehicles and Passenger Car Baggage Trailers, 2-Piece Divided Type, Standard. Gives dimensional diagrams of contours of various sizes of rims.

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Wide Base Rim Contours for 16 In. Diameter (and Smaller) Low Pressure Passenger Balloon Tires, Standard. Dimensional diagrams for various sizes of rim contours for passenger car and similar chassis.

Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Contours of Rims for Light Trucks, Drop Center Type, Assn. Standard. Gives drawings with dimensions.

Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Contours of Rims for Light Trucks, Semi-Drop Center Type, Assn. Standard. Gives drawings with dimensions.

Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Optional Fillet Contours for Truck and Bus Rims, Types A and B. Assn. Standard. Gives drawings with dimensions.

Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Permissible Rims for Mining, Logging, and Earth Moving Vehicles, Experimental Practice. Gives table showing tire size, permissible rim width and flange height, maximum tire section, and minimum dual spacing for tire sizes from 6.50 to 21.00.

Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Rim Contours for Mining, Logging, and Earth Moving Vehicles. Assn. Standard. Gives drawing with table showing dimensions.

Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Rim Contours for Road Graders, Semi-Drop Contour Type. Assn. Standard. Gives drawings with dimensions for various types and sizes.

Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Rim Contours for Truck and Bus Tires, Advanced Program, Experimental Practice. Gives drawings with dimensions for various types and sizes of rim contours.

Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Rim Contours for Truck and Bus Tires, Assn. Standard. Gives drawings with dimensions for various types and sizes of rim contours.

Tire and Rim Assn., Inc. Truck-Bus Handbook, 1946. Valve to Brake Drum Clearance. Gives illustration used as an example.

722.37 Automobile Frames, Bodies, and Body Parts

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail and Water, 1946. Specifications for Containers for Motor Vehicle Transportation. MC200, Containers for Liquid Nitroglycerin or Diethylene Glycoldinitrate. Covers motor vehicle body, and inside containers and boots. Published by American Trucking Assns., Inc., Tariff Bureau.

U. S. Gov., U. S. Army, Army Air Forces Specification 91-102; 1945. Turntable, Full Revolving (for Type P-1 Crane Truck).

U. S. Gov., U. S. Army, Corps of Engineers Specification 91-116; 1945. Body, Flat Bed, Mounted on Truck-Chassis, 4-Ton, 6 x 6, LWB, With "A" Frame, CAB Protector, and Winch, Rear-Mounted.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-105; 1945. Bodies, Cargo, Composite Steel and Wood: General Requirements for.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-106; 1945. Body, Cargo, Platform, Rear Stake-Gate or Tailgate Type; for 2 1/2-Ton, 6x6, Coe Truck.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-110; 1945. Body, Mobile Shop, Model ST-6.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-111; 1945. Bodies, Cargo, Wood: General Requirements for.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-115; 1945. Wood Parts, Fabricated, for Transport Vehicle Bodies.

722.39 Miscellaneous Automobile Accessories and Parts

Underwriters' Laboratories, Inc., 1946. Lists of Inspected Appliances Relating to Accident Hazard, Automotive Equipment, and Burglary Protection. This catalog contains three lists that have been inspected by the Underwriters'. The lists are—appliances inspected for accident hazard, inspected automotive appliances, and inspected burglary protection appliances. The listings are arranged alphabetically as to subject and alphabetically by name of manufacturer under each subject.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-63; 1944. Binder, Load, Lever Type, Heavy Duty.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-92; 1944. Traction Devices: Multiple-Shoe Type with Integral Grousers.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-109; 1945. Defrosters: Windshield, Electric.

722.9 MISCELLANEOUS AUTOMOBILE SUPPLIES**722.93 Anti-Freeze Liquids**

U. S. Gov., Navy Dept. Specification 51C39a; 1946. Compound, Antifreeze.

722.94 Valve Grinding Compound

U. S. Gov., Navy Dept. Specification 51C22d; 1946. Compound, Valve-Grinding.

722.95 Inspection Apparatus

Underwriters' Laboratories, Inc., 1946. Lists of Inspected Appliances Relating to Accident Hazard, Automotive Equipment, and Burglary Protection. This catalog contains three lists that have been inspected by the Underwriters'. The lists are—appliances inspected for accident hazard, inspected automotive appliances, and inspected burglary protection appliances. The listings are arranged alphabetically as to subject and alphabetically by name of manufacturer under each subject.

722.97 Hydraulic Brake and Shock Absorber Fluid

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-111B; 1945. Fluid, Hydraulic Brake.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-112A; 1945. Fluid, Shock Absorber (Light and Heavy).

722.99 Miscellaneous Automotive Tools

U. S. Gov., U. S. Army, Corps of Engineers Specification 56-85-12; 1945. Analyzers, Engine, Portable.

U. S. Gov., U. S. Army, Corps of Engineers Specification 56-90-30; 1945. Aligner, Connecting Rod, Universal, 2-5/8 to 7 In. Piston, Capacity 6 to 23 In. Long Connecting Rods.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 56-80-5; 1945. Saws, Band; Contour Metal Sawing, Filing and Polishing (Motor-Driven).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 56-90-29; 1945. Tool Set, Body and Fender Repair.

724. AIRCRAFT**724.0 GENERAL ITEMS**

Society of Automotive Engineers, Inc. Aeronautical Drafting Manual, 1946. Includes procedures for preparation of drawings, dimensioning by the decimal system, notes, abbreviations and symbols, definitions, threads, gears, splines and serrations, forgings, finish marks and special finishes, springs, and tables.

U. S. Gov., Army Air Forces Specification 40135B; 1945. Report; Aircraft Checkers.

U. S. Gov., Army-Navy Aeronautical Specification AN-B-11; 1946. Bill of Materials; Aircraft and Aeronautical Equipment.

U. S. Gov., Army-Navy Aeronautical Specification AN-D-13-2; 1945. Drawings and Data Lists; Preparation of (for Engines, Accessories, and Other Auxiliary Equipment).

U. S. Gov., Army-Navy Aeronautical Specification AN-H-8b; 1946. Handbooks; Pilots' Flight Operating Instruction.

U. S. Gov., Army-Navy Aeronautical Specification AN-M-18a; 1945. Measuring and Leveling Provisions (for Aircraft).

U. S. Gov., Army-Navy Aeronautical Specification AN-S-33a; 1945. Soundproofing for Aircraft; General Specification for Installation of.

U. S. Gov., Army-Navy Aeronautical Specification AN-W-11a-2; 1945. Weight and Balance Control Data (for Aircraft).

U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 01; 1942. Airworthiness Certificates.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 02; 1941. Type and Production Certificates.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 03; 1945. Airplane Airworthiness—Normal, Utility, Acrobatic, and Restricted Purpose Categories.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 04; 1943. Airplane Airworthiness.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 18; 1942. Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments.

724.1 BALLOONS

U. S. Gov., U. S. Army, Signal Corps Specification 71-3134; 1945. Balloon MX-93/MRQ-2 and Accessory Equipment.

U. S. Gov., U. S. Army, Signal Corps Specification 74-56; 1945. Balloons Meteorological; Pilot, Clipping and Sounding.

U. S. Gov., U. S. Army, Signal Corps Specification 74-75; 1945. Pilot Balloon Target ML-307-B/AP.

U. S. Gov., U. S. Army, Signal Corps Specification 74-83; 1945. Balloon Shroud MC-573.

U. S. Gov., U. S. Army, Signal Corps Specification 74-111; 1945. Balloon Nozzle ML-373/GM.

724.2 AIRCRAFT ACCESSORIES AND PARTS

724.20 General Items

- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 280; 1944. Specification for the Installation of Plastic Fittings and Tubing. Gives applicable specifications and drawings, type, material and workmanship, general requirements, detail requirements, method of inspection and tests, packing, marking, storage, notes, and figures. Developed by National Aircraft Standards Committee.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 2570A; 1945. Preservation of Engines. Provides a procedure for preparing reciprocating aircraft engines to resist corrosion during shipment and storage. Gives requirements for material and equipment, slushing procedure, dehydrating procedure, packing procedure, accessories, and maintenance. Similar specification: Army-Navy Aeronautical AN-E-11.
- Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 169; 1945. Numbering of Aircraft Engine Cylinders. Prepared in an attempt to effect a standard method of numbering aircraft engine cylinders. Covers definitions, designations of engines, numbering of engine cylinders, and diagrams.
- Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 341; 1945. Nomenclature Guide for Aircraft Engine Parts. The definitions give only sufficient characteristics of the terms so that the reader, who is assumed to be familiar with them, can see the proposed distinction. Only terms which have been found to have ambiguous meanings are listed. Gives 22 pages of definitions.
- U. S. Gov., Army Air Forces Specification 7087-1; 1945. Electronic Standard Parts, Materials and Processes (Requirements for Use in Army Air Forces Equipment).
- U. S. Gov., Army Air Forces Specification 24996; 1945. Wiring; Installation of Turret.
- U. S. Gov., Army Air Forces Specification 28427B, 1945. Radiator; Coolant.
- U. S. Gov., Army Air Forces Specification 28480-A, 1945. Preservation and Packaging of Aircraft Accessory and Ground Electric Power Plants.
- U. S. Gov., Army Air Forces Specification 28494-2; 1945. Installation of Electronic Turbosupercharger Regulator (Type B-Series).
- U. S. Gov., Army Air Forces Specification 32300D; 1945. Installation of Aircraft Electrical Equipment; General Specification for.
- U. S. Gov., Army Air Forces Specification 40560-E, 1942. Packing of Army Air Forces Standard Parts.
- U. S. Gov., Army Air Forces Specification 40910A, 1945. Drawings, Drawing Lists, and Sample Tools for AAF Accessories and Other Equipment.
- U. S. Gov., Army Air Forces Specification 40984; 1945. Test; Resistance of Equipment to Mildew.
- U. S. Gov., Army Air Forces Specification 41004; 1945. Handbook of Operation and Maintenance Instructions (Test Stands and Test Equipment).
- U. S. Gov., Army Air Forces Specification 41029; 1945. Reports; Aircraft (Historical Records and Technical Instruction Compliance Records).
- U. S. Gov., Army-Navy Aeronautical Specification AN-B-9b-1; 1946. Bulletins; Contractor Service (for Airframes, Engines, and Accessories).
- U. S. Gov., Army-Navy Aeronautical Specification AN-B-10a-1; 1945. Bonding; Electrical (for Aircraft).
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-85a-2; 1946. Catalogs; Aircraft Parts.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-110; 1946. Catalogs; Engine Parts.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-158; 1946. Coating; Process for Application of Permanent Resin to Engine Parts.
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-7b-2; 1945. Handbooks and Catalogs; General Specification for Preparation of.
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-11-2; 1946. Handbooks; Operation and Service Instruction (for Aircraft Accessories, Aircraft Engine Accessories, and Related Equipment).
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-12-3; 1946. Handbooks; Overhaul Instruction (for Aircraft Accessories, Aircraft Engine Accessories, and Related Equipment).
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-8a-1; 1945. Installation of Engine Charge Air Filters; Design Requirements for.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-9b-1; 1946. Insignia; National (for Airplane Exterior).
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-21a-1; 1946. Interchangeability and Replaceability of Component Parts for Airplanes.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-38; 1945. Insignia and Markings for Rescue Aircraft; Design Requirements for.
- U. S. Gov., Army-Navy Aeronautical Specification AN-L-32; 1945. Lubrication of Aircraft; General Specification for.
- U. S. Gov., Army-Navy Aeronautical Specification AN-L-35; 1946. Lists; Parts Application Data.
- U. S. Gov., Army-Navy Aeronautical Specification AN-M-9a-2; 1946. Maintenance Parts Breakdown (for Aircraft).
- U. S. Gov., Army-Navy Aeronautical Specification AN-M-13-1; 1945. Marking and Tagging; Airframe, Engine, and Accessory Maintenance Parts.
- U. S. Gov., Army-Navy Aeronautical Specification AN-W-14a-1; 1945. Wiring; Installation of Aircraft.
- U. S. Gov., U. S. Army, Army Air Forces Specification 94-40763; 1945. Packaging and Packing of Turbosuperchargers for Export Shipment.
- U. S. Gov., U. S. Army, Army Air Forces. Specification 98-24105-S, 1945. Marking for Airplanes and Airplane Parts.

724.21 Aircraft Power-Plant Parts

- Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 335; 1946. Mounting Pad and Flange—Fuel Injection Pump (7-9 Cylinders). Gives drawings with dimensions and notes.
- Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 336; 1946. Mounting Pad and Flange—Fuel Injection Pump (12-14 Cylinders). Gives drawings with dimensions and notes.

Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 337; 1946. Mounting Pad and Flange—Fuel Injection Pump (15-18 Cylinders). Gives drawings with dimensions and notes.

Society of Automotive Engineers, Inc. Aeronautical Standard 7B; 1945. Dehydrator Plug (Cable Supporting). Gives drawing with notes and table showing dimensions and data.

Society of Automotive Engineers, Inc. Aeronautical Standard 8A; 1945. Dehydrator Plug. Gives drawing with notes and table showing dimensions and data.

Society of Automotive Engineers, Inc. Aeronautical Standard 9B; 1945. Protector and Cable Attachment, Spark Plug Terminal (Aircraft Engine). Gives drawing with notes and table showing dimensions and data.

Society of Automotive Engineers, Inc. Aeronautical Standard 107A, 1945. Surface Finish. Provides a method for the application of surface finish control to aircraft engine parts. Gives definitions, surface finish, symbol, scales, lay designation, general notes, plated surfaces, and method of inspection. National Aircraft Standards Committee NAS 30; American Standards Assn. R46.

Society of Automotive Engineers, Inc. Aeronautical Standard 194; 1945. Nomenclature—Engine Cooling Fan. Gives drawing with notes.

Society of Automotive Engineers, Inc. Aeronautical Standard 307; 1946. Cover, Flight—Governor Mounting Pad. Gives drawings with dimensions and notes.

U. S. Gov., Army Air Forces Specification 28472B, 1945. Regulator; Turbosupercharger, Electronic, Type B-3.

U. S. Gov., Army Air Forces Specification 28473A; 1946. Regulator; Turbosupercharger, Electronic Type B-4.

U. S. Gov., Army Air Forces Specification 28492A-1; 1946. Regulator; Turbo Supercharger, Electric, General Specification for.

U. S. Gov., Army Air Forces Specification 28500B-2; 1945. Turbo Supercharger; Aircraft, General Specification for.

U. S. Gov., Army Air Forces Specification 28502-33-1; 1944. Turbo Supercharger, Type R-33.

U. S. Gov., Army Air Forces Specification 28503-23-2; 1945. Turbo Supercharger, Type C-23.

U. S. Gov., Army Air Forces Specification 32522-1; 1945. Starter; Electric, Type J-2 (Direct Cranking—24 Volts D.C.).

U. S. Gov., Army Air Forces Specification 32548; 1945. Starter; Direct Cranking Electric, Type K-1 (115 Volt, Alternating Current).

U. S. Gov., Army-Navy Aeronautical Specification AN-C-75a-2; 1945. Coolers; Oil.

U. S. Gov., Army-Navy Aeronautical Specification AN-D-10a; 1945. Dampers; Engine Exhaust Flame and Glare.

U. S. Gov., Army-Navy Aeronautical Specification AN-F-30a-1; 1945. Filters; Engine Charge Air.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-20-1; 1946. Power Plants; Aircraft Accessory (Auxiliary), General Specification for.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-65; 1945. Power Plants; Model Specification

for Aircraft Accessory (Auxiliary), (Instructions for Preparation).

U. S. Gov., Army-Navy Aeronautical Specification AN-S-38a; 1946. Starter; Aircraft Inertia, General Specification for.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-51a; 1946. Starter; Aircraft, Combination Inertia and Direct Cranking, General Specification for.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-54a; 1946. Starters; Direct Cranking.

724.22 Aircraft Parts and Fittings

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 4 and NAS 5, revised 1946. End—Rod, Control, Resistance Welding Type, X1020 Steel, and Rod—End, Resistance Welding Type, X4130 Steel. Gives drawing with table showing dimensions. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 42; 1943, and 43; 1945. Spacers—Rivet and Spacers—Screw and Bolt. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 67, 68, and 69. Guide—Fastener. NAS 67, revised 1945, Low Form, Cowl, Dzus Type. NAS 68; 1943, Cowl Dzus Type. NAS 69; 1941, Cowl, Dzus Type, Dimpled Rivet Holes. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

National Industries Assn. of America, Inc. National Aircraft Standard NAS 183 and 184; 1945. Stud—Coarse Thread and stud—Fine Thread. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 187; 1945. Fairing—Tube Outlet. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 188; 1945. Pad—Tank Strap. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 240 and 242, revised 1946. NAS 241; 1943. Nut—Flared Tube Coupling Plastic; Ring—Flared Tube Fitting, Steel; and Nut—Flared Tube Fitting Plastic Lock. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 243 and 244; revised 1946. Cap—Flared Tube Fitting Plastic and Cap—Rigid Tube or Hose Fitting Synthetic. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 245, 249, and 251; revised 1946. Nipples, Plastic. NAS 245, Flared Tube and Pipe Thread Plastic. NAS 249, Hose and Flared Tube, Plastic. NAS 251, Pipe Thread and Hose, Plastic. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 246, 248, 250, and 252; revised 1946. Unions, Plastic. NAS 246, Flared Tube, Plastic. NAS 248, Bulkhead Universal and Flared Tube Plastic. NAS 250, Hose, Flared Tube, Bulkhead and Universal, Plastic. NAS 252, Hose Bulkhead, Plastic. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 247; revised, 1946. Reducer—Flared Tube Plastic. Gives drawing with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, and 264; revised 1946. Elbows, Plastic. Covers various types including flared tube, bulkhead, bulkhead and universal, and hose and pipe thread in 90° and 45°. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 265, 266, 267, 268, 269, 270, and 271; revised 1946. Tees, Plastic. Covers various types of flared tube and hose tees. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 272, 273, and 274; revised 1946. Crosses, Plastic. Covers flared tube, hose, and hose with thread on bottom. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 275 and 276; revised 1946. Plug and Bleeder—Screw Thread, Plastic and Plug—Pipe Thread Plastic. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 278; 1944. Specification for Tube Fittings Molded From Thermosetting Plastic Materials. Gives applicable specifications, types and classes, material and workmanship, general requirements, detail requirements on test specimens, sampling, inspection, and tests on molded materials, detail requirements on molded fittings, inspection and tests on fittings, packaging, packing, and marking for shipment, notes, figures, and tables. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 279; 1944. Specification for Tubing Fabricated From Thermoplastic Materials. Gives applicable specifications, types and classes, material and workmanship, general requirements, detail requirements on test specimens, sampling, inspection, and tests on molded specimens, detail requirements on production tubing, inspection and tests on production tubing, packaging, packing, and marking for shipment, notes, figures, and tables. Developed by National Aircraft Standards Committee.

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 289; 1945. Bi-Planar Block—Chain. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.

Society of Automotive Engineers, Inc. Aeronautical Standard 356; 1946. Puller—Impact—Universal. Gives drawing with dimensions and notes.

U. S. Gov., Army Air Forces Specification 27431A-2; 1946. Adapter Assembly; Turbo Supercharger Tachometer and Turbo-Supercharger Regulator Drive.

U. S. Gov., Army Air Forces Specification 40228-J-3; 1945. Strut; Aircraft Shock Absorber (Air and Oil Type), General Specification for.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-66c-1; 1946. Cylinders; Hydraulic Actuating.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-131-1; 1945. Casing; Control Cable Flexible.

U. S. Gov., Army-Navy Aeronautical Specification AN-F-8a; 1945. Fasteners; Cowling.

U. S. Gov., Army-Navy Aeronautical Specification AN-F-45-1; 1946. Fittings; Self Sealing and Pladder Type Tank.

U. S. Gov., Army-Navy Aeronautical Specification AN-H-2b; 1945. Hydraulic Systems; Design, Installation and Tests of Aircraft, General Specification for.

U. S. Gov., Army-Navy Aeronautical Specification AN-J-1a-1; 1946. Jumpers; Bonding and Current Return.

U. S. Gov., Army-Navy Aeronautical Specification AN-J-5-1; 1945. Jack Pads; Design and Installation of (for Aircraft).

U. S. Gov., Army-Navy Aeronautical Specification AN-J-10-1; 1946. Joints; Hydraulic Swivel.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-33a-1; 1946. Pins; Aircraft Flat Head.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-60-1; 1945. Pulleys; Grease-Lubricated Anti-Friction Bearing Control.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-1a-3; 1946. Seats; Pilots' Adjustable, Long-Range Airplane.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-40-2; 1945. Strainers; Fuel System.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-49-2; 1946. Seats; Pilots', Adjustable, Short-Range Airplane.

U. S. Gov., Army-Navy Aeronautical Specification AN-T-49a-1; 1945. Tanks; Self-Sealing Fuel.

U. S. Gov., Army-Navy Aeronautical Specification AN-WW-F-368a-8; 1946. Fitting; Fluid Connection.

724.23 Aircraft Wheels

Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type I Airplane Tires, Recommended Practice, Table AP-1. Gives table of rim and tire dimensions, load ratings, and types of valves for various sizes of main wheel tires and tail wheel tires.

Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type I Channel Tread Tail Wheel Tires, Recommended Practice, Table AP-1B. Gives table showing tire and rim sizes, rating, and inflated dimensions for various sizes of tail wheel tires.

Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type II Airplane Tires, Recommended Practice, Table AP-2. Gives table of rim and tire dimensions, load ratings, and types of valves for various sizes of main wheel tires and tail wheel tires.

- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type III Airplane Tires, Recommended Practice, Table AP-3. Gives table of tire and rim dimensions, load ratings, and types of valves for various sizes of main wheel tires and tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Beaching Gear Tires, Recommended Practice, Table AP-4. Gives table of tire and rim dimensions, load ratings, and types of valves for various sizes of main wheel tires and tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type VIIA Airplane Tires, Recommended Practice, Table AP-5. Gives table of tire and rim dimensions, load ratings, and types of valves for various sizes of channel tread tail wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Type VIIB Airplane Tires, Experimental Practice, Table AP-6. Gives table of tire and rim dimensions, load ratings, and types of valves for various sizes of main wheel tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Airplane Nose Wheel Tires, Recommended Practice, Table AP-7. Gives table of tire and rim dimensions, load rating, and types of valves for various sizes of type I, type II, type III, and type VI tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Knurling on Airplane Rims, Recommended Practice. Gives drawings and table giving size, method, and knurl for type I, type II, type III, and type VII.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Method of Dimensioning and Tolerance Requirements Rim Contours for Airplane Tires. Gives drawing and tables showing inspection tolerances for airplane rims except type I rims and inspection tolerances for rim diameters.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Rim Contours for 65 In. Type I, 18 and 22 Ply Airplane Tires. Gives drawings of rim with table showing dimensions for 65 in. 18 and 22 ply airplane tires.
- Tire and Rim Assn., Inc. Airplane Handbook, 1945. Standard Rim Contours for Airplane Tires. Gives drawings of rims with tables showing dimensions for type I, type II, type III, type VI, and type VII airplane tires and type VII tail wheel tires.
- U. S. Gov., U. S. Army, Army Air Forces Specification 98-25257-A, 1945. Wheels; Tail (for Aircraft).
- U. S. Gov., U. S. Army, Army Air Forces Specification 98-25272-A; 1945. Wheels, Auxiliary; Smooth Contour (for Aircraft).

724.24 Aircraft Propellers

- Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 355; 1946. Terminology of Dual and Coaxial Counter-Rotating Propellers. Gives terminology for dual rotation propellers or dual rotation propeller shafts, coaxial propellers and coaxial propeller shafts, counter rotating propellers and propeller shafts, inboard component, outboard component, and designation of number of blades.
- Society of Automotive Engineers, Inc. Aeronautical Standard 92A, 1945. Cones, Front, Propeller Hub. Gives drawings, notes, and table giving dimensions.

- Society of Automotive Engineers, Inc. Aeronautical Standard 180A, 1945. Propeller Hub—Single Rotation. Gives drawings, notes, and table showing dimensions.
- Society of Automotive Engineers, Inc. Aeronautical Standard 351; 1946. Wrench—Propeller Shaft (Shaft Sizes No. 40—50—60). Gives drawings with dimensions and notes.
- Society of Automotive Engineers, Inc. Aeronautical Standard 352; 1946. Wrench—Propeller Shaft (Shaft Sizes No. 10—20—30). Gives drawings with dimensions and notes.
- Society of Automotive Engineers, Inc. Aeronautical Standard 353; 1946. Handle—Propeller Shaft Wrench. Gives drawings with dimensions and notes.
- Society of Automotive Engineers, Inc. Aeronautical Standard 354; 1946. Pin—Propeller Shaft Wrench. Gives drawing with dimensions and notes.
- U. S. Gov., Army Air Forces Specification 29538A; 1946. Blank; Propeller Compressed Wood.
- U. S. Gov., Army Air Forces Specification 41051; 1945. Trainer; Flight Equipment, Curtis Electric Propeller Model C644S-A24, Type U-25.
- U. S. Gov., Army Air Forces Specification 41059; 1945. Trainer; Flight Equipment, Hamilton Hydro-matic Propeller, Model 24F60-B6521A-6, Type U-29.
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-3-1; 1945. Hubs; Fixed Pitch Wood Propeller and Test Club.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-15b; 1946. Propellers and Test Clubs; Fixed-Pitch Wood.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-28-2; 1945. Propeller Hubs; General Specification for, Ground-Adjustable and Controllable Pitch.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-70-1; 1946. Propeller Spinners; General Specification for.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-82; 1946. Propeller Blades; General Specification for Detachable (Laminated Veneer, Uncompressed).
- U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 14; 1942. Aircraft Propeller Airworthiness.
- U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 18; 1942. Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments.

724.25 Aircraft Control Equipment

- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 120, 121, 122, 123, 124, 125, 126, and 168; revised 1945. NAS 120, Knob-Control 3/4 Spherical. NAS 121, Knob-Control, 1 Inch Spherical. NAS 122, Knob-Control, 1 1/4 Spherical, Plastic. NAS 123, Knob-Control, 1 Inch Diameter x 5/8 Oval, Plastic. NAS 124, Knob-Control, 1 1/4 Diameter x 13/16 Horizontal, Semi-Round, Plastic. NAS 125, Knob-Control, 1/18 Diameter x 13/16, Angular Semi-Round, Plastic. NAS 126, Knob, 1 1/8 Cubical, Plastic Knob. NAS 168, Knob, One Inch

- Diameter Knurled Plastic Knob. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 127, revised 1946. Button—1/2 Diameter, Luminous Letter. Gives drawing with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 129, revised 1946. Data—Std. Knob, Engineering Reference. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 160, revised 1946. Wheel—Control, Pilot's, Military, Aileron. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 162; 1942, and NAS 167, revised 1946. Cap—Military Control Wheel Hub and Cap—Pilot's Control Wheel Trigger Switch Cavity. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standards NAS 165 and 166, Revised 1946. Switch—Pilot's Control Wheel Trigger and Switch (Bomb Release and Radio)—Military Control Wheel. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 198 and 199; 1945. NAS 198 Knob—Control, 1 1/4 Spherical, Plastic. NAS 199 Knob and Letter Assembly—Control 1 1/4 Spherical Plastic. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 348 and 349; 1946. Wheel—Pilots' Control and Wheel Assembly—Pilots Control. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 350; 1946. Switch—Pilot's Control Wheel Push Button. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 351 and 352; 1946. Nut—Pilot's Control Wheel Attaching and Shaft End—Pilot's Control Wheel. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 354; 1946. Rod—Control, Solid-Steel. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 355 and 356; 1946. Tube Assembly—Control, Aluminum Alloy. NAS 355 with riveted threaded rod-ends. NAS 356 with riveted clevis and threaded rod-ends. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 357; 1946. Tube—Control, Aluminum Alloy. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 358 and 359; 1946. Tube Assembly—Control, Steel. NAS 358 with welded threaded rod-ends. NAS 359 with welded clevis and threaded rod-ends. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 360; 1946. Tube—Control, Steel. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- U. S. Gov., Army Air Forces Specification 24841-2; 1945. Control; Pilot Director Indicator, Type A-1.
- U. S. Gov., Army Air Forces Specification 24973-2; 1945. Control; Projector Release Type A-2, 24 Volts D. C.
- U. S. Gov., Army Air Forces Specification 27446A, 1945. Accessories (for Types F-1 and F-2 Automatic Pilots).
- U. S. Gov., Army Air Forces Specification 27455A, 1945. Servo; Type E-1 (Aircraft).
- U. S. Gov., Army Air Forces Specification 27456A, 1945. Controller; Turn and Pitch, Type A-1 (Aircraft).
- U. S. Gov., Army Air Forces Specification 27500A; 1945. Pilots; Automatic Aircraft, General Specification for.
- U. S. Gov., Army Air Forces Specification 27585A; 1945. Installation of Type F-1 Aircraft Automatic Pilot, General Specification for.
- U. S. Gov., Army Air Forces Specification 27611; 1945. Amplifier; Multiple Channel, Type B-3 (Integral).
- U. S. Gov., Army Air Forces Specification 27612; 1945. Control; Vertical Gyro, Type L-2.
- U. S. Gov., Army Air Forces Specification 27613; 1945. Control; Directional Gyro, Type Q-1.
- U. S. Gov., Army Air Forces Specification 27615; 1945. Accessories (for Type G-1 Automatic Pilot).
- U. S. Gov., Army Air Forces Specification 27624A, 1945. Control; Vertical Gyro, Type L-5 (Indicating).
- U. S. Gov., Army Air Forces Specification 32472A; 1945. Control; Inverter Change-Over Type A-1, Automatic.
- U. S. Gov., Army-Navy Aeronautical Specification AN-D-15-1; 1946. De-Icing Systems; General Specification for Propeller Fluid.
- U. S. Gov., Army-Navy Aeronautical Specification AN-F-43; 1945. Fittings; Push-Pull Engine Control Quick Disconnect.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-5-3; 1945. Instrument Systems; Installation of Vacuum Operated.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-20a, 1945. Indicators; Engine Synchroscope.
- U. S. Gov., Army-Navy Aeronautical Specification AN-J-9-2; 1945. Joints; Aircraft Control Universal.
- U. S. Gov., Army-Navy Aeronautical Specification AN-W-6-2; 1945. Wheel and Brake Assemblies; Aircraft.

724.26 Aeronautical Instruments

- Society of Automotive Engineers, Inc. Aeronautical Standard 10B; 1945. Indicator—Humidity, Large. Gives drawings with dimensions and notes.
- Society of Automotive Engineers, Inc. Aeronautical Standard 167A, 1945. Chart—Humidity Indicator, Color Comparison. This chart gives colors indicating relative humidity as shown by humidity indicator AS10A.
- Society of Automotive Engineers, Inc. Aeronautical Standard 347; 1945. Indicator—Humidity (Medium). Gives drawings with dimensions and notes.
- U. S. Gov., Army Air Forces Specification 24987; 1945. Computer; Ground Speed, Type N-1.
- U. S. Gov., Army Air Forces Specification 27350-B-3; 1945. Indicator; True Airspeed, Type G-1 (Aircraft Pitot-Static).
- U. S. Gov., Army Air Forces Specification 27357A-1; 1945. Indicator, Rate of Climb, Type A-8 (Aircraft).
- U. S. Gov., Army Air Forces Specification 27380-B-1; 1945. Installation of Pitot Tube and Flush-Mounted Static Tube; General Specification for.
- U. S. Gov., Army Air Forces Specification 27393B, 1945. Indicator; Directional Gyro, Type C-1 (115 Volts, 3 Phase, 400 Cycles).
- U. S. Gov., Army Air Forces Specification 27394B-1; 1946. Indicator; Gyro Horizon Type E-1, 115 Volt, 3 Phase, 400 Cycle.
- U. S. Gov., Army Air Forces Specification 27425-A-1; 1945. Indicator; Rate of Climb, Type C-4 (Aircraft).
- U. S. Gov., Army Air Forces Specification 27454-1; 1945. Transmitter; Remote Compass, Type E-1 (Stabilized).
- U. S. Gov., Army Air Forces Specification 27481-2; 1945. Machmeter; Type A-1 (Aircraft), (2-3/4 Inch Round Dial, Pitot Static).
- U. S. Gov., Army Air Forces Specification 27485-A, 1945. Tube; Airspeed, Electrically-Heated, 115 Volts, 400 Cycles, Type E-5.
- U. S. Gov., Army Air Forces Specification 27486; 1945. Tube; Airspeed, Electrically-Heated, 115 Volts, 400 Cycle, Type E-6.
- U. S. Gov., Army Air Forces Specification 27499A-1; 1945. Indicator; Airflow, Type A-1 (Aircraft).
- U. S. Gov., Army Air Forces Specification 27512-4; 1945. Indicator; Airspeed, Type F-4 (Aircraft).
- U. S. Gov., Army Air Forces Specification 27532-1; 1945. Tachometer; Bombsight Disc Speed, Type F-1 (Hand Held).
- U. S. Gov., Army Air Forces Specification 27539A-3; 1946. Generator; Tachometer, Aircraft Two-Pole Type, General Specification for.
- U. S. Gov., Army Air Forces Specification 27540A, 1945. Indicators; Electric Tachometer (Percent Speed Type), General Specification for.
- U. S. Gov., Army Air Forces Specification 27541A, 1945. Tachometer; Electric, Type E-21A (Single—Aircraft).
- U. S. Gov., Army Air Forces Specification 27583-1; 1945. Computer; Course and Distance, Type A-5 (for Mercator Solution).
- U. S. Gov., Army Air Forces Specification 27637; 1945. Insert; Dead Reckoning Computer (for AN5835 Computer).
- U. S. Gov., Army Air Forces Specification 27644; 1945. Computer; True Airspeed, Type G-2.
- U. S. Gov., Army Air Forces Specification 27647; 1945. Installation of Air Position Indicator.
- U. S. Gov., Army Air Forces Specification 27668; 1945. Indicator; Differential Pressure, Type A-2.
- U. S. Gov., Army Air Forces Specification 32468; 1945. Signal Assembly; Crew Warning, Type J-3.
- U. S. Gov., Army Air Forces Specification 32482A, 1945. Signal: Altitude Warning, Type H-3 (Aircraft—28 Volts D.C.).
- U. S. Gov., Army Air Forces Specification 40904A, 1945. Tester, Turbo-Supercharger Regulator, Type E-2.
- U. S. Gov., Army Air Forces Specification 40921A-2; 1945. Trainer; Instrument Flying and Landing, Type C-8 (Ground).
- U. S. Gov., Army Air Forces Specification 40922; 1945. Indicator; Combination Oxygen, Type T-1 (Pressure and Flow).
- U. S. Gov., Army Air Forces Specification 40930; 1945. Kit; Aircraft Electric Weighing, Type V-2.
- U. S. Gov., Army Air Forces Specification 40935; 1945. Trainer; Terrain Projection, Type T-4 (Pilotage).
- U. S. Gov., Army Air Forces Specification 41012; 1945. Cabinet; Instrument-Testing (Altitude and Temperature).
- U. S. Gov., Army Air Forces Specification 41013-2; 1945. Computer; Radar Aid, Type R-1 (Vaid).
- U. S. Gov., Army-Navy Aeronautical Specification AN-A-15a-1; 1945. Amplifiers; Air Position Indicator.
- U. S. Gov., Army-Navy Aeronautical Specification AN-A-29; 1945. Accelerometers; Aircraft.
- U. S. Gov., Army-Navy Aeronautical Specification AN-A-30-2; 1946. Altimeters; Pressure.
- U. S. Gov., Army-Navy Aeronautical Specification AN-B-19-2; 1945. Bulbs; Electrical Resistance Type Thermometer.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-74b-1; 1945. Computers; Dead Reckoning.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-97a-1; 1945. Controllers; Air Position Indicator.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-129-4; 1945. Computers; Air Position Indicator.
- U. S. Gov., Army-Navy Aeronautical Specification AN-G-2c; 1945. Gages; Aircraft Pressure.
- U. S. Gov., Army-Navy Aeronautical Specification AN-G-16a-2; 1945. Generators; Electric Tachometer.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-3b; 1945. Indicators; Electric Tachometer.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-4-2; 1945. Instrument Systems; Installation of Pitot Static Tube Operated.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-6a, 1945. Indicators; Thermocouple Thermometer.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-12-1; 1945. Indicators; Oxygen Flow.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-15a; 1945. Indicators; Electric Turn and Bank.

- U. S. Gov., Army-Navy Aeronautical Specification AN-I-22a-2; 1945. Indicating Assemblies; Air Position.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-29-3; 1946. Indicators; Gyro Horizon.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-33-1; 1945. Indicators; Rate of Climb.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-34-1; 1945. Indicators; Electrical Resistance Type Thermometer.
- U. S. Gov., Army-Navy Aeronautical Specification AN-I-35-1; 1945. Indicators; Turn and Bank.
- U. S. Gov., Army-Navy Aeronautical Specification AN-M-17a, 1945. Meters; Gyro Stabilized Drift.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-53a-2; 1945. Pumps; Air Position Indicator.
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-46a; 1945. Shafts; Tachometer Flexible Drive.
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-56; 1945. Signals; Emergency Warning.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-1b; 1945. Tubes; Electrically-Heated Pitot Static.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-44-1; 1945. Tubes; Electrically-Heated Pitot.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-75a-1; 1945. Thermocouples; Engine Cylinder Bayonet Type.
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-76-1; 1945. Thermocouples; Aircraft Engine Spark Plug, Gasket Type.
- U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 18; 1942. Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments.

724.27 Parachutes and Equipment

- U. S. Gov., Army Air Forces Specification 40939; 1945. Release; Parachute Harness Quick, Type B-1A.
- U. S. Gov., Army Air Forces Specification 40940; 1945. Release; Parachute Harness Quick, Type B-2A.
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-32; 1945. Hardware; Parachute.
- U. S. Gov., Army-Navy Aeronautical Specification AN-H-34-1; 1946. Housing; Parachute Ripcord.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-71; 1945. Parachutes; Inspection and Testing of Experimental.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-75-2; 1946. Parachutes; General Specification for.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-129; 1946. Parachute PG-109 ()/AB.

724.29 Miscellaneous Aircraft Accessories and Parts

- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 3, revised 1945. Plate—Bolt, Locking. Gives drawings with dimensions and notes. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 50 and 51, revised 1945. Rings—Internal Retainer and Rings—External Retainer. Gives drawings with dimensions. Developed by National Aircraft Standards Committee.

Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 143A, 1945. Heaters, Airplane, Internal-Combustion Type. Based on practical engineering requirements for such internal-combustion type heaters as are now used on airplanes and for such as maybe developed to meet later requirements. Covers internal combustion type heater—general, internal combustion type heater—military and commercial, and desirable design features.

Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 144; 1945. Heat Exchanger, Exhaust, Direct-Air Type. To transfer heat from exhaust gases of an aircraft engine to air being supplied to the airplane cabin. Covers tubular, fluted, plate, and extended surface types. Gives requirements for material and workmanship, design, inspection, tests, and marking.

Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 192; 1945. Flange, Driving—Fan Rotor Types I, II, III, IV. Gives drawings, notes, and table showing dimensions.

Society of Automotive Engineers, Inc. Aeronautical Recommended Practice 193; 1945. Hub, Fan Rotor Types I, II, III, IV. Gives drawings, notes, and table showing dimensions.

Society of Automotive Engineers, Inc. Aeronautical Standard 343; 1945. Dehydrator Plugs, Plastic. For preventing corrosion and condensation in any equipment which has a self-contained void. Covers material, construction, requirements, test procedures, loading, backing, quality, reports, marking, approval, and rejections.

U. S. Gov., Army Air Forces Specification 24573C, 1945. Rack; Bomb (Bombardment Type Airplane), General Specification for.

U. S. Gov., Army Air Forces Specification 24809A, 1945. Mount; Bomb Sight, Type B-7.

U. S. Gov., Army Air Forces Specification 24815B, 1945. Adapter; Gun Mount, Type C-19B.

U. S. Gov., Army Air Forces Specification 27617; 1945. Valve; Signal Transfer, Type K-1 (Electro-Hydraulic).

U. S. Gov., Army Air Forces Specification 40395B, 1945. Anti-Icing Equipment for Aircraft (Heated Surface Type), General Specification for.

U. S. Gov., Army Air Forces Specification 40435A; 1946. Transparent Areas; Aircraft Equipment for Maintaining Vision Through, General Specification for.

U. S. Gov., Army Air Forces Specification 40746B; 1946. Fittings; Tie-Down—Aircraft Cargo.

U. S. Gov., Army Air Forces Specification 40831A, 1945. Dolly Assembly, Engine Cradle, Type B-1.

U. S. Gov., Army Air Forces Specification 40947A, 1945. Stand, Aircraft Maintenance, Type B-1 (Range 3 to 10 Feet).

U. S. Gov., Army Air Forces Specification 40948A, 1945. Stand, Aircraft Maintenance, Type B-2 (Range 13 to 20 Feet).

U. S. Gov., Army Air Forces Specification 40949-2; 1945. Stand, Aircraft Maintenance, Type C-1 (4 Foot High).

U. S. Gov., Army Air Forces Specification 40956; 1945. Mirror, Rear-View, Type A-1.

U. S. Gov., Army Air Forces Specification 40958; 1945. Ramp, Cargo-Loading, Type A-1 (for C-47 Airplane).

U. S. Gov., Army Air Forces Specification 40988; 1945. Kit, Air Cargo Mooring, Type R-4 (C-47 Aircraft).

U. S. Gov., Army Air Forces Specification 40989; 1945. Kit, Air Cargo Mooring, Type R-5 (C-46 and C-54 Aircraft).

U. S. Gov., Army Air Forces Specification 40990; 1945. Kit; Air Cargo Mooring, Type OO-1 (C-54 Aircraft).

U. S. Gov., Army Air Forces Specification 40991; 1945. Kit, Air Cargo Mooring, Type OO-2 (C-46 and CG-13 Aircraft).

U. S. Gov., Army Air Forces Specification 40992; 1945. Kit, Air Cargo Mooring, Type OC-3 (C-47 Aircraft).

U. S. Gov., Army Air Forces Specification 40993; 1945. Rod and Jack; Air Cargo Mooring, Adjustable.

U. S. Gov., Army Air Forces Specification 40994; 1945. Jack and Chain; Air Cargo Mooring Pull.

U. S. Gov., Army Air Forces Specification 40995-1; 1945. Rope Assembly, Air Cargo Mooring.

U. S. Gov., Army Air Forces Specification 41008; 1945. Bracket; Liquid Vacuum Container.

U. S. Gov., Army Air Forces Specification 41016; 1945. Installation; Chemical Spray Tank (Bombardment and Fighter Type Aircraft).

U. S. Gov., Army Air Forces Specification 41019; 1945. Tank; Hydraulic, Type C-1 (for Servicing and Bleeding Systems).

U. S. Gov., Army Air Forces Specification 41024-1; 1945. Tank; Hydraulic, Type C-2 (for Servicing and Bleeding Systems).

U. S. Gov., Army Air Forces Specification 50476; 1945. Caster, Light-Weight (Airplane Maintenance Equipment).

U. S. Gov., Army Air Forces Specification 50478; 1945. Finger, Mechanical.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-3b; 1946. Accumulators; Hydraulic Pressure.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-150-1; 1946. Closure; Tubing Protective.

U. S. Gov., Army-Navy Aeronautical Specification AN-D-17; 1946. Drawings, Tool Lists, and Sample Tools for Aeronautical and Associated Equipment.

U. S. Gov., Army-Navy Aeronautical Specification AN-F-2a, 1945. Filters; Turn and Bank Indicator, Air.

U. S. Gov., Army-Navy Aeronautical Specification AN-F-3b-1; 1946. Filters; Hydraulic.

U. S. Gov., Army-Navy Aeronautical Specification AN-F-9b; 1945. Filters, Air; Vacuum Operated Instruments.

U. S. Gov., Army-Navy Aeronautical Specification AN-F-46; 1946. Fittings; Cargo Airplane Tiedown.

U. S. Gov., Army-Navy Aeronautical Specification AN-N-8a-1; 1945. Nozzles; Aircraft Fuel and Oil Servicing.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-38-3; 1946. Plates; Information and Identification.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-47a; 1945. Plugs; Dehydrator.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-50a; 1945. Pumps; Engine-Driven Air.

U. S. Gov., Army-Navy Aeronautical Specification AN-S-36a-1; 1945. Shunts; 50 Millivolt External Ammeter

U. S. Gov., Dept. of Commerce, Civil Aeronautics Board. Civil Air Regulations, Part 15; 1944. Aircraft Equipment Airworthiness.

U. S. Gov., U. S. Army, Army Air Forces Specification 94-40852; 1945. Purifier, Oxygen, Type A-5.

724.3 AIRPLANES

U. S. Gov., Army Air Forces Specification 1801C-1; 1945. Form; Airplane Manufacturers Model Specification.

U. S. Gov., Army-Navy Aeronautical Specification AN-H-1b, 1945. Handbooks; Structural Repair (for Aircraft).

U. S. Gov., Army-Navy Aeronautical Specification AN-H-13A-3; 1946. Handbooks; Erection and Maintenance (for Aircraft).

U. S. Gov., Army-Navy Aeronautical Specification AN-H-22a; 1946. Handbooks; Erection and Maintenance Instruction (for Experimental Airplanes).

725. CYCLES, BOATS, SHIPS, AND ACCESSORIES

725.1 BICYCLES

U. S. Gov., U. S. Army, Ordnance Dept. Specification 18-2D; 1944. Bicycles, Military Type.

725.2 MOTORCYCLES AND ACCESSORIES

Tire and Rim Assn., Inc. Passenger Car Handbook, 1946. Standard Contour Drop Center Motorcycle Rim. Gives diagram of contour of rim.

725.3 BOATS, RAFTS, AND PARTS

U. S. Gov., Army Air Forces Specification 40725A-1; 1946. Raft; Pneumatic Type C-2A.

U. S. Gov., Army Air Forces Specification 40743A-2; 1945. Lifeboat, Airbourne, Type A-1.

725.4 SHIPS

725.41 Ship Hull Details

U. S. Gov., Army Air Forces Specification 41023; 1945. Filter; Fuel Funnel (Sea Rescue Boats).

U. S. Gov., Joint Army-Navy Specification JAN-L-221; 1945. Ladders, Chain (Shipboard Use).

U. S. Gov., Navy Dept. Specification 66F2a; 1946. Filters, Diesel-Fuel-Oil (Navy Standard).

U. S. Gov., Navy Dept. Specification 66F3; 1945. Filters, Lubricating-Oil, Engine, Navy Standard (Small).

U. S. Gov., Navy Dept. Specification 66F4; 1945. Filter-Elements, Lubricating-Oil, Engine, Navy Standard (Large).

725.42 Ship Engineering Details

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Electrically Operated Watertight and Fire Door Equipment. Gives general requirements, centralized control panel, motor unit, motor control panel, local control station, alarm and indicating equipment, power supply, safety equipment, fire door closing equipment, and spare parts.

725.43 Ship Operation Details and Supplies

- U. S. Gov., Navy Dept. Specification 19R2a; 1946. Release-Devices, Hydraulic (for Freeing Life-Saving Equipment Incident to Sinking of Vessels).
- U. S. Gov., Navy Dept. Specification 27D11a; 1946. Deck-Covering, Light-Weight, Nonslip (Abrasive-Coated Fabric and Cement).
- U. S. Gov., Navy Dept. Specification 52D11; 1945. Deck-Covering, Light-Weight, Nonslip (Abrasive-Filled Synthetic Binder).
- U. S. Gov., U. S. Maritime Commission, Specification 16-MC-1 (Tentative) 1943. Horns; Fog, Mechanical, Hand-Operated. Covers one type, grade, and size. Gives requirements for material, workmanship, dimensions, weight, bellows, horn, lever, case, bearing fits, sound output, power output, life, and marking; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

726. STEAM, ELECTRIC, AND GASOLINE RAILWAY CARS**726.0 GENERAL ITEMS**

- Manufacturing Chemists' Assn. of the U. S. Manual Sheet H-1 (for Shippers and Consignees). Aqueous Hydrofluoric Acid (HF). Recommended Practice for the Safe Handling and Discharging of Containers, adopted 1940, revised 1945. Includes description of product, precautions, labels, shipping containers for aqueous hydrofluoric acid, rubber drums, lined and unlined steel drums, lead carboys, wood barrels, tank cars, and facsimile of labels recommended for application to containers.
- Manufacturing Chemists' Assn. of the U. S. Manual Sheet TC-2 (for Consignees). Cars, Tank—Steel, I.C.C. Spec. 103B, Rubber-Lined, Unloading, When Filled With Muriatic Acid or Other Liquids Authorized for Shipment Therein. Recommended Practice, adopted 1938, revised 1945. Includes recommendations for placement of cars for unloading, safety rules to be observed by employee assigned to unloading, use of compressed air, sampling of product, dome fittings, unloading, interior rubber lining, damage to exterior of tank car during unloading, removal or reversal of placards, return of empty cars, railroad defect card and bad order cards, internal washing and entering of car, discharge line between tank car and storage, and service.
- Manufacturing Chemists' Assn. of the U. S. Manual Sheet TC-3 (for Consignees). Unloading Liquid Caustic Cars, Tank—Steel—Unloading, When Filled With Liquid Caustic Soda or Caustic Potash. Recommended Practice, 1946. Includes recommendations for placement of car for unloading, safety rules to be observed by unloaders, cold weather handling—seaming, sampling, unloading of caustic cars, preparation of empty car for return, materials and equipment, delivery lines, railroad defect cards and bad order cards, do not enter empty car, service, and first aid treatment.

726.1 RAILROAD CARS

- Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Classification of

Cars, Definitions and Designating Letters of, Recommended Practice, revised, 1944. Covers passenger equipment cars, and cars built to operate in passenger trains, by classes—B, C, D, E, M, P, and I. Also general service freight equipment cars, by classes—X, R, V, S, G, H, F, T, L, N, and Y. Includes subheadings for special purposes and capacity figures.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Lettering and Marking of Cars, Standard revised, 1943. Gives requirements for letters and figures, equipment, special markings, date built, journal boxes repacked, and details for trucks and various types of cars.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specifications for the Construction of New Passenger Equipment Cars, Standard, 1945. Gives basic fundamentals for new specifications. Covers scope, materials, workmanship, loads, trucks, buffing, details, center sills, bolsters and cross-bearers, floor beams, floor supports, and sills, couplers and draft gears, buffing mechanism, longitudinal frame or truss framing members, side posts and braces, sheathing, vertical end members, roof, stresses, unit design stresses to be used for rolled mild open-hearth steel, sub-floor, and insulation.

726.2 PARTS AND FITTINGS FOR RAILROAD CARS

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1945. Air Brakes, General Arrangement and Details, Recommended Practice. Gives requirements for cylinders, piping, clasp brakes, water raising system, braking ratios for new conventional locomotives, and braking ratio for new freight cars.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Air Brakes, General Arrangement and Details, Standard, 1945. Specification for rods, levers, jaws, and pins; cylinders, triple valves, and dirt collectors; retaining valves, mounting and miscellaneous.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Specifications for Geared Hand Brakes, Standard revised, 1946. Covers requirements for the operation, design, and installation of vertical wheel brake, horizontal wheel brake, and lever brake.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Stake Pockets for Flat Cars, Recommended Practice, 1931. Gives drawings with dimensions and notes.

727. CARRIAGES, BUGGIES, COACHES, BABY CARRIAGES AND CARTS

- U. S. Gov., Marine Corps Specification, revised 1944. Cart, Hand, M-1942.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-106; 1945. Puggy, Lumber, Two Wheel.

729. MISCELLANEOUS VEHICLES AND VEHICLE PARTS**729.2 TRAILERS**

- U. S. Gov., Army Air Forces Specification 30144-7; 1945. Trailer, Semi (Two-Wheel) (2DT) for Type F-2A Fuel Servicing Truck.
- U. S. Gov., Army Air Forces Specification 30168-A, 1945. Trailer; Oxygen Servicing, Type E-2.
- U. S. Gov., Army Air Forces Specification 40959; 1945. Dolly, Airplane Tripod Jack, Type F-1.
- U. S. Gov., U. S. Army, Army Air Forces Specification 91-86-A; 1945. Trailer, Airdrome Utility, Type F-2.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-105; 1945. Trailer, Dump, Motorized, Pneumatic and Cable Operated, 13 Cu. Yd.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 91-108; 1945. Semi-Trailer, Low Bed, Front Loading, 20-Ton.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 91-112; 1945. Dolly, 4-Wheel Tandem, 4 Dual Tires, M-1.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 91-114; 1945. Dollies, 2-Wheel, 2 Dual Tires 4-1/2, 7, and 11 Tons.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 91-117; 1945. Trailer, 2-Wheel, Special 1-1/4 Ton, ARC Welder.

- U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-97; 1945. Trailer, M18.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-98; 1945. Trailer, 4-Ton, 2W, Ammunition, M21.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 91-100; 1945. Trailer, Generator, M7.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-99; 1946. Trailer V-13/GT.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-101; 1945. Trailer K-38-A.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-107; 1946. Dolly-K-83.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-108; 1946. Trailer K-78-A.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-115; 1946. Trailer K-37-A.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-116; 1946. Trailer V-15/T.

729.3 TRUCKS

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-108; 1945. Arch, Logging, Towed Type, Crawler Mounted, with Boom, 99-Inch Gage.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 91-119; 1945. Truck, Dump Body, 10 Cu. Yd., 4 x 2, 2 DT, 157-Inch Wheelbase.

730-739**AGRICULTURAL MACHINERY AND IMPLEMENTS****732. PLANTERS, PLOWS, CULTIVATORS, HOES, RAKES, AND MOWERS**

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-53; 1944. Harrow, Disc, Offset, 8 Foot, 24 In. Disc.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-72; 1944. Harrow, Spike Tooth, 4-Section.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-82; 1944. Plow, Tractor, with Standing Cutter and Single Plain Share.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-83; 1944. Plow, Bottom and Disc, Towed Type, Four 14-In. Bottoms.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-91; 1945. Plows, Snow, V-Blade, and One Way Blade, with Right Hand Wing for 4 or 6 Ton 6 x 6, Standard Ordnance Truck Mounting.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-93; 1945. Plows, Snow, V-Blade, One Way Blade,

and Reversible Blade, for 1 1/2-Ton, 4 x 4, or 2 1/2-Ton, 6 x 6, Standard Ordnance Truck Mounting.

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-94; 1945. Plows, Snow, V-Blade Type and One Way Blade Type for 1/4 Ton, 4 x 4 Truck Mounting.

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-97; 1945. Plows, Snow, Straight Blade, Underbody Type, for 4 Ton, 6 x 6 Truck Mounting, and 6 Ton, 6 x 6 Truck Mounting, Standard Ordnance Trucks.

733. FERTILIZER DISTRIBUTORS AND SPRAYING MACHINES

- U. S. Gov., U. S. Army, Corps of Engineers Specification 16-8; 1945. Duster, Insect, Hand Rotary Blower Type, Paris Green or Powder, 5- to 10-Pound Capacity.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 16-9; 1945. Sprayer, Insect, Portable, Gasoline-Driven, Piston Pump Type, Skid-Mounted.

740-749 CONSTRUCTION, CONVEYING, AND HOISTING MACHINERY**741. EXCAVATING AND DREDGING MACHINERY****741.0 GENERAL ITEMS**

American Water Works Assn. Tentative Standard Specifications for Deep Wells, 4 A.1-T; 1945. Intended as a guide in the preparation of contract documents governing well construction. Covers general information, casings and well screens, description of work, testing for yield and drawdown, grouting and sealing, testing for plumbness and alignment, dis-

infection, samples and records, protection of quality of water, temporary capping, abandonment of well, measurement and compensation, and appendix.

741.1 PILE DRIVERS

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-131; 1945. Hammers, Pneumatic or Steam, Pile Driver, Double-Acting, 5,000 Lb. and 7,000 Lb.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-141; 1945. Hammer, Pneumatic or Steam, Pile Driver, Single-Acting, 10,200-Lb.

741.2 BORING MACHINES

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-98; 1945. Auger, Earth, Skid Mounted, Gasoline Engine Driven.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-99; 1945. Auger, Posthole.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-107; 1945. Kit, Earth Auger, for Tractor Mounting on Caterpillar D-7.

741.3 DRILLING MACHINES

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-119; 1945. Drifter Drill, Pneumatic, Column Mounted, Wet Type, 155 Lb. Class.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-126; 1945. Drifter Drill; Pneumatic, Wagon Mounted, Dry Type, 220 Lb. Class.

741.4 POWER SHOVELS

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-29A; 1945. Loader, Aggregate, Bucket, General Purpose, Crawler Mounted, Gasoline Engine Driven, 3 Cubic Yards.

741.6 DITCHING MACHINES

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-50; 1944. Ditching Machine, Wheel Type, Crawler Mounted, Gasoline Engine Driven, Digging Depth 5-Ft. 6-In., Width 23-In.

741.9 MISCELLANEOUS EXCAVATING AND DREDGING MACHINERY

- U. S. Gov., Joint Army-Navy Specification JAN-D-385; 1946. Diggers, Clay, Pneumatic, 25-Lb. Class (7/8-In. Hexagon by 2 3/4-In. Chuck).
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-120; 1945. Tamper; Back Fill, Pneumatic.

742. CONCRETE MIXERS

Associated General Contractors of America, Inc. Manual, 1946. Concrete Mixer Standards, Seventeenth Revision, 1945. Covers elimination of non-standard sizes; construction mixers including size, rated capacities, single rotating drum, power traction, basic design, optional features and attachments, drum volume, single compartment type, two compartment type, one opening, two opening, three opening, water measuring tanks, and water supply connections; paving mixers including details; and general requirements for mixers and pavers.

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-78; 1944. Paver, Concrete, Crawler-Mounted, 34-Cu. Ft. Capacity.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-111; 1945. Batching Plant, Aggregate, 3 Compartment, 105-Ton Capacity.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-140; 1945. Batching Plant, Cement, Stationary, Gasoline-Engine-Driven, 30 Tons Per Hour Capacity.

743. ROAD-MAKING EQUIPMENT

- U. S. Gov., Joint Army-Navy Specification JAN-F-335; 1946. Finishers, Asphalt, Crawler-Mounted, Gasoline-Driven.

- U. S. Gov., Joint Army-Navy Specification JAN-G-336; 1946. Gradation Control Units, Aggregate, Gasoline-Driven, 4 Ft. x 8 Ft. Screen.
- U. S. Gov., Joint Army-Navy Specification JAN-M-375; 1946. Mixers, Asphalt, Diesel-Driven, 110 to 200 Tons Per Hour.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-34A; 1944. Grader, Road, Towed Type, Leaning Wheel, 8-, 10-, or 12-Foot Moldboard.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-40B; 1945. Roller, Road, Diesel or Gasoline Engine Driven, 3 Wheel, 10 to 12 Ton.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-43C, 1945. Breaker, Paving, Gasoline Engine Operated, 100 Lb.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-47; 1944. Drag, Brush, Bituminous, 8 Ft. 8 In. by 12 Ft.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-48A; 1945. Spreader, Aggregate, Towed Type, Traction Powered, 8 Foot Width.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-51; 1944. Roller, Road, Towed Type, Sheepfoot, 2- or 3-Drums in Line.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-52; 1944. Scraper, Road, Towed Type, Cable Operated.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-59; 1944. Vibrator, Concrete, Gasoline Engine Operated, Wheelbarrow Mounted.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-67; 1944. Distributor, Bituminous Material, Trailer Mounted, 1,250-Gallon Capacity.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-68; 1944. Distributor, Water, Truck Mounted, 1,000-Gal.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-70; 1944. Distributor, Bituminous Material, Truck Mounted, 800-Gallon.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-73; 1944. Kettle, Asphalt Repair, Trailer Mounted, with Motor Driven Hand Spray, 165-Gallon Capacity.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-77; 1944. Piping Equipment, Asphalt Plant, 80 to 200 Tons Per Hour.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-80; 1944. Heater, Asphalt, Trailer Mounted, 3-Car, 42-Hp, with Cleaner Attachments.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-81; 1944. Form, Concrete, Steel, 8-In. High, 10-Ft. Long, Complete with Stakes and Stake Puller.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-84; 1944. Roller, Road, Gasoline Engine Driven, Tandem, 2 Axle, 5 to 8 Ton, and 3 Axle, 9 to 14 Ton.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-88; 1944. Dryer, Aggregate, Dual Drum, Travel or Central Plant, Gasoline Engine Driven, Trailer Mounted, 80-150 Tons Per Hour.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-95; 1945. Roller, Road, Towed Type, Wheeled, Rubber Tired, 13 Tires.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-96; 1945. Grader, Road, Motorized, Diesel Engine Driven, 12 Foot Moldboard.

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-124; 1945. Sweepers, Rotary.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-129; 1945. Breaker, Paving, Pneumatic.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-133; 1945. Finisher, Concrete, Form Riding 20 to 25 Ft. Width, With or Without Vibrator.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-134; 1945. Scraper, Road, Motorized, Cable Operated, 12-Cu. Yd.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-136; 1945. Grader, Road, Towed Type, Elevating, Power-Controlled, 48-Inch Carrier.

744. CRANES, HOISTS, AND JACKS

744.1 CRANES

- U. S. Gov., U. S. Army, Army Air Forces Specification 91-104; 1945. Truck, Crane, Type P-1 (Full Revolving—10 Ton).
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-58; 1944. A-Frame, Derrick, 5-Ton, for Truck Mounting and Winch Power.

744.2 HOISTS

- U. S. Gov., Army Air Forces Specification 24834A, 1945. Hoist; Internal Bomb Rack, Type C-6 (115 Volts D.C.).
- U. S. Gov., Army Air Forces Specification 40698-2; 1945. Hoist; Engine, Type A-7 (Portable—4,500 Lb. Capacity).
- U. S. Gov., Navy Dept. Specification 40H7e; 1946. Hoists, Electric, Motor-Operated.
- U. S. Gov., Navy Dept. Specification 41H12h; 1946. Hoists, Chain, Hand-Operated; and Trolleys.
- U. S. Gov., Navy Dept. Specification 49H2; 1946. Hoists, Ammunition, Automatic-Dredger-Type; and Power-Equipment.

- U. S. Gov., U. S. Army, Army Air Forces Specification 91-103; 1945. Loader, High-Lift Cargo-Plane.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-104; 1945. Hoist, Gasoline Engine Driven, Single Drum, 2-Ton Pull, Toboggan Mounted.

744.3 JACKS

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-112; 1946. Winch, Tractor Mounting, 3-Drum, Main, Haulback, and Straw.

745. ELEVATORS AND CONVEYORS

745.1 CONVEYORS

- U. S. Gov., Joint Army-Navy Specification JAN-C-392; 1946. Conveyors, Belt, Transfer, Gasoline-Driven, 24-In. by 57-Ft.
- U. S. Gov., Navy Dept. Specification 66C11; 1945. Conveyors, Roller, Gravity.

745.3 ELEVATORS

- American Society of Mechanical Engineers, joint sponsor with National Bureau of Standards and American Institute of Architects. American Standards Assn., A17.2-1945. American Standard Practice for the Inspection of Elevators (Inspectors' Manual). A guide for the general use of elevator inspectors. Based on requirements of American Standard Safety Code for Elevators, Dumbwaiters, and Escalators. Includes introduction, routine inspection, initial or data inspection, inspection of escalators, and six appendices.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-76; 1944. Elevator, Aggregate, Bucket Enclosed, Chain Driven, Stationary (Knockdown Type), 80-150 Tons Per Hour.

750-759 MINING, OIL WELL, AND PUMPING MACHINERY

750. GENERAL ITEMS

- U. S. Gov., Dept. of Interior, Bureau of Mines. Permissible Mine Equipment Approved During 1944, I.C. 7316; 1945. Equipment listed is approved by the Bureau of Mines only when found upon inspection and test to comply with minimum standards of safety as outlined in schedules prepared on the basis of many years of experience in dealing with safety problems of the coal-mining industry.

751. MINING AND QUARRYING MACHINERY

- American Mining Congress, sponsor. American Standards Assn., M12.1-1946. Standard for Construction and Maintenance of Ladders and Stairs for Mines. For the installation and maintenance of ladderways, ladders, stairways, and stairs in mines as means of ingress and egress. Gives general requirements and requirements for mine ladderways, mine ladders, mine stairways, mine stairs, and appendix.
- U. S. Gov., Federal Specification W-E-411; 1941. Amend. 2; 1945. Blasting-Apparatus (Machines, Blasting; Galvanometers and Rheostats for Testing Blasting Circuits and Machines). Covers one grade in three types—(I) galvanometers for testing blasting

circuits; (II) blasting machines, in four classes—(A) 10-cap capacity, (B) 30-cap capacity, (C) 50-cap capacity, and (D) 100-cap capacity; and (III) rheostats for testing blasting machines. Gives material and workmanship, general requirements, and details for each type and class; methods of inspection and tests; and packing and marking for shipment.

754. OIL WELL MACHINERY

- American Petroleum Institute, Div. of Production. Code 5-C-2; 1944. Supplement 2; 1946. Performance Properties of Casing and Tubing. Gives minimum performance properties for casing and tubing. The values shown herein for casings are final, and are based mainly upon tests; and the values for tubing are tentative, and are calculated. Gives tables showing outside diameter, nominal weight, inside diameter, wall thickness, drift diameter, collapse resistance, internal yield pressure, and joint strength for various sizes.
- American Petroleum Institute, Div. of Production. Standard 4; 1944. Supplement 1; 1946. Specification for Standard Rigs, Derricks, and Accessory

Equipment. Covers material, workmanship and finish, steel derrick dimensions, steel derrick strength or capacity requirements, derrick substructures, standard rig parts, capacity rating of pumper structures, allowable unit stresses, specification for bolts, rating of radial bearings, rating of flat thrust bearings, nailed wood derrick dimensions, nailed wood derrick strength or capacity requirements, marking, inspection and rejection, and appendices.

American Petroleum Institute, Div. of Production. Standard 5-G-3; 1945. Supplement 1; 1946. Standard on Ring Joints for Steel Flanges and Flange Unions (Tentative). Includes chemical and physical properties, and major dimensions for flanges and flange unions and threads. Gives scope, general requirements, marking, inspection and rejection, and details for ring joints for general use, oil field use, line-pipe flange unions, 7,500-lb. flange unions, casing flange unions, tubing flange unions, and drill-pipe flange unions.

American Petroleum Institute, Div. of Production. Standard 7-E; 1944. Supplement 1; 1946. Specification for Rotary Drilling Equipment. Gives final dimensional standards, including gages, for regular and full-hole rotary drilling tool joints, tentative standards for internal-flush rotary drilling tool joints, and standards on auxiliary equipment. Covers material, workmanship and finish, marking, rotary drilling tool joints, drill collars, grief stems, couplings, and subs, bits, gaging practice, swivel gooseneck connections and rotary hose, rotary table, brake blocks, slush pumps, recommended practice on measurement, inspection and rejection, gages, and appendices.

American Petroleum Institute, Div. of Production. Standard 11-B; 1942. Supplement 1; 1946. Sucker Rod Specification. Covers material, workmanship and finish, marking, sucker rod joints, threads and contact dimensions, inspection and rejection, gaging practice, registration of reference master gages, certification of reference master gages, and appendices.

American Petroleum Institute, Div. of Production. Standard 11-E; 1941. Supplement 1; 1946. Specification for Rating of Steel Helical and Herringbone Gear Speed Reducers for Pumping Machines (including Rating Form for Rotary Counterbalances). Covers scope, marking, limitations, design of gearing, design of housing, shafts and bearings, service and application, formulas, suggested method for computing well loads, rotary counterbalances, inspection and rejection, and appendices.

755. PUMPS, POWER-DRIVEN AND HAND PUMPS

755.0 GENERAL ITEMS

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 13.24; 1943. Flammable Liquid Pumping Equipment. Including a discussion of inert gas pressure, water pressure, and other transfer systems. Covers direct pumping methods, location of pumps, other liquid moving systems, and unsafe systems.

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 25.23;

1943. Centrifugal Fire Pumps, Installation. Covers location, suction, supply, pipe connections, suction lift, suction always under head, and gives drawings and charts.

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 25.24; 1942. Centrifugal Fire Pumps—Power Supplies. Covers electric motor drive, steam turbine drive, gasoline engine drive, and gives drawings.

755.1 PUMPS, POWER-DRIVEN

Associated Factory Mutual Fire Insurance Companies. Pamphlet 16; 1929. Steam Pump Governors and Auxiliary Pumps. Covers general rules, governor construction, the governor, auxiliary pumps, and installation of governors and auxiliary pumps.

Associated General Contractors of America, Inc. Manual, 1946. Contractors Pump Standards, Third Revision, 1945. Covers self-priming centrifugal pumps, diaphragm pumps, and road pumps. Gives details for each type including sizes, capacities, static suction lift, and electric motors.

Underwriters' Laboratories, Inc. Standard for Centrifugal Fire Pumps, 448; 1942. Covers scope, type, attachments, performance, design and construction, equipment and accessories, and shop inspection.

U. S. Gov., Army Air Forces Specification 28422B; 1945. Pump; Fuel, Electric Motor-Driven, Booster Type E-5C.

U. S. Gov., Army Air Forces Specification 28619A; 1946. Pump; Fuel, Electric Motor-Driven, Booster Type E-18A.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-11a, 1945. Pumps; Power-Driven Hydraulic.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-50a; 1945. Pumps; Engine-Driven Air.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-52a; 1945. Pumps; Power-Driven Fuel (General Specification for).

U. S. Gov., Army-Navy Aeronautical Specification AN-P-56a; 1945. Pumps; 400 G.P.H., Power-Driven Fuel.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-57a; 1945. Pumps; 700 G.P.H., Power-Driven Fuel.

U. S. Gov., Navy Dept. Specification 11P9c, 1945. Pumps, Portable, Gasoline-Engine-Driven.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-86; 1944. Pump, Water, Trailer Mounted, with Distributor Attachments.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-89; 1944. Pump, Asphalt, Trailer Mounted, with Distributor Attachments.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-121; 1945. Pump, Centrifugal, Gasoline Engine Driven, Base Mounted, 4-Inch Discharge, 200 GPM at 350 Foot Head (Jetting Pump).

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-122; 1945. Pump, Diaphragm, Gasoline Engine Driven, Push-Cart Mounted, Steel Wheels, 4-Inch Discharge, 100 GPM at 10-Foot Head, Suction.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-123; 1945. Pump, Sump, Pneumatic, 3-Inch Discharge, 175 GPM at 25 Ft. Head.

- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-7; 1944. Pump, Deep Well, Gasoline Engine Driven, Turbine Type, 200 GPM, at 200-Foot Head.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-10A; 1945. Pump, Centrifugal, Gasoline Engine Driven, 4-Inch Discharge, 500 GPM at 20-Ft Head.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-19; 1945. Pump, Centrifugal, Gasoline Engine Driven, Base Mounted, 2-Inch Discharge, 166 GPM, 25 Foot Head.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-20; 1945. Pump, Centrifugal, Gasoline Engine Driven, Base Mounted, 2-Inch Discharge, 60 GPM at 125 Foot Head.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-21; 1945. Pump, Centrifugal, Gasoline Engine Driven, Base Mounted, 4-Inch Discharge, 480 GPM at 300 Foot Head.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-22; 1945. Pump, Centrifugal, Gasoline Engine Driven, Base Mounted 1 1/2 In. Discharge, 125 GPM, 300-Foot Head.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-23; 1945. Pump, Deep Well, Gasoline Engine Driven, Helical Rotor Type.

755.2 ACCESSORIES AND PARTS FOR PUMPS

- U. S. Gov., Army-Navy Aeronautical Specification AN-S-41-2; 1945. Separators; Air Pump Oil.
- U. S. Gov., Joint Army-Navy Specification JAN-S-254; 1945. Separator, Gasoline-Water, Steel, 300-GPM. Capacity, 150-Pound Working Pressure (Packed-Container Type).

760-769

METAL-WORKING MACHINERY

761. MACHINE TOOLS

- U. S. Gov., Navy Dept. Specification 40T2e, 1945. Tools, Pneumatic, Portable.

761.0 GENERAL ITEMS

American Standards Assn., B5.19-1946. Sponsored by Society of Automotive Engineers, National Machine Tool Builders' Assn., and American Society of Mechanical Engineers. Life Tests of Single-Point Tools Made of Materials Other Than Sintered Carbides. Covers test methods for use on such machine tools as lathes, turret lathes, boring mills, planers, and shapers. Gives terminology and definitions, method of test for cutting-speed tool-life relationship, what is meant by tool failure, recommended tool shapes, and related standards.

761.1 LATHES

- U. S. Gov., Army Air Forces Specification 50466; 1945. Lathe, Metal-Turning Bench (6-Inch).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 56-65-4; 1945. Lathe, Engine, Motor-Driven; Bench-Type, with Bench.

761.9 MISCELLANEOUS MACHINE TOOLS

- U. S. Gov., Army Air Forces Specification 50481; 1945. Sander, Portable, Pneumatic, Reciprocating.

755.3 HAND PUMPS

- U. S. Gov., Army-Navy Aeronautical Specification AN-P-14b-1; 1945. Pumps; Hydraulic Hand.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-48a-2; 1946. Pumps; Plastic Hand Air.
- U. S. Gov., Treasury Dept., Procurement Div., 742; 1945. Pumps, Hand; Suction and Force (Plumber's). Covers two types—(I) without hose and (II) with hose. Gives requirements for material, workmanship, design, displacement, suction, over-all length, finish, marking, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

755.9 MISCELLANEOUS PUMPING EQUIPMENT

- U. S. Gov., Army Air Forces Specification 40613-1; 1945. Segregator; Fluid Type A-6.
- U. S. Gov., Army Air Forces Specification 40614-1; 1945. Segregator; Fluid Type A-7.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 83-16; 1945. Ejector, Sewage, Pneumatic, Motor-Driven, 100 GPM at 30 Ft. Head.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 83-17; 1945. Ejector, Sewage, Pneumatic, Simplex, Gasoline Engine Driven, 100 GPM at 30 Ft. Head.

756. GAS PRODUCERS

- U. S. Gov., Army Air Forces Specification 40792A; 1945. Plant; Generating Breathing Oxygen, Mobile Type A-1.
- U. S. Gov., U. S. Army, Signal Corps Specification 74-50-A, 1945. Generator ML-185-().
- U. S. Gov., U. S. Army, Signal Corps Specification 74-70; 1945. Hydrogen Generator ML-303/TM.

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-118; 1945. Wrench, Pneumatic, Reversible, Impact Type.

- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-127; 1945. Sharpener, Drill Steel, Pneumatic-Driven.

762. POWER PRESSES AND FORGING HAMMERS

762.1 POWER PRESSES

- U. S. Gov., Army Air Forces Specification 50468; 1945. Press, Bench Arbor.
- U. S. Gov., Army Air Forces Specification 50469; 1945. Drill-Press, Bench-Type (8-Inch Swing, 1/2-Inch Chuck Capacity).

764. PUNCHING, SHEARING, AND ROLLING MACHINES

- U. S. Gov., Navy Dept. Specification 40Pie, 1945. Punches, Machine; Pushings, Coupling Nuts, Dies, High Dies, and Punches.

765. PARTS AND TOOLS FOR METALWORKING MACHINERY

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R214-45; 1945. Hard Edge, Flexible Back, Metal-Cutting Band Saws. Gives definitions, general

provisions, and tables showing width, thickness, and number of teeth per inch for regular type and skip tooth type. Sponsored by Hack Saw Manufacturers Assn.

U. S. Gov., Navy Dept. Specification 40P1e, 1945. Punches, Machine; Bushings, Coupling Nuts, Dies, High Dies, and Punches.

U. S. Gov., Navy Dept. Specification 40T7; 1945. Tools, Powder-Actuated, Portable.

766. POWER TRANSMISSION MACHINERY

766.1 POWER TRANSMISSION AND CONVEYOR CHAINS AND SPROCKET WHEELS

American Petroleum Institute, Div. of Production. Standard 11-E; 1941. Supplement 1; 1946. Specification for Rating of Steel Helical and Herringbone Gear Speed Reducers for Pumping Machines (including Rating Form for Rotary Counterbalances). Covers scope, marking, limitations, design of gearing, design of housing, shafts and bearings, service and application, formulas, suggested method for computing well loads, rotary counterbalances, inspection and rejection, and appendices.

American Petroleum Institute, Div. of Production. Standard 11-E-1; 1941. Supplement 1; 1946. Specification for Rating of Roller Chain Speed Reducers for Pumping Machines. Covers scope, marking, limitations, design of drives, design of housing, shafts, and bearings, service and application, formulas, inspection and rejection, and appendix.

766.2 BALL AND ROLLER BEARINGS

American Gear Manufacturers Assn. Standard 254.08; 1946. Data Sheet—Handling of Ball and Roller Bearings in the factory. Gives a detailed discussion of inspection, storage, and protection of ball and roller bearings including long time storage, short time storage, and storing of bearings in stockrooms.

Anti-Friction Bearing Manufacturers Assn., Inc. Definitions for Bearing Measurements Inner and Outer Ring, 1945. To clarify the tolerances for ball bearings and cylindrical and self-aligning roller bearings in regard to the method of measuring and interpretation of the measured values. Gives bore, width, parallelism of sides, eccentricity, side run-out, and groove parallelism with side for inner ring; outside diameter, width, parallelism of sides, eccentricity, groove parallelism with side, and O.D. square with side for outer ring drawings; and tables giving tolerances.

767. WELDING AND FLAME-CUTTING MACHINERY

Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 171; 1945. Clevis—Rod End for Resistance Welding. Gives drawing with dimensions and notes. Developed by National Aircraft Standards Committee.

American Society of Mechanical Engineers. Boiler Construction Code. Welding Qualifications, 1943 with 1944-1945 Addenda. These welding rules apply only to the manual application of the arc- and gas-welding processes, and to those ferrous metals

which in their unwelded conditions will meet the requirements of the guided bend test prescribed in the Code. Operator's qualification tests are also given.

American Standards Assn., C52.4-1945. Controls for Resistance-Welding Machines (American War Standard). This standard covers the functions which are performed by timing controls for use with resistance-welding machines. Covers definitions and classification of controls together with a diagram.

American Standards Assn., C52.5-1945. Specification for Resistance-Welding Machines (American War Standard). Covers the design, construction, and methods of test of resistance-welding equipment of the spot-, projection-, butt-, and seam-welding types. Gives definitions, general requirements, detail requirements, and methods and conditions of test.

American Water Works Assn. Tentative Standard Specifications for Field Welding of Steel Water Pipe Joints, 7A.8-T; 1946. American Welding Society D7.0-46T. Covers general information, filler metal, equipment, inspection, qualification of welding procedure and testing of welding operators, joint design, welding design details, welding procedure details, stipulation for testing welded pipe joints by sectioning methods, repair of welds, and appendix.

American Welding Society. Code of Minimum Requirements for Instruction of Welding Operators. Part A—Arc Welding of Steel 3/16 to 3/4 Inch Thick, 1945. Covers general requirements, equipment and facilities of the school, qualifications and duties of instructor, instruction in welding practice, instruction in welding theory, final tests, and appendices.

American Welding Society. Inspection Handbook for Manual Metal-Arc Welding (Emergency Standard), 1945. To aid the inspector in the performance of his duties and serve as a reliable source of basic information on the factors with which he is likely to have most difficulty. Gives application and scope, requirements for a welding inspector, duties of a welding inspector, definitions of welding terms and master chart of welding processes, symbols, manual arc-welding procedure specifications, qualification of welding procedures, qualification of welding operators, heat-treating operations, weldment defects, methods of test for welds and welded joints, chemical and metallographic tests, mechanical tests, and visual inspection, magnetic particle inspection, and radiographic inspection.

American Welding Society. Recommended Practices for Resistance Welding (Tentative) C1.1-46T; 1946. Gives recommended practice for spot and seam welding (low-carbon, stainless and hardenable steels, nickel, monel and inconel), recommended practice for projection welding (low-carbon and stainless steels), recommended practice for flash-butt welding (low and medium forging strength steels), and standard methods for testing resistance welds.

American Welding Society. Recommended Practices for Automotive Flash-Butt Welding (Tentative) D8.1-46T; 1946. Gives material, equipment, design, tooling, technique, and inspection.

Assn. of American Railroads, Operations and Maintenance Dept., Mechanical Div. Manual of Standard and Recommended Practice, 1946. Fusion Welding and Bronze Welding, Limits and Regulations, Recommended Practice, 1945. Gives requirements for the certification of operators, preparation, welding procedure, weld contour, building up worn surfaces, heat treatment after welding, marking welds, welding limitations, and diagrammatic illustrations.

National Board of Boiler and Pressure Vessel Inspectors. Recommended Rules for Repairs by Fusion Welding to Power Boilers and Unfired Pressure Vessels, 1945. Covers no repairs by welding without inspector's approval, rules for welding, cracks—permissible welded repairs, building up of corroded surfaces, seal welding, re-ending and piecing tubes, patches unstayed sheets, patches stayed sheets, patches tube sheets—fire tube boilers, repair of tube holes, and appendices.

National Electrical Manufacturers Assn. Electric Arc-Welding Machine and Electrode Standards, 45-105; 1945. These standards provide practical information concerning construction, test, performance and manufacture of alternating-current and direct-current arc-welding machines. Gives arc-welding machine standards, welding electrode standards, definitions, and appendix.

National Electrical Manufacturers Assn. Standard for Color Markings for Electrode Identification, 45-108; 1945. Covers the identification by color of the different types of end-grip and center-grip welding electrodes. Gives a table showing various color markings for the different alloys.

U. S. Gov., Army Air Forces Specification 20011D-3; 1945. Welding; Spot, General Specification for.

U. S. Gov., Army-Navy Aeronautical Specification AN-T-38a-1; 1945. Tests; Aircraft Welding Operators' Certification.

U. S. Gov., Joint Army-Navy Specification JAN-E-278; 1945. Electrodes, Welding (Covered), Copper-Aluminum-Iron Alloy (Aluminum-Bronze) (for Surfacing).

U. S. Gov., Navy Dept. Specification 17W1e, 1945. Welding-Sets, Electric, Direct-Current-Arc, Variable-Voltage.

U. S. Gov., Navy Dept. Specification 17W3; 1946. Welding-Outfits, Electric, Spot (Shipboard Use).

U. S. Gov., Navy Dept. Specification 17W5; 1946. Welding-Sets, Electric-Arc, Direct-Current, Motor-Generator, Constant-Potential, Multiple-Operator.

U. S. Gov., Navy Dept. Specification 17W6; 1946. Welding-Sets, Electric-Arc, A. C. Transformer Type, Portable (Shipboard Use).

770-779

TEXTILE, SEWING, AND SHOE MACHINERY

770. GENERAL ITEMS

American Society for Testing Materials, D76-45; 1945. Standard Specifications for Textile Testing Machines. Cover descriptions of testing machines generally applicable for the determination of certain physical characteristics of textile materials. Gives requirements for breaking strength and elongation testing machines, thickness gage, bursting testers, and twist testers.

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Launder-Ometer. Standard machine for laboratory washing tests for testing fastness

of dyed textile materials. Consists of a copper tank upon a rigid angle-iron frame with a special brass and aluminum rotor that carries twenty standard pint jars in which the tests are made.

775. SEWING MACHINES

U. S. Gov., Navy Dept. Specification 66M6g; 1946. Machines, Sewing.

776. SHOE MACHINERY

U. S. Gov., Navy Dept. Specification 66C12; 1946. Cobbler-Shop-Equipment.

780-789

INDUSTRIAL PLANT MACHINERY

781. WEIGHING, PACKAGING, BOTTLING, AND MAILING MACHINERY

U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-1A; 1945. Baling of Clothing and Equipment.

784. WOODWORKING MACHINERY

784.1 WOODWORKING MACHINERY

U. S. Gov., Army Air Forces Specification 50481; 1945. Sander, Portable, Pneumatic, Reciprocating.

U. S. Gov., Navy Dept. Specification 40T8c; 1946. Tools, Woodworking (Shipboard Use).

U. S. Gov., U. S. Army, Corps of Engineers Specification 41-1; 1944. Saw, Chain, Portable, Pneumatic, 24-In. Blade.

U. S. Gov., U. S. Army, Corps of Engineers Specification 41-3; 1944. Saw, Circular, Portable, Motor-Driven, 110-Volt Universal, 12-In. Blade.

U. S. Gov., U. S. Army, Corps of Engineers Specification 41-4; 1944. Saw, Circular, Portable, Pneumatic, 12-In. Blade.

U. S. Gov., U. S. Army, Corps of Engineers Specification 41-5; 1944. Saw, Chain, Portable, Gasoline Engine Driven.

U. S. Gov., U. S. Army, Corps of Engineers Specification 41-7; 1945. Saw, Circular, Woodworking, Portable, Overhead Arm, Motor-Driven.

U. S. Gov., U. S. Army, Corps of Engineers Specification 41-14; 1946. Woodworking Equipment, Trailer Mounted, Set No. 1.

785. REFRIGERATING, ICE MAKING, AND ICE CREAM MACHINERY

785.0 GENERAL ITEMS

Underwriters' Laboratories, Inc. Standard for Temperature-Indicating and Regulating Equipment,

1945. Covers electrical control equipment for air-conditioning, heating, cooking, and refrigeration, intended to be employed on lighting and power circuits in ordinary locations in accordance with the National Electrical Code. Gives requirements for frame and enclosure, mounting, strength of parts, operating mechanism, corrosion protection, insulating material, supply connections, stationary devices, portable devices, current-carrying parts, internal wiring, grounding, transformers, capacitors, fuse-holders, overcurrent relays, mercury-tube switches, coil windings, spacings, wiring space, separation of circuits, performance, rating, marking, and inspection of listed product.

785.1 REFRIGERATING SYSTEMS

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part II—Compressors and Condensing Units. No. 310—"Freon-12" Condensing Units, Open-Type, Air and Water Cooled, 20 Horsepower and Smaller. Covers purpose, scope, definitions, standard equipment, standard capacity ratings, rating and testing, motors and motor loading, and safety.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part II—Compressors and Condensing Units. No. 410—Ammonia Compressors and Condensing Units. Covers (411) standard nomenclature for reciprocating compressors including purpose and scope, and definitions; (412) enclosed ammonia compressors including purpose, scope, definitions, standard equipment, rotative speeds, and discharge temperatures; (413) performance of ammonia compressors, verticle single-acting type, including purpose and scope, definitions, and compressor performance; and (414) standard equipment for ammonia condensing units including purpose and scope, definitions, and standard equipment.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part II—Compressors and Condensing Units. No. 420—"Freon-12" Compressors and Condensing Units. Covers (421) "freon-12" compressor units, open and hermetic types, 25 to 200 horsepower, inclusive, including purpose, scope, definitions, standard equipment, standard capacities, rating and testing, and safety; and (422) "freon-12" condensing units, water-cooled open and hermetic types, 25 to 200 horsepower, inclusive, including purpose, scope, definitions, standard equipment, standard capacities, rating and testing, and safety.

Air Conditioning and Refrigeration Machinery Assn., Inc. Equipment Standards, 1946. Part III—Condensers and Receivers. No. 450—Ammonia Condensers and Receivers. Covers (451) ammonia evaporative condenser units including purpose, scope, definitions, standard equipment, rating and testing, standard capacities, design, construction, safety devices, test pressures and working pressures, temperature differences, air quantities, condensing surface, corrosion, and application; (452) construction of ammonia condensers, vertical open shell-and-tube type including purpose, scope, definitions, standard equipment, shell connections, shell diameters, shell heights, shell thickness, welding of shells,

tubes, tube sheets, test pressures, and relief valves; (453) performance of ammonia condensers, vertical open shell-and-tube type including purpose and scope, definitions, condenser performance, and figure; (454) construction of ammonia condensers, horizontal closed shell-and-tube type including purpose, scope, definitions, standard equipment, shell connections, shell diameters, shell lengths, shell thickness, welding of shells, tubes, tube sheets, test pressures, and relief valves; (455) performance of ammonia condensers, horizontal closed shell-and-tube type including purpose and scope, definitions, condenser performance, and figures; and (456) ammonia liquid receivers including purpose, scope, definitions, standard equipment, receiver connections, receiver diameters and lengths, shell thickness, welding of receivers, receiver heads, test pressures, and relief valves.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part III—Condensers and Receivers. No. 460—"Freon-12" Condensers and Receivers. Covers (461) "freon-12" evaporative condenser units including purpose, scope, definitions, standard equipment, standard capacities, rating and testing, design, construction, safety devices, and application; and (462) "freon-12" water-cooled condensers, closed type, 25 to 200 horsepower, inclusive, including purpose, scope, definitions, standard equipment, standard capacities, rating and testing, design, construction, safety devices, and application; and (463) "freon-12" liquid receivers including purpose, scope, definitions, standard equipment, receiver connections, design pressures, materials, welding of shells, tests, and relief devices.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part IV—Water and Brine Coolers. No. 470—Water and Brine Coolers. Covers (471) construction of ammonia brine coolers, horizontal closed shell-and-tube flooded type including purpose, scope, definitions, standard equipment, shell connections, shell diameters, shell lengths, shell thickness, welding of shells, tubes, tube sheets, figure, test pressures, and relief valves; (472) performance of ammonia brine coolers, horizontal closed shell-and-tube flooded type including purpose and scope, definitions, design temperatures, rating the cooler, and figures and tables; and (473) ammonia brine coolers, submerged open type including purpose, scope, definitions, standard equipment, shell connections, shell diameters, shell lengths, shell thickness, welding of shells, tubes, tube sheets, test pressures, and relief valves.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part IV—Water and Brine Coolers. No. 476—"Freon-12" Water and Brine Coolers. Covers purpose, scope, definitions, standard equipment, shell connections, design pressures, materials, welding of shells, tests, relief devices, application, and rating and testing.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part V—Miscellaneous

Standards. No. 510—Ammonia Mains. Covers purpose, scope, size of ammonia mains, use of figures, and weight of pipe.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part V—Miscellaneous Standards. No. 520—"Freon-12" Mains. Covers purpose, scope, size of "freon-12" mains, discharge mains, suction mains, and liquid mains.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part V—Miscellaneous Standards. No. 560—Forced-Circulation Air Coolers for Commercial and Industrial Refrigeration. Covers purpose, scope, definitions, standard equipment, rating and testing, design, construction, safety devices, test pressures and working pressures, air quantities, evaporating surface, and corrosion.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part V—Miscellaneous Standards. No. 570—Location and Inspection of Data Plates on Insulated Refrigerant-Containing Vessels. Covers purpose and scope, location of data plate or code stamping, and provisions for inspection.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS127-45; 1945. Self-Contained Mechanically Refrigerated Drinking Water Coolers. To establish uniform methods of testing, rating, and designating capacity of self-contained mechanically refrigerated drinking water coolers. Gives definitions, general requirements, methods of testing, method of rating, standard rating conditions, recommended normal standard sizes and minimum capacities, and uniform guarantees of ratings of self-contained mechanically refrigerated drinking water coolers of the insulated storage and instantaneous types, air-cooled or water-cooled. Initiated by the Water Cooler and Drinking Fountain Manufacturers Assn.

U. S. Gov., Navy Dept. Specification 66R2; 1946. Refrigeration-Equipment: Cabinets, Frozen-Food; Coolers, Drinking-Water, Electric, Self-Contained; Refrigerators, Electric, Self-Contained (Shipboard Use).

786. BAKERY MACHINERY

U. S. Gov., Navy Dept. Specification 64S8b, 1945. Sieves, Flour.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-129; 1945. Trough, Dough.

787. LAUNDRY AND DRY CLEANING MACHINERY AND APPLIANCES

National Assn. of Mutual Casualty Companies, Assn. of Governmental Labor Officials, and Laundry Owners' National Assn., sponsors. American Standards Assn., Z8-1941. American Standard Safety Code for Laundry Machinery and Operations. Applies to all moving parts of equipment used in laundries and to other conditions peculiar to this industry with special reference to the point of operation of laundry machines. Does not apply to dry-cleaning operations. Covers general requirements, definitions, point of operation guards, operating rules—mechanical, operating rules—general, moving parts, and discussion. U. S. Gov., Federal Specification 00-L-131c; 1943. Amend. 4; 1945. Laundry Appliances and Wool-Presses

(Tailor-Shop). Covers marking machines, washing machines, extractors, drying tumblers, laundry presses, flatwork ironers, soap tanks, starch cookers, ironing boards, truck tubs, stationary tubs, seam dampeners, laundry tables, starch tables, etc. Gives general and detail requirements; methods of sampling, inspection, and tests; and packing and marking for shipment.

788. TYPESETTING, PRINTING, AND BINDING MACHINERY

U. S. Gov., U. S. Army, Signal Corps Specification 72-38A; 1944. Converter M-209-().

789. INDUSTRIAL PLANT MACHINERY NOT ELSEWHERE CLASSIFIED

National Fire Protection Assn. and U. S. Dept. of Agriculture, joint sponsors. American Standards Assn. Z12.16-1945. Code for the Prevention of Dust Explosions in the Plastics Industry. Gives definitions, introduction, plant arrangement, building construction, communications, explosion preventive measures, electrical equipment, minimizing the effect and extent of explosions in dry powder processing and handling equipment, housekeeping, fire extinguishing systems, and appendix.

U. S. Gov., Navy Dept. Specification 17M12c; 1946. Machines, Armature-and-Stator-Coil-Winding, Motor-Driven (Shipboard Use).

U. S. Gov., Navy Dept. Specification 17M13a, 1945. Machines, Coil-Winding, Motor-Driven (Shipboard Use).

U. S. Gov., Navy Dept. Specification 40M2b; 1946. Machines, Filing-and-Setting (Band-Saw).

U. S. Gov., Navy Dept. Specification 40M13; 1946. Machines, Armature-Banding and Commutator-Conditioning, Motor-Driven.

U. S. Gov., Navy Dept. Specification 66E1a; 1946. Eductors; Gasoline, Oil, or Water.

U. S. Gov., Navy Dept. Specification 66S3; 1945. Shockproof-Equipment, Class HI (High-Impact); and Tests for.

U. S. Gov., U. S. Army, Corps of Engineers Specification 41-2; 1944. Sharpener, Chain Saw, Gasoline Engine Driven.

U. S. Gov., U. S. Army, Corps of Engineers Specification 41-8; 1944. Sharpener, Chain Saw, Pneumatic.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-92; 1945. Crushing and Screening Plant, 2-Unit, Gasoline Engine Driven, Semitrailer Mounted, with Dollies, 25-Cu. Yds. Per Hour.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-109; 1945. Asphalt Plant, Gasoline Engine Driven, 10-30 Tons Per Hour: Unit No. 1, Mixer, Bituminous, Trailer Mounted, Complete; Unit No. 2, Dryer, Aggregate, Trailer Mounted, Complete.

U. S. Gov., U. S. Maritime Commission. Specification 40-MC-3 (Tentative) 1942, amended 1943. Valve Reseating Outfit (Including Cutters): Globe Valves. Covers one type and one grade for reseating globe valves 1/4 to 6 in. Gives requirements for materials, workmanship, marking, valve reseating machines, disc reseating machines, cutters, instructions and cutter chart, and details; inspection, sampling, and methods of test; and packaging, packing, and marking.

790-799

MISCELLANEOUS MACHINERY

791. BLOWERS AND COMPRESSORS

791.0 GENERAL ITEMS

National Assn. of Fan Manufacturers. Standards, Definitions, and Terms in Use by the Fan and Blower Industry. Bulletin 105; 1946. Covers fan types, names and definitions, operating limits, air density ratios at various altitudes and air temperatures, standard sizes for multiblade and non-overloading fans, outlet areas for wheel diameters 12" to 182", arrangement of drive, designation of direction of rotation and discharge, designation of position of inlet boxes, motor position for belt or chain drive, fan performance, definitions, abbreviations, typical specifications, air and flue gas densities, abrasion, and field test of fans.

791.1 FANS AND BLOWERS

American Society of Mechanical Engineers. Power Test Codes. Fans, 1945. For conducting tests on blowers, fans, and exhausters of the centrifugal, axial, or mixed-flow types in which the fluid density change through the machine does not exceed 7%. The purpose of the code is to specify and define the practice for conducting tests of fans to determine—(1) pressure, (2) quantity of air or other gas, (3) power supplied to the fan shaft, and (4) efficiency, all under specified conditions of fan speed and air density. This code also provides instructions for arrangement of test equipment such as ducts, plenum chambers, flow straighteners, and instruments.

Society of Automotive Engineers, Inc. Aeronautical Standard 194; 1945. Nomenclature—Engine Cooling Fan. Gives drawing with notes.

U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-59; 1943. Fan; Axial, Flow Type (1,000 C.F.M. at 1/4 In. S.P.).

U. S. Gov., U. S. Army, Army Air Forces Specification 94-40741; 1945. Blower, Gasoline-Engine-Driven, Type A-2 (Portable-Ventilation).

U. S. Gov., U. S. Army, Army Air Forces Specification 94-40771; 1945. Blower, Gasoline-Engine-Driven, Type A-1.

791.2 COMPRESSORS AND SPRAYERS

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part II—Compressors and Condensing Units. No. 310—"Freon-12" Condensing Units, Open Type, Air and Water Cooled, 20 Horsepower and Smaller. Covers purpose, scope, definitions, standard equipment, standard capacity ratings, rating and testing, motors and motor loading, and safety.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part II—Compressors and Condensing Units. No. 410—Ammonia Compressors and Condensing Units. Covers (411) standard nomenclature for reciprocating compressors including purpose and scope, and definitions; (412) enclosed ammonia compressors including purpose, scope, definitions, standard equipment, rotative

speeds, and discharge temperatures; (413) performance of ammonia compressors, verticle single-acting type, including purpose and scope, definitions, and compressor performance; and (414) standard equipment for ammonia condensing units including purpose and scope, definitions, and standard equipment.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part II—Compressors and Condensing Units. No. 420—"Freon-12" Compressors and Condensing Units. Covers (421) "freon-12" compressor units, open and hermetic types, 25 to 200 horsepower, inclusive, including purpose, scope, definitions, standard equipment, standard capacities, rating and testing, and safety; and (422) "freon-12" condensing units, water-cooled open and hermetic types, 25 to 200 horsepower, inclusive, including purpose, scope, definitions, standard equipment, standard capacities, rating and testing, and safety.

U. S. Gov., Army Air Forces Specification 40841-2; 1945. Compressor, Air, Type C-1 (Three Stage).

U. S. Gov., Army Air Forces Specification 41039; 1945. Compressor; Air, Three Stage, Type C-2 (Electric-Driven-Portable).

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS126-45; 1945. Tank-Mounted Air Compressors. To establish minimum standard specifications and uniform methods of designating capacity; definite size classifications for compressors, motors, and tanks; and to provide uniform laboratory test methods. Covers ratings, motor loading, and methods of testing single-stage and two-stage air compressors from 1/4 to 10 horsepower. Gives definitions, general requirements, detail requirements, methods of test, and labeling. Initiated by Pneumatic Automotive Equipment Assn.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-62; 1944. Compressor, Air, Gasoline Engine Driven, 16 CFM.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 56-15-7; 1945. Compressor, Air, Truck Mounted, Gasoline Engine Driven, 105 CFM.

792. HEATING, VENTILATING, AND AIR-CONDITIONING EQUIPMENT

792.0 GENERAL ITEMS

American Standards Assn., A53.1-1946. Sponsored by National Housing Agency and U. S. Public Health Service. Light and Ventilation. Intended to govern the lighting and ventilation of buildings and other structures customarily covered in building codes. Covers general requirements, rooms, stairways and public hallways, windows, skylights, yards, courts, mechanical ventilation, and appendix.

Institute of Boiler and Radiator Manufacturers. I-B-R Installation Guide No. 2; 1946. One Pipe Steam Heating Systems. For buildings having a heating loss not exceeding 92,640 B.t.u. per hour (equal to 386 sq. ft. of steam radiation). Covers recommended installation practice, calculation and design, construction, heat loss factors, square feet steam

radiation for quantities shown, equivalent square feet of radiation, capacities of pipe in square feet of radiation, and suggested control arrangements.

Institute of Boiler and Radiator Manufacturers. I-B-R Installation Guide No. 3; 1946. Indirect Water Heaters. For selection and installation of heaters submerged in water for use in small homes. Covers selection of heater, storage heaters, tankless heaters, installation details, suggested installation diagrams, suggested control arrangements for steam heating systems, and suggested control arrangements for water heating systems.

National Board of Fire Underwriters. Air Conditioning, Warm Air Heating, Air Cooling and Ventilating Systems, No. 90; 1946. Standards for the installation of these systems. Part I—Air Conditioning and Ventilating Systems in Other Than Residences. Gives application and scope, construction of ducts, installation of ducts, automatic fire doors and dampers, air intakes and outlets, air filters, fans, controls, electric wiring and equipment, air cooling and heating equipment, smoke detectors, and appendix on maintenance. Part II—Warm Air Heating and Air Conditioning Systems in Residences. Gives application, classification of systems, warm air supply ducts of high temperature systems, warm air furnace controls of high temperature systems, warm air supply ducts of low temperature systems, heating panels, warm air furnace controls of low temperature systems, cold or return air ducts, air filters, electric wiring and equipment, and air cooling and heating equipment.

National Warm Air Heating and Air Conditioning Assn., Section No. 1 of Practical Warm Air Heating, First Edition, 1944. How To Make a Comfort Survey—How to Make Floor Plans. A practical training course for the warm air heating man and is prepared for the man who sells, the man who installs, and the man who services warm air heating equipment. Covers types of warm air heating systems, how to make a comfort survey, and how to draw house plans together with appendices.

National Warm Air Heating and Air Conditioning Assn., Section No. 2 of Practical Warm Air Heating, First Edition, 1944. How to Check Frame House Construction. A practical training course for the warm air heating man and is prepared for the man who sells, the man who designs, the man who installs, and the man who services warm air heating systems. Covers frame house construction as it affects heating, table giving actual finished dimensions and board measure of softwood lumber (Simplified Practice Recommendations R-16-29, National Bureau of Standards), and appendices.

National Warm Air Heating and Air Conditioning Assn., Section No. 3 of Practical Warm Air Heating, First Edition, 1945. Measuring Heat Losses. Covers heat loss calculations, definition of terms, design temperature, areas of heat transmitting surfaces, B.t.u. factors and B.t.u. heat losses, summary of heat loss calculation procedure, importance of good building construction, and appendices.

National Warm Air Heating and Air Conditioning Assn., Section No. 5 of Practical Warm Air Heating, Second

Edition, 1945. Gravity Code and Manual for the Design and Installation of Gravity Warm Air Heating Systems. For residential and small non-residential structures. Covers procedure for determining B.t.u. heat loss from rooms, selection of furnace size, location of warm air registers and return air intakes, outline of procedure for making plant layout, procedure for determining warm-air duct and register, procedure for determining return-air duct and intake, brief notes on installation and operation and appendix.

National Warm Air Heating and Air Conditioning Assn., Section No. 7 of Practical Warm Air Heating, 1945. Code and Manual for the Design and Installation of Warm Air Winter Air Conditioning Systems. The Manual shows recommended sizes, B.t.u. ratings, and suggested installation procedure. The purpose of the recommendations and tables is to simplify the selection of air heating and distribution equipment. For residential and small non-residential structures. The Manual includes a method to estimate heat losses, calculations, illustrations, and data.

National Warm Air Heating and Air Conditioning Assn. Section 8 of Practical Warm Air Heating, Third Edition, 1946. A Yardstick for Classifying Warm Air, Winter Air Conditioning Systems. Covers three classes—(A) excellent practice, (B) good practice, and (C) poor practice. This booklet attempts to explain for the benefit of the home owner what constitutes a good warm air, winter air conditioning system, what specifications he and the architects should have for a class A or a class B installation, and what features a heating contractor can offer in accordance with the best modern practice.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R207-45; 1945. Pipes, Ducts, and Fittings for Warm-Air Heating and Air Conditioning. Comprises a list of sizes of pipes, ducts, and fittings for regular stock purposes which was developed by a simplification committee of the furnace fittings industry. Gives tables showing recommended prefabricated warm-air heating and air-conditioning pipes, ducts, and fittings for furnace pipe and fittings—gravity type, and ducts and fittings for forced-air heating and air conditioning.

792.1 HEATING EQUIPMENT

Underwriters' Laboratories, Inc. Standard for Temperature-Indicating and Regulating Equipment, 1945. Covers electrical control equipment for air-conditioning, heating, cooking, and refrigeration intended to be employed on lighting and power circuits in ordinary locations in accordance with the National Electrical Code. Gives requirements for frame and enclosure, mounting, strength of parts, operating mechanism, corrosion protection, insulating material, supply connections, stationary devices, portable devices, current-carrying parts, internal wiring, grounding, transformers, capacitors, fuse-holders, overcurrent relays, mercury-tube switches, coil windings, spacings, wiring space, separation of circuits, performance, rating, marking, and inspection of listed product.

U. S. Gov., Navy Dept. Specification 45S1a, 1945. Strainers, Steam (for Small Branch Steam Lines).

792.3 AIR-CONDITIONING EQUIPMENT

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part I—Room Air Conditioners and Self-Contained Air Conditioners. Nos. 110 and 120—Room Air Conditioners. Covers purpose, scope, definitions, standard equipment, rating and testing, design, construction, safety devices, design operating conditions, air quantities, noise level, and cooling load estimate form for room air conditioners.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part I—Room Air Conditioners and Self-Contained Air Conditioners. Nos. 210 and 220—Self-Contained Air Conditioners. Covers purpose, scope, definitions, standard equipment, standard capacities, rating and testing, design, construction, safety devices, design operating conditions, sensible cooling effect, air quantities, external resistances, recommended performance, and cooling load estimate form for self-contained air conditioners.

Air Conditioning and Refrigerating Machinery Assn., Inc. Equipment Standards, 1946. Part V—Miscellaneous Standards. No. 580—Forced-Circulation Air Coolers for Commercial and Industrial Refrigeration. Covers purpose, scope, definitions, standard equipment, rating and testing, design, construction, safety devices, test pressures and working pressures, air quantities, evaporating surface, and corrosion.

U. S. Gov., Army Air Forces Specification 31408; 1945. Cooler, Portable Air, Type A-2 (Electric Motor-Driven).

U. S. Gov., U. S. Army, Army Air Forces Specification 94-40742; 1945. Cooler, Portable, Airborne Air Type A-1 (Gasoline Engine Driven).

U. S. Gov., U. S. Army, Corps of Engineers Specification 86-1; 1945. Air Conditioning Unit, Self-Contained Type, Water Cooled, with Cooling Tower, 5 Hp. Motor, 70,000 BTU/HR Approx.

U. S. Gov., U. S. Army, Corps of Engineers Specification 86-2; 1945. Air Conditioning Unit, Self-Contained, Air-Cooled, Trailer-Mounted, 22,000 BTU/HR Approx., Electric Motor Driven.

793. MEASURING AND RECORDING APPARATUS

793.0 GENERAL ITEMS

Natural Gasoline Association of America. Tentative Standard Method for Calculation of High Pressure Gas Measurement. N.G.A.A. Standard 4142; 1942. Part I—Selection of Orifice Correction Factors—presents a tentative standard for obtaining orifice correction factors to account for the deviation of gases from ideal gas laws at high pressure. This factor has been combined with the gravity and temperature factors to simplify the calculation of the meter quantity since both the gravity and temperature are required to determine the compressibility factor; and Part II—The Density of Natural Gases—presents the details of an investigation of the reliability of the compressibility factor method for gas density calculations and compares the ex-

perimental and calculated compressibility factors on a number of natural gases.

Underwriters' Laboratories, Inc. Standard for Temperature-Indicating and Regulating Equipment, 1945. Covers electrical control equipment for air-conditioning, heating, cooking, and refrigeration, intended to be employed on lighting and power circuits in ordinary locations in accordance with the National Electrical Code. Gives requirements for frame and enclosure, mounting, strength of parts, operating mechanism, corrosion protection, insulating material, supply connections, stationary devices, portable devices, current-carrying parts, internal wiring, grounding, transformers, capacitors, fuse-holders, overcurrent relays, mercury-tube switches, coil windings, spacings, wiring space, separation of circuits, performance, rating, marking, and inspection of listed product.

U. S. Gov., Army-Navy Aeronautical Specification AN-T-81; 1945. Table; Differential Pressure.

793.2 GAGES, EXCEPT DIMENSION GAGES

Associated Factory Mutual Fire Insurance Companies. Pamphlet 66; 1929. Mercury Gage for Gravity Water Tanks. Simple in construction, having no moving parts to get out of order, they are considered the most reliable device for this purpose. Covers installation, mercury catcher, and testing and maintenance.

U. S. Gov., Army Air Forces Specification 27505; 1945. Gage; Torque Pressure (Single and Dual), General Specification for.

U. S. Gov., Army Air Forces Specification 27506; 1945. Gage; Torque-Pressure, Type M-1 (Single).

U. S. Gov., Army Air Forces Specification 27509; 1945. Gage; Torque Pressure, Type N-1 (Dual).

U. S. Gov., Army Air Forces Specification 27544A, 1945. Gage; Fuel Pressure, Type C-16 (Aircraft—Single).

U. S. Gov., Army Air Forces Specification 27546-3; 1945. Gage; Pressure, Type O-1 (Aircraft—General Purpose).

U. S. Gov., Army-Navy Aeronautical Specification AN-G-9a-2; 1945. Gages; Manifold Pressure.

U. S. Gov., Army-Navy Aeronautical Specification AN-G-18a-4; 1945. Gage Units; Engine (with Electric Thermometer).

U. S. Gov., Joint Army-Navy Specification JAN-G-18c; 1945. Gages, Depth and Draft.

U. S. Gov., Joint Army-Navy Specification JAN-G-190; 1945. Gages, Absolute-Pressure, Indicating (Ship-board Use).

U. S. Gov., Navy Dept. Specification 45G1p; 1946. Gages, Pressure and Vacuum (for Air, Ammonia, Oil, Steam, and Water).

U. S. Gov., Navy Dept. Specification 45G3d; 1946. Gages, Pressure (for Acetylene, Hydrogen, and Oxygen Gases).

793.3 INDICATORS, ENGINE CYLINDER

U. S. Gov., Navy Dept. Specification 18-I-2d, 1945. Indicators, Engine (Steam).

793.4 WATER METERS

American Water Works Assn. Standard Specifications for Cold Water Meters—Displacement Type, 7M.1; 1946. Intended for use under normal conditions for

consumer water works service. Covers general information, capacity, size and length, design, registration, pressure test, workmanship and materials, rejected meters, sample meter, and notes.

American Water Works Assn. Tentative Standard Specification for Cold Water Meters—Current Type, 7M.2-T; 1946. Intended for use under normal conditions for water works consumer service. Covers general information, capacity, size and length, design, registration, pressure test, workmanship and materials, rejected meters, and notes.

American Water Works Assn. Tentative Standard Specifications for Cold Water Meters—Compound Type, 7M.3-T; 1946. Intended for use under normal conditions for water works consumer service. Covers general information, capacity, size and length, design, registration, pressure test, workmanship and materials, rejected meters, and notes.

U. S. Gov., Army Air Forces Specification 28629; 1945. Regulator; Water Metering, Type A-1.

793.5 WEIGHING SCALES AND BALANCES

U. S. Gov., Federal Specification AAA-S-84; 1946. Scales, Person-Weighing; High, Clinical (Physicians') Type. Covers one type and class. Gives material and workmanship, general requirements, capacity, weighbeam, platform, measuring rod, finish, marking, instructions, and performance requirements; methods of inspection, sampling, and tests; and packing and marking for shipment.

U. S. Gov., Federal Specification AAA-S-86; 1945. Scales, Person-Weighing; Low, Clinical-Type. Covers one type, one class, and one grade. Covers material and workmanship, capacity, minimum graduations, indicating elements, dimensions, housing, weight, platform, portability, finish, marking, identification of balancing means, instructions, and performance requirements; inspection, sampling, acceptance tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification AAA-S-115; 1946. Scales, Weighing; Beam, Bench- or Counter-Types. Covers four types—(I) conventional platform type, (II) union type (combination platform and scoop), (III) flush-platform type (weighbeam below level of platform), and (IV) equal-arm scoop type. Gives requirements for material and workmanship, design and construction, marking, instructions, performance requirements, tolerances for weights, and details for each type; inspection, sampling, and acceptance tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification AAA-S-118; 1946. Scales, Weighing; Beam, Portable-Platform, Floor-Types. Covers three types—(I) conventional type, (II) monitor type, and (III) folding type. Gives requirements for material and workmanship, marking, instructions, performance requirements, SR requirement, tolerances for counterpoise weights, and details for each type; inspection, sampling, and acceptance tests; and packing and marking for shipment.

U. S. Gov., Federal Specification AAA-S-133; 1946. Scales, Weighing; Suspended-Types. Covers four types—(I) meat beams, (II) weighmasters' beams,

(III) crane beam scales, and (IV) straight-face spring scales; and two classes—(1) light duty and (2) heavy duty. Gives requirements for material and workmanship and details for each type and class; inspection, sampling, and acceptance tests; and packing and marking for shipment.

U. S. Gov., U. S. Maritime Commission Specification 18-MC-12; 1945. Steelyards. Covers one type, grade, and size. Gives requirements for materials, workmanship, design and construction, capacity, scale tolerances; sensibility reciprocal, beam, pivots, bearing-loops and bearing surfaces, poises, pawl, finish, identification, and instructions; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

793.6 LIQUID MEASURING DEVICES

U. S. Gov., Army Air Forces Specification 27480B-4; 1945. Meter; Fuel Flow Type B-3A, Remote Indicating—Autosyn, Aircraft, 26 Volts, 400 Cycles.

U. S. Gov., Army Air Forces Specification 27550A, 1945. Meter; Fuel Flow, Type A-7 (Remote Indicating—Autosyn) (Aircraft—26 Volts, 400 Cycles).

U. S. Gov., Army Air Forces Specification 27551A-1, 1945. Meter; Dual Fuel Flow, Type B-4 (Remote Indicating—Autosyn) (Aircraft—26 Volts, 400 Cycles).

U. S. Gov., Army Air Forces Specification 27650; 1945. Meter; Fuel Flow, Type D-1 (Remote Indicating, Volumetric Solenoid).

U. S. Gov., Joint Army-Navy Specification JAN-M-205; 1945. Meters; Fuel-Oil (Shipboard Use).

U. S. Gov., Navy Dept. Specification 41R8a, 1945. Rules, Oil-Sounding, Jointed.

793.9 MISCELLANEOUS MEASURING AND RECORDING APPARATUS

U. S. Gov., Army Air Forces Specification 40930; 1945. Kit; Aircraft Electric Weighing, Type V-2.

U. S. Gov., Army Air Forces Specification 40951; 1945. Rings; Proving.

U. S. Gov., Dept. of Commerce. Circular of the National Bureau of Standards, C446; 1943. Dead-Weight Machines of 111,000- and 10,100-Pound Capacities. To provide means for calibrating elastic calibration devices which are used to calibrate force-indicating testing machines. Gives introduction, description of 111,000-pound-capacity machine, description of 10,100-pound-capacity machine, accuracy of machines, use of machines, and conclusions.

U. S. Gov., Navy Dept. Specification 18M7a; 1946. Meters, Moisture, Lumber (for Determination of Moisture Content).

794. LUBRICATING DEVICES

U. S. Gov., Army-Navy Aeronautical Specification AN-F-38-1; 1946. Fittings; Pressure-Grip Lubricator.

U. S. Gov., Navy Dept. Specification 45C7c; 1946. Cups, Grease.

U. S. Gov., Treasury Dept., Procurement Div., 768; 1946. Guns, Lubricating; Bulk Type. Covers two types—(I) air operated and (II) electrically operated; two classes—(A) high pressure and (B) low pressure; and three sizes—(1) 25 lb. container, (2) 100 lb. container, and (3) 400 lb. container.

Gives requirements for material, purpose, finish, identification, instruction manual, and details for each type, class, and size; methods of inspection, sampling, and tests; and packaging, packing, and marking for shipment.

795. MECHANICAL GOVERNORS

Associated Factory Mutual Fire Insurance Companies. Pamphlet 16; 1929. Steam Pump Governors and Auxiliary Pumps. Covers general rules, governor construction, the governor, auxiliary pumps, and installation of governors and auxiliary pumps.

National Electrical Manufacturers Assn. Speed Governing and Pressure Control of Steam-Turbine Generator Units (500 to 7500 Kilowatts, Inclusive), 46-112; 1946. To recommend functional and performance characteristics relating to speed governing and pressure control of steam turbines which are intended to drive synchronous or direct-current generators. Gives terms and definitions, standard equipment, and performance.

796. WATER PURIFICATION UNIT

U. S. Gov., Army Air Forces Specification 40897; 1945. Kit; Sea Water Distillation, Type LL-1.

U. S. Gov., Army Air Forces Specification 40957A-1; 1946. Kit; Sea Water Distillation, Type LL-2.

U. S. Gov., Joint Army-Navy Specification JAN-D-165; 1944. Distillation Units, Skid- or Trailer-Mounted, Thermocompression Type, 1,200 Gallons Per Day.

U. S. Gov., U. S. Army, Corps of Engineers Specification 87-9; 1944. Hypochlorination Unit, Automatic, Portable, 2- to 100-GPM Flow.

U. S. Gov., U. S. Army, Corps of Engineers Specification 87-18; 1945. Water Quality Control Set, No. 1, Field Use.

797. SAFETY APPLIANCES, DEVICES, AND EQUIPMENT

797.0 GENERAL ITEMS

American Standards Assn., Z53.1-1945. Safety Color Code for Marking Physical Hazards and the Identification of Certain Equipment (American War Standard). Defines the application of colors to specific purposes in connection with accident prevention and recommends the colors to be used for such purposes as the marking of physical hazards, the location of safety equipment, and the identification of fire and other protective equipment. Gives color identification and lists uses of various colors and items to be marked by each color.

National Conservation Bureau. Creating Safer Communities, 101; 1938. This booklet made possible through cooperation between the National Americanism Commission of The American Legion and the National Conservation Bureau. Gives data, illustrations, and photos covering our traffic problem, traffic legislation, education, talking slide films, posters, engineering, and enforcement.

National Conservation Bureau. Safety Education in the Elementary School, 113; 1926. A technique for developing subject matter. Built up in an analytic way a course of study to fit the actual needs of a particular community. A program of education which

utilizes all the techniques of instruction provided by our modern educational theory so that the child from his first day of entrance is made conscious of his personal responsibility for safety, not only for himself, but for others.

National Conservation Bureau. Safety and Health in Organized Camps, 115; 1931. The subject of safety is of vital importance and interest to camp people. Covers introduction, plan of study, extension of the study, safety conditions in camps, health conditions in camps, general summary of problems and remedial measures, and state supervision of safety and health in camps.

National Conservation Bureau. Hazards in Our Home Sweet Home, 156A. Covers falls, fire and explosions, electric shock, poisons, firearms and fireworks, and first aid rules.

National Conservation Bureau. Traffic Engineering Handbook, 220; 1941. Published jointly with Institute of Traffic Engineers. Not to serve as a textbook on traffic engineering. Its purpose is to collate in one volume basic traffic engineering data as a guide to best practice in those portions of the field in which well-accepted principles have been established. Thus, the book does not include lengthy discussions of theory but concentrates on known facts and accepted standards.

Underwriters' Laboratories, Inc., 1946. Lists of Inspected Appliances Relating to Accident Hazard, Automotive Equipment, and Burglary Protection. This catalog contains three lists that have been inspected by the Underwriters'. The lists are—appliances inspected for accident hazard, inspected automotive appliances, and inspected burglary protection appliances. The listings are arranged alphabetically as to subject and alphabetically by name of manufacturer under each subject.

Underwriters' Laboratories, Inc., 1945. List of Inspected Gas, Oil, and Miscellaneous Appliances. This catalog lists gas, oil, and miscellaneous appliances that have been inspected by the Underwriters'. Section I—includes devices, materials, and systems which have been examined with reference to fire hazards and such accident hazards as are involved in the class under which they are listed. Section II—includes products classified as to fire hazard only. There is an index and the items are arranged alphabetically in each section as to the subject and alphabetically by name of manufacturer under each subject.

797.1 PROTECTIVE CLOTHING

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS129-46; 1946. Materials for Safety Wearing Apparel. To provide protection to the wearer of safety wearing apparel through the establishment of standard minimum quality requirements and methods of test for the material used in the manufacture of such apparel. Gives material specifications, methods of test, and labeling for asbestos fabrics, flame-resistant cotton fabrics, leather, woolen fabrics, and accessory materials. Initiated by the Industrial Safety Equipment Assn.

U. S. Gov., Navy Dept. Specification 37C11; 1945.
Clothing, Protective (Parka and Trousers) (for Use
in Chemical Warfare Attack).
U. S. Gov., Navy Dept. Specification 37H4d; 1946.
Helmets, and Shields (Hand-Held), Welders.

797.2 LIFE PRESERVERS

U. S. Gov., Army Air Forces Specification 3240A; 1945.
Preserver; Pneumatic Life Vest, Type B-5.
U. S. Gov., Army Air Forces Specification 26605; 1945.
Bladder; Neoprene (Synthetic Rubber).
U. S. Gov., Joint Army-Navy Specification JAN-F-241-1;
1946. Floats, Life, Balsawood.
U. S. Gov., Marine Corps Specification, 1945. Bladder,
Flotation.

U. S. Gov., Navy Dept. Specification 23P13a, 1945.
Preservers, Life, Vest-Type, Self-Inflating.
U. S. Gov., Navy Dept. Specification 51848; 1945.
Shark-Chasers (Life-Jacket).

797.3 DRIVER TESTING DEVICES

National Conservation Bureau. Driver Testing Devices
for Use in Driver Education and Training, 158A;
1943. Published jointly with Center for Safety Ed-
ucation, Division of General Education, New York
University. Covers field of vision test, depth pre-
cision test, reaction time test, glare test, and
hand steadiness test.

800-899

CHEMICALS AND ALLIED PRODUCTS

800-809

COAL-TAR PRODUCTS

800.0 GENERAL ITEMS

American Society for Testing Materials, D849-45T; 1945. Tentative Method of Test for Copper Corrosion of Industrial Aromatic Hydrocarbons. Intended for use in detecting the presence of certain corrosive substances. Gives apparatus, procedure, and interpretation of results.

American Society for Testing Materials, D850-45T; 1945. Tentative Method of Test for Distillation of Industrial Aromatic Hydrocarbons. Intended for use in the distillation of industrial aromatic hydrocarbons of relatively narrow boiling ranges between 30 C. and 250 C. Gives apparatus, sample, assembly of apparatus, procedure, and temperature corrections.

American Society for Testing Materials, D851-45T; 1945. Tentative Method of Test for Paraffins in Industrial Aromatic Hydrocarbons. Intended for the determination of paraffins in industrial aromatic hydrocarbons. Gives apparatus, reagent, procedure, and calculation and report.

American Society for Testing Materials, D853-45T; 1945. Tentative Methods of Test for Specific Gravity, Color, and Hydrogen Sulfide and Sulfur Dioxide Content (Qualitative) of Industrial Aromatic Hydrocarbons. Gives scope; procedure for determining specific gravity and color; and reagents and procedure for determining hydrogen sulfide and sulfur dioxide.

Manufacturing Chemists' Assn. of the U. S. Manual Sheet SD-4. Chemical Safety Data Sheet. Phenol. Adopted 1946. Essential information for safe handling and use. Includes name, properties, usual shipping containers, unloading and emptying, storage, handling, waste disposal, and health hazards and their control.

801. CRUDE COAL-TAR PRODUCTS

801.0 GENERAL ITEMS

American Society for Testing Materials, D847-45T; 1945. Tentative Method of Test for Acidity of Benzene, Toluene, Xylenes, and Similar Industrial Aromatic Hydrocarbons. Intended for the detection of acidity and for the quantitative determination of acidity. Gives definitions, apparatus, reagents, precautions, procedure, and interpretation of results and calculation.

American Society for Testing Materials, D848-45T; 1945. Tentative Method of Test for Acid Wash Color of Benzene, Toluene, Xylenes, and Similar Industrial Aromatic Hydrocarbons. Intended for the determination of the acid wash color. Gives definition, apparatus, reagents, cleaning of bottles, preparation of reference color standards, procedure, interpretation of results, and reproducibility.

801.1 BENZENE (BENZOL)

American Society for Testing Materials, D361-36; 1936. Standard Specifications for Industrial 90 Benzene for Use in Paint, Varnish, Lacquer, and Related Products. Gives scope, specific gravity, color, distillation range, nonvolatile matter, odor, water, acidity, sulfur, corrosion, and methods of testing.

American Society for Testing Materials, D835-45T; 1945. Tentative Specifications for Nitration Grade Benzene. Gives scope, specific gravity, color, total distillation range, solidifying point, acid wash color, acidity, sulfur compounds, copper corrosion, and methods of testing.

American Society for Testing Materials, D836-45T; 1945. Tentative Specifications for Industrial Grade Benzene. Gives scope, specific gravity, color, total distillation range, acid wash color, sulfur compounds, copper corrosion, and methods of testing.

American Society for Testing Materials, D837-45T; 1945. Tentative Specifications for Industrial 90 Benzene. Gives scope, specific gravity, color, distillation range, acid wash color, acidity, sulfur compounds, copper corrosion, and methods of testing.

American Society for Testing Materials, D852-45T; 1945. Tentative Method of Test for Solidifying Point of Benzene. Gives scope, apparatus, preparation of apparatus, procedure, report, and reproducibility.

Manufacturing Chemists' Assn. of the U. S. Manual Sheet SD-2. Chemical Safety Data Sheet—Benzene. Adopted 1946. Includes name, properties, usual shipping containers, unloading and emptying, storage, handling, waste disposal, and first aid.

U. S. Gov., Navy Dept. Specification 51B3e, 1945. Benzol.

801.2 TOLUENE

American Society for Testing Materials, D362-36; 1936. Standard Specifications for Industrial Grade Toluene for Use in Paint, Varnish, Lacquer, and Related Products. Gives scope, specific gravity, color, distillation range, nonvolatile matter, odor, water, acidity, sulfur, corrosion, and methods of testing.

American Society for Testing Materials, D841-45T; 1945. Tentative Specifications for Nitration Grade Toluene. Gives scope, specific gravity, color, total distillation range, paraffins, acid wash color, acidity, sulfur compounds, copper corrosion, and methods of testing.

American Society for Testing Materials, D842-45T; 1945. Tentative Specifications for Industrial

Grade Toluene. Gives scope, specific gravity, color, total distillation range, acid wash color, acidity, sulfur compounds, copper corrosion, and methods of testing.

U. S. Gov., Joint Army-Navy Specification JAN-T-171-1; 1945. Toluene.

801.3 CREOSOTE AND WOOD PRESERVATIVES

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Membrane Waterproofing. Gives requirements for creosote primer.

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Specifications for Preservatives. Gives creosote—grade one, specifications for creosote-coal tar solutions, specification for creosote-petroleum solution, specification for petroleum for blending with creosote, zinc chloride, and methods of test.

801.8 XYLENE (XYLOL)

American Society for Testing Materials, D364-36; 1936. Standard Specifications for Industrial Grade Xylene or Solvent Naphtha for Use in Paint, Varnish, Lacquer, and Related Products. Gives scope, specific gravity, color, distillation range, non-volatile matter, odor, water acidity, sulfur, corrosion, and methods of testing.

American Society for Testing Materials, D843-45T; 1945. Tentative Specifications for Nitration Grade Xylene. Gives scope, specific gravity, color, distillation range, paraffins, acid wash color, acidity, sulfur compounds, copper corrosion, and methods of testing.

American Society for Testing Materials, D844-45T; 1945. Tentative Specifications for Industrial Grade Xylene. Gives scope, specific gravity, color, distillation range, acid wash color, acidity, sulfur compounds, copper corrosion, and methods of testing.

American Society for Testing Materials, D845-45T; 1945. Tentative Specifications for Five-Degree Xylene. Gives scope, specific gravity, color, distillation range, acid wash color, acidity, sulfur compounds, copper corrosion, and methods of testing.

American Society for Testing Materials, D846-45T; 1945. Tentative Specifications for Ten-Degree Xylene. Gives scope, specific gravity, color,

distillation range, acid wash color, acidity, sulfur compounds, copper corrosion, and methods of testing.

U. S. Gov., Army-Navy Aeronautical Specification AN-R-X-876-3; 1946. Xylene.

U. S. Gov., Navy Dept. Specification 52X1; 1945. Xylene (Xylol).

802. INTERMEDIATE COOL-TAR PRODUCTS

802.1 ACIDS

U. S. Gov., Joint Army-Navy Specification JAN-P-200; 1945. Phenol.

802.3 DIPHENYLAMINE FOR SMOKELESS POWDER

U. S. Gov., Joint Army-Navy Specification JAN-D-98; 1944. Diphenylamine.

803. FINISHED COOL-TAR PRODUCTS

803.1 COOL-TAR COLORS, DYES, AND STAINS

803.10 General Items

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Tabulation of American Dyes. Classified alphabetically and according to colour index numbers. Covers collection of data, colour index numbers, classification, manufacturers, and foreign prototypes.

803.12 Color Lakes

U. S. Gov., Navy Dept. Specification 52P8c; 1946. Part-Lake, Carriage.

803.3 EXPLOSIVES

803.31 Picric Acid

U. S. Gov., Joint Army-Navy Specification JAN-A-187; 1945. Acid; Picric (Trinitrophenol).

803.32 Trinitrotoluol

U. S. Gov., Joint Army-Navy Specification JAN-T-234; 1945. Trinitrotoluene (TNT); Block.

U. S. Gov., Joint Army-Navy Specification JAN-T-248; 1945. Trinitrotoluene (TNT).

803.33 Ammonium Picrate

U. S. Gov., Joint Army-Navy Specification JAN-A-166A; 1945. Ammonium Picrate (Explosive "D").

803.35 Dinitrotoluene

U. S. Gov., Joint Army-Navy Specification JAN-D-204; 1945. Dinitrotoluene. For Use in Explosives.

810-819 MEDICINAL AND PHARMACEUTICAL PREPARATIONS

810. GENERAL ITEMS

U. S. Gov., Federal Security Agency, Food and Drug Administration. Title 21, Part 141; 1945. Tests and Methods of Assay. Penicillin. Gives sodium penicillin and calcium penicillin potency, sterility, pyrogens, toxicity, moisture, and penicillin X; penicillin in oil and wax, penicillin ointment; tablets buffered penicillin, capsules penicillin in oil, penicillin with aluminum hydroxide gel, penicillin troches, and penicillin dental cones.

U. S. Gov., Federal Security Agency, Food and Drug Administration. Title 21, Part 146; 1945. Certification of Batches of Penicillin-Containing Drugs. Gives definitions and interpretations; requests for working standard and certification, information and samples required; certification; conditions on the effectiveness of certificates; records of distribution; authority to refuse certification service; new penicillin products; fees; exemptions for storage; exemptions for processing; exemptions for

labeling and repacking; exemptions for manufacturing use; exemptions for investigational use; sodium penicillin, calcium penicillin; penicillin in oil and wax; penicillin ointment; tablets buffered penicillin; capsules penicillin in oil; penicillin with aluminum hydroxide gel; penicillin troches; and penicillin dental cones.

U. S. Gov., Federal Specification U-M-186; 1944. Amend. 1; 1945. Medicinal Products and Clinical Laboratory Reagents; General Specification for Containers (Packaging and Packing). Gives requirements for types and classes, grades and sizes, material, workmanship, labeling, compatibility of container, and details for glass, metal, fiber, paper, plastic, and wood containers; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

Technical Assn. of the Pulp and Paper Industry. Preparation of Liquid Analytical Reagents, Standard T 606 m-45; 1945. Liquid reagents shall be of C.P. analytical quality, water shall be distilled, and all solutions shall be filtered unless perfectly clear or otherwise required. Covers a reference list of chemicals for laboratories engaged in paper analysis.

814. IODINE AND ARSENIC

814.1 IODINE

U. S. Gov., Joint Army-Navy Specification JAN-T-283; 1945. Tablets, Water-Purification, Individual, Iodine.

814.2 ARSENIC

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 4-503-45A; 1944. Arsenic Trichloride (Technical).

820-829 ACIDS (EXCEPT COAL-TAR) AND ANHYDRIDES, ALCOHOL, ETC.

821. ACIDS AND ANHYDRIDES

821.4 HYDROFLUORIC ACID

U. S. Gov., Navy Dept. Specification 51A12a; 1946. Acid, Hydrofluoric, Technical.

821.5 NITRIC ACID

Manufacturing Chemists' Assn. of the U. S. Manual Sheet SD-5. Chemical Safety Data Sheet—Nitric Acid. Adopted 1946. Includes name, properties, usual shipping containers, unloading and emptying, storage, handling, waste disposal, and health hazards and their control.

U. S. Gov., Joint Army-Navy Specification JAN-A-183-1; 1945. Acid, Nitric (for Ordnance Use).

821.7 SULPHURIC AND SULPHUROUS ACID

Technical Assn. of the Pulp and Paper Industry. Analysis of Sulphuric Acid, Standard T 602 m-45; 1945. Covers apparatus, sediment, gravity, sulphuric acid, and iron.

U. S. Gov., Federal Specification O-A-115; 1945. Amendment 1; 1945. Acid Sulfuric; Technical-Grade. Covers two classes—(A) 66° Bé (93.19 percent) and (B) 60° Bé (77.67 percent); and two grades—(1) for

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 4-503-50A; 1944. Arsenic Trioxide.

815. ANESTHETICS

815.1 ETHER

U. S. Gov., Joint Army-Navy Specification JAN-E-199; 1945. Ether, Diethyl.

U. S. Gov., U. S. Army, Medical Dept. Specification 4-1054A, 1945. Ether, for Anesthesia.

818. LIQUID MEDICAL PREPARATIONS

818.4 SOLUTIONS

818.43 Hydroxide Solutions

U. S. Gov., U. S. Army, Signal Corps Specification 4-1136; 1946. Calcium Hydride Charges ML-304/TM, ML-304A/TM, ML-305/TM, and ML-305A/TM.

819. MISCELLANEOUS MEDICINAL AND PHARMACEUTICAL PREPARATIONS

819.5 VITAMINS

U. S. Gov., U. S. Army, Medical Dept. Specification 4-1132; 1945. Vitamins, Multivitamin Tablets, Capsules, and Pills.

819.8 PILLS AND TABLETS

819.89 Miscellaneous Pills and Tablets

U. S. Gov., U. S. Army, Medical Corps Specification 4-1129; 1945. Benzedrine Sulfate Tablets.

819.9 DRUGS AND MEDICINALS NOT ELSEWHERE CLASSIFIED

U. S. Gov., Joint Army-Navy Specification JAN-T-283; 1945. Tablets, Water-Purification, Individual, Iodine.

galvanizing and plating and (2) for general use. Gives requirements for H_2SO_4 percent by weight, specific gravity at 60° F., insoluble matter by weight, and arsenic; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Joint Army-Navy Specification JAN-A-179; 1945. Acid, Sulfuric, and Oleum.

U. S. Gov., Navy Dept. Specification 51A2g, 1945. Acid, Sulphuric (for Storage-Battery Electrolyte).

821.9 MISCELLANEOUS ACIDS AND ANHYDRIDES

U. S. Gov., Joint Army-Navy Specification JAN-A-264; 1945. Acid, Phosphoric, Technical.

U. S. Gov., Joint Army-Navy Specification JAN-A-271; 1945. Acid, Stearic.

U. S. Gov., Treasury Dept., Procurement Div., 711a; 1945. Acid, Chromic, Technical Grade. Covers one type and one grade in the form of reddish brown crystals or flakes. Intended for use in the surface treatment of metals and in electroplating. Gives requirements for chromium oxide content, sulfate content, chloride content, water-insoluble residue, and particle size; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 714; 1945. Acid, Stearic; Technical Grade. Covers one type and one grade in the form of either cake or flakes intended for general use. Gives requirements for titer, color, iodine value, undecomposed fat and unsaponifiable matter, ether insoluble material, and free mineral acid; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 4-503-15A; 1944. Acid, Monochloroacetic.

822. ALCOHOLS

822.2 BUTYL ALCOHOL

American Society for Testing Materials, D304-45; 1945. Butanol (Normal Butyl Alcohol). Gives properties including specific gravity, color, distillation range, nonvolatile matter, odor, water, and acidity; and methods of testing.

822.3 ETHYL ALCOHOL, DENATURED

U. S. Gov., Army-Navy Aeronautical Specification AN-A-18-1; 1945. Alcohol; Specially Denatured Ethyl.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-24; 1945. Alcohol Mixture (50% Ethyl—50% Methyl).

822.5 METHYL OR WOOD ALCOHOL (METHANOL)

U. S. Gov., Army-Navy Aeronautical Specification AN-A-24; 1945. Alcohol Mixture (50% Ethyl—50% Methyl).

U. S. Gov., Army-Navy Aeronautical Specification AN-M-32-2; 1945. Methanol; Synthetic.

U. S. Gov., Navy Dept. Specification 51M7; 1946. Methanol.

822.9 MISCELLANEOUS ALCOHOLS

U. S. Gov., Army-Navy Aeronautical Specification AN-E-2b-1; 1945. Ethylene Glycol; Non-Corrosive (Anti-Freeze and Cooling Liquid for Aircraft Engines).

U. S. Gov., Joint Army-Navy Specification JAN-A-265; 1945. Alcohol, Polyvinyl, Granular.

824. ALDEHYDES

Manufacturing Chemists' Assn. of the U. S. Manual Sheet SD-1. Chemical Safety Data Sheet Formaldehyde. Adopted 1946. Includes name, properties, usual shipping containers, unloading and emptying, storage, handling, waste disposal, and first aid.

Technical Assn. of the Pulp and Paper Industry. Analysis of Formaldehyde, Standard T 600 m-45; 1945. To determine the formaldehyde content of aqueous solutions, for use as glue preservative, and to render glue and casein insoluble. Covers reagents and procedure. This is the official method of the Assn. of Official Agricultural Chemists and is essentially the same as the U.S.P. method.

830-839

CHEMICAL COMPOUNDS

(Except Medicinals, Acids, Alcohols, and Coal-Tar Products)

830. GENERAL ITEMS

American Assn. of Textile Chemists and Colorists. 1945 Year Book. Textile Chemical Specialties. Gives an index of textile chemical specialties; and an alphabetical list of textile chemical specialties showing manufacturers, name of chemical, use, and chemical nature.

Manufacturing Chemists' Assn. of the U. S. Manual L-2. Product Caution Labels, Adopted and Revised, 1945. This manual contains product caution labels suggested for use on a selected group of chemical products. Shows illustrated labels of approximately seventy suggested labels for dangerous chemicals. It is anticipated that the manual will be supplemented from time to time.

Manufacturing Chemists' Assn. of the U. S. Manual L-1. A Guide for the Preparation of Warning Labels for Hazardous Chemicals, Adopted 1945. The development of new chemical products and the introduction of chemical processes into ever-widening fields has accentuated the need for furnishing appropriate information in those cases where special precautions are necessary. Includes general principles, preparation of precautionary labels, definitions, classification of hazards, recommended label cautions, labels for experimental samples, and specimen product labels.

831. AMMONIUM AND AMMONIUM COMPOUNDS

831.1 ANHYDROUS AND AQUEOUS AMMONIA

Air Conditioning and Refrigerating Machinery Assn., Inc. Properties of Commonly-Used Refrigerants, 1946. Ammonia (Anhydrous Ammonia). Gives chemical formula, boiling point at atmospheric pressure, solidifying temperature, color, odor and detection, flammable limits, toxicity, and tables showing saturated ammonia temperature, saturated ammonia absolute pressure, saturated ammonia gage pressure, properties of liquid ammonia, ammonia—properties of superheated vapor, and Mollier chart of properties of ammonia as prepared by the National Bureau of Standards.

U. S. Gov., Joint Army-Navy Specification JAN-A-182; 1945. Ammonia, Anhydrous, Synthetic (for Use in Explosives).

U. S. Gov., U. S. Army, Medical Dept. Specification 4-1076B, 1945. Ammonia, Aromatic (Inhalants).

831.4 CHLORIDE, AMMONIUM

U. S. Gov., Federal Specification O-A-491a; 1945. Amendment 1; 1945. Ammonium-Chloride (Sal Ammoniac); Technical Grade. Covers two grades—(A) white and (B) galvanizing. Gives requirements for volatile matter, chlorides, residue on ignition, free

acid, heavy metals, and particle size; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

831.5 NITRATE, AMMONIUM

U. S. Gov., Joint Army-Navy Specification JAN-A-175; 1945. Ammonium Nitrate.

831.9 MISCELLANEOUS AMMONIUM COMPOUNDS

U. S. Gov., Joint Army-Navy Specification JAN-A-192; 1945. Ammonium Perchlorate.

832. POTASSIUM AND POTASSIUM COMPOUNDS

832.4 POTASH SALTS

U. S. Gov., Joint Army-Navy Specification JAN-P-150-1; 1945. Potassium Chlorate (for Use in Ammunition).

U. S. Gov., Joint Army-Navy Specification JAN-P-156; 1944. Potassium Nitrate.

U. S. Gov., Joint Army-Navy Specification JAN-P-193; 1945. Potassium Sulfate (for Ordnance Use).

832.9 MISCELLANEOUS POTASSIUM COMPOUNDS

U. S. Gov., Joint Army-Navy Specification JAN-P-217; 1945. Potassium Perchlorate.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-300A, 1945. Powders; Fixing Bath Hardener (for Photographic Use).

U. S. Gov., U. S. Army, Signal Corps Specification 75-11-A; 1941. Potassium Bromide.

833. CALCIUM AND CALCIUM COMPOUNDS, INCLUDING LIME

833.2 CALCIUM CHLORIDE

U. S. Gov., Federal Specification O-C-108a; 1944. Amend. 2; 1945. Calcium-Chloride; Hydrated, Technical Grade. Covers one type and one grade in flake form. Gives requirements for calcium-chloride content, impurities, and particle sizes; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept. Procurement Div., 470A; 1946. Charges, Antifreeze, Fire Extinguisher (2 1/2 Gallon, Pump-Tank or Gas-Expelled-Liquid Types). Shall be furnished in one type and grade composed essentially of technical grade hydrated calcium chloride, with added corrosion inhibitor, in flake or granular form. Gives requirements for particle size and chemical composition; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

833.3 CALCIUM CARBONATE

U. S. Gov., Joint Army-Navy Specification JAN-C-293; 1946. Calcium Carbonate (for Use in Other Than Paint Products).

833.4 CALCIUM PHOSPHIDE AND CALCIUM PHOSPHATE

U. S. Gov., Navy Dept. Specification 51C2e. 1945. Calcium Phosphide.

833.9 MISCELLANEOUS CALCIUM COMPOUNDS

Technical Assn. of the Pulp and Paper Industry. Analysis of Bisulphite Cooking Liquor, Standard T 604 m-45; 1945. A volumetric analysis is usually sufficient for control tests in the mill. Covers volumetric control analysis giving preparation of sample, total SO_2 , and free SO_2 ; and complete gravimetric analysis giving silica, iron oxide and alumina, calcium oxide, magnesium oxide, alternative method for calcium and magnesium oxides, sulphur trioxide, total SO_2 , and calculations.

U. S. Gov., Joint Army-Navy Specification JAN-C-263; 1945. Calcium Stearate.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-89B; 1944. Calcium Resinate.

834. SODIUM AND SODIUM COMPOUNDS

834.4 SODIUM CARBONATE, SODA ASH

U. S. Gov., Federal Specification O-S-571b; 1945. Soda-Ash. Covers four types—(I) ordinary or light ash, (II) extra-light ash, (III) medium ash, and (IV) dense or heavy ash. Gives requirements for material, chemical composition, and volume and apparent density; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Corps of Engineers Specification 4-1119; 1944. Soda-Ash, Briquets.

834.6 SODIUM SILICATE (WATER GLASS)

U. S. Gov., Navy Dept. Specification 51S29a; 1946. Sodium-Silicate-Solution, 33.5° Baumé.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 4-1035B; 1945. Sodium Silicate (Water Glass).

834.8 CAUSTIC SODA OR LYE

U. S. Gov., U. S. Army, Signal Corps Specification 4-1128-A; 1946. Caustic Soda, Packaged and Caustic Soda Charge ML-388/UM.

834.9 MISCELLANEOUS SODIUM COMPOUNDS

American Society for Testing Materials, D595-45; 1945. Standard Specifications for Tetrasodium Pyrophosphate (Anhydrous). A mildly alkaline material with water softening properties for washing, cleaning, and scouring processes with soap or other detergents. Gives tetrasodium pyrophosphate, chemical composition, basis of purchase, rejection, and methods of sampling and analysis.

U. S. Gov., Federal Specification O-C-426; 1945. Cleaner; Toilet-Bowl (Sodium-Bisulfate). Covers one grade in crystalline or granular form. Gives requirements for sulfuric acid equivalent and particle size; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Army Air Forces Specification 40616B; 1945. Packet; Fluorescein Dye Sea Marker.

U. S. Gov., Joint Army-Navy Specification JAN-S-210; 1945. Sodium Oxalate (Technical Grade).

U. S. Gov., Joint Army-Navy Specification JAN-R-390; 1946. Rodenticide, Sodium Monofluoroacetate.

U. S. Gov., Navy Dept. Specification 51C37a; 1946. Compound, Soot-Remover.

- U. S. Gov., Navy Dept. Specification 51D20; 1945. Dye, Fluorescein, Sea-Marker (Canister Type).
- U. S. Gov., Treasury Dept., Procurement Div., 713; 1944. Sodium Acetate; Anhydrous (for Photographic Purposes). Covers one type and one grade in powder form. An anhydrous (desiccated) material intended for photographic purposes. Gives requirements for volatile matter, sodium acetate content, neutrality, heavy metals, iron, solubility, and substances reducing permanganate; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Army Air Forces Specification 75-286-A; 1945. Sodium Thiosulphate (Photographic Hypo).
- U. S. Gov., U. S. Army, Army Air Forces Specification 75-300A, 1945. Powders; Fixing Bath Hardener (for Photographic Use).
- U. S. Gov., U. S. Army, Chemical Warfare Service Specification 4-503-336B; 1944. Sodium Acetate, Anhydrous.

835. BARIUM COMPOUNDS

835.5 BARIUM NITRATE

- U. S. Gov., Joint Army-Navy Specification JAN-B-162-1; 1945. Barium Nitrate.

835.9 MISCELLANEOUS BARIUM COMPOUNDS

- U. S. Gov., Joint Army-Navy Specification JAN-B-153; 1944. Barium Peroxide.

837. CHROMIUM AND MOLYBDENUM COMPOUNDS

837.0 GENERAL ITEMS

- American Society for Testing Materials, E66-34T; 1934. Tentative Method for Sampling Molybdenum Salts and Compounds for Metallurgical Use. Gives scope, sampling small bags, sampling barrels or large bags, and correcting sample to dry net weight.

838. ALUMINUM COMPOUNDS

838.5 ALUMINUM CHLORIDE

- U. S. Gov., U. S. Army, Chemical Warfare Service Specification 4-503-20B; 1944. Aluminum Chloride, Anhydrous.

838.6 ALUMINUM OXIDE

- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-95; 1945. Sand, Lithographic Graining, Aluminum-Oxide.

838.9 MISCELLANEOUS ALUMINUM COMPOUNDS

- U. S. Gov., Navy Dept. Specification 52A12a; 1946. Aluminum-Stearate.

839. CHEMICALS AND CHEMICAL COMPOUNDS NOT ELSEWHERE CLASSIFIED

839.0 GENERAL ITEMS

- American Standards Assn., Z37.19-1946. Allowable Concentration of Trichloroethylene. The purpose of

the standard is to prescribe the maximum permissible concentration of trichloroethylene in the atmosphere of work places for guidance in establishing control procedures for the protection of the health of workers. Covers properties of trichloroethylene, permissible concentration, and sampling procedure and analytical methods.

839.1 ACETONE

- U. S. Gov., Federal Specification O-A-51b; 1946. Acetone. Covers one type and one grade. Gives requirements for appearance, distillation range, specific gravity, nonvolatile matter, acidity, alkalinity, permanganate, and aldehydes; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

839.3 COMPOUNDS, MIXTURES, AND SALTS OF METALS

839.31 Antimony Compounds and Salts

- U. S. Gov., Joint Army-Navy Specification JAN-A-159-1; 1945. Antimony Sulfide.

839.33 Copper Compounds and Salts

- U. S. Gov., Federal Specification O-C-828; 1945. Cupric-Sulfate; Technical-Grade, Crystals. Covers one type and one grade of blue crystalline pentahydrate of cupric sulfate. Gives requirements for cupric sulfate content, insoluble matter, iron compounds, and particle size; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

839.34 Iron Compounds and Salts

- U. S. Gov., Joint Army-Navy Specification JAN-F-279; 1945. Ferrous Sulfide.

839.35 Lead Compounds and Salts

- U. S. Gov., Joint Army-Navy Specification JAN-L-65; 1944. Lead Thiocyanate (Sulphocyanate).
- U. S. Gov., Navy Dept. Specification 51L8; 1946. Lead-Stearate.
- U. S. Gov., Navy Dept. Specification 52L16; 1946. Lead-Acetate (Sugar of Lead).

839.36 Mercury Compounds and Salts

- U. S. Gov., Joint Army-Navy Specification JAN-M-201; 1945. Mercurous Chloride (Calomel) (for Ordnance Use).

839.38 Zinc Compounds and Salts

- Toilet Goods Assn., Inc. Specification 16; 1945. Zinc-Stearate. Gives requirements for color, odor, solubility, identity, screen test, apparent density, moisture, alkalis or alkaline earths, separated fatty acid solidification temperature, iodine number of separated fatty acids, assay, arsenic, lead, total ash, total ash-assay, and lead in zinc and magnesium stearates.
- U. S. Gov., Navy Dept. Specification 51C37a; 1946. Compound, Soot-Remover.

839.39 Miscellaneous Compounds, Mixtures, and Salts of Metals

Toilet Goods Assn., Inc. Specification 15; 1945. Magnesium Carbonate. Gives requirements for color, solubility, apparent density, screen test, identity, assay, soluble salts, calcium oxide, heavy metals, iron, arsenic, copper, lead, iron in magnesium carbonate, and copper in magnesium carbonate.

Toilet Goods Assn., Inc. Specification 17; 1945. Magnesium Stearate. Gives requirements for color, odor, solubility, identity, screen test, apparent density, moisture, separated fatty acid solidification temperature, iodine number of separated fatty acids, assay, arsenic, lead, total ash, and total ash-assay.

U. S. Gov., Navy Dept. Specification 51D11a, 1945. Dichlorodifluoromethane (F-12).

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 4-503-260C; 1944. Magnesium Oxide, Light (Technical).

839.4 GASES AND TOXIC DUSTS**839.40 General Items**

Natural Gasoline Association of America. Standard Method for Determining the Specific Gravity of Gases, 1930. Includes foreword, apparatus, test procedure, notes, precautions to be taken for the test, calculation of results, and assumptions of test results.

839.41 Carbon Dioxide

U. S. Gov., Army Air Forces Specification 14069B, 1945. Carbon Dioxide, Liquid.

U. S. Gov., Navy Dept. Specification 51C54; 1945. Carbon-Dioxide, Solidified (Dry Ice).

839.43 Oxygen

U. S. Gov., Army-Navy Aeronautical Specification AN-O-1b-2; 1946. Oxygen; Aviators' Breathing (Gas).

U. S. Gov., U. S. Army, Corps of Engineers Specification 4-1130; 1945. Oxygen (Commercial).

839.45 Nitrous Oxide

U. S. Gov., Army Air Forces Specification 14145; 1945. Nitrogen; Gas, Dry.

839.49 Miscellaneous Gases and Toxic Dusts

Technical Assn. of the Pulp and Paper Industry. Analysis of Sulphur-Burner Gas, Standard T 603 m-45; 1945. Determined by means of the Orsat apparatus. Covers apparatus, sulphur dioxide, and sulphur trioxide.

839.9 MISCELLANEOUS SPECIFICATIONS FOR CHEMICALS AND CHEMICAL COMPOUNDS

Air Conditioning and Refrigerating Machinery Assn., Inc. Properties of Commonly-Used Refrigerants, 1946. "Freon-11" (Trichloromonofluoromethane). Gives chemical formula, boiling point at atmospheric pressure, solidifying temperature, color, odor and detection, flammable limits, toxicity, and

tables showing properties of saturated vapor, properties of superheated vapor, and Mollier chart. Air Conditioning and Refrigerating Machinery Assn., Inc. Properties of Commonly-Used Refrigerants, 1946. "Freon-12" (Dichlorodifluoromethane). Gives chemical formula, boiling point at atmospheric pressure, solidifying temperature, color, odor and detection, flammable limits, toxicity, and tables showing properties of saturated vapor, properties of superheated vapor, and Mollier chart.

Air Conditioning and Refrigerating Machinery Assn., Inc. Properties of Commonly-Used Refrigerants, 1946. "Freon-22" (Monochlorodifluoromethane). Gives chemical formula, boiling point at atmospheric pressure, solidifying temperature, color, odor and detection, flammable limits, toxicity, and tables showing properties of liquid and saturated vapor, properties of superheated vapor, and Mollier chart.

Air Conditioning and Refrigerating Machinery Assn., Inc. Properties of Commonly-Used Refrigerants, 1946. Methyl Chloride. Gives chemical formula, boiling point at atmospheric pressure, solidifying temperature, color, odor and detection, flammable limits, toxicity, and tables showing properties of saturated vapor, properties of superheated vapor, properties of superheated vapor at 65° F., and Mollier chart. American Society of Refrigerating Engineers. Circular 12; 1931. Thermodynamic Properties of Dichlorodifluoromethane (F-12). Includes outline of methods of calculation, consistency, accuracy, checks, acknowledgements, and tables showing properties of saturated vapor and properties of superheated vapor.

U. S. Gov., Army Air Forces Specification 14147; 1945. Chemical; Shark Deterrent.

U. S. Gov., Army Air Forces Specification 20038-2; 1945. Compound; Carbon Removal (for Engine Parts).

U. S. Gov., Army Air Forces Specification 40828A; 1945. Packet; Shark Deterrent.

U. S. Gov., Army-Navy Aeronautical Specification AN-E-14; 1945. Ethylene Glycol Monoethyl Ether Acetate.

U. S. Gov., Army-Navy Aeronautical Specification AN-F-42; 1945. Fluid; Hydrocarbon Standard Test.

U. S. Gov., Army-Navy Aeronautical Specification AN-M-37; 1946. Methylene Chloride.

U. S. Gov., Federal Specification O-T-236; 1945. Tetrachlorethylene (Perchloroethylene); Technical Grade. Covers one grade. Gives requirements for appearance, color, odor, specific gravity, non-volatile matter, spot test, hydrogen ion concentration, water content, distillation range, copper corrosion, free chlorine, and flash point; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Joint Army-Navy Specification JAN-D-56A-2; 1945. Dichlorodiphenyl Trichloroethane (DDT).

U. S. Gov., Joint Army-Navy Specification JAN-D-169; 1945. Desiccants (Activated).

U. S. Gov., Joint Army-Navy Specification JAN-P-211; 1945. Phosphorus, Red.

U. S. Gov., Joint Army-Navy Specification JAN-P-215; 1945. Phosphorus, White.

U. S. Gov., Joint Army-Navy Specification JAN-T-247; 1945. Tetrachlorethane (Acetylene Tetrachloride).
 U. S. Gov., Navy Dept. Specification 51C15a; 1946. Compound, Cyanide.
 U. S. Gov., Navy Dept. Specification 51C65; 1945. Compound, Carbon-Removing.
 U. S. Gov., Navy Dept. Specification 51-I-14a; 1946. Insecticide-Ingredient; Solvent for DDT.
 U. S. Gov., Navy Dept. Specification 51P14a, 1945. Pyridine.
 U. S. Gov., Navy Dept. Specification 51S48; 1945. Shark-Chasers (Life-Jacket).
 U. S. Gov., Treasury Dept., Procurement Div., 730a; 1945. Diaminophenol Hydrochloride (1) (for Photographic Purposes). Covers one type and one grade of grayish white needles or crystals intended for photographic purposes. Gives requirements for loss on heating, residue on ignition, total chlorides,

solubility in water, color with potassium carbonate, darkening with sulfuric acid, heavy metals, and iron; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 738; 1945. Iodizer (for Wet Plate Photography). Covers one type and one grade of a clear liquid intended for use in wet plate photography. Gives requirements for material, ripening test, and performance test; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
 U. S. Gov., U. S. Army, Corps of Engineers Specification 42-98; 1946. Transparentizer Solution.
 U. S. Gov., U. S. Army, Corps of Engineers Specification 45-2; 1944. Rhodium Electroplating Solution.
 U. S. Gov., U. S. Army, Ordnance Dept. Specification 4-1120; 1944. Solvent, Carbon Removing.

840-849 PAINTS, VARNISHES, LACQUERS, AND RELATED PRODUCTS

840. GENERAL ITEMS RELATING TO PAINTS AND PAINTING

840.1 PAINTS AND PAINTING

American Assn. of State Highway Officials. Standard Specifications for Highway Bridges, 1944. Division II, Section 14—Painting Metal Structures. Gives general information and requirements for paint, number of coats and color, mixing of paint, weather conditions, application, removal of paint, thinning paint, painting galvanized surfaces, cleaning of surfaces, shop painting, and field painting.

Assn. of American Railroads, Operations and Maintenance Dept., Engineering Div., Signal Section. Manual of Recommended Practice. Specification 120-44; 1945. Paint and Painting. For the purpose of providing paint and its application on signal and interlocking apparatus in the shop and field. Gives tender, alternates, material and workmanship, general, composition, volatile thinner, oil, drier, pigment, color, factory and field mixing, shop cleaning, shop application, removable protective coating, field cleaning, field application, machine, steel and iron work, woodwork, wires and cables, inspection, tests, packing, marking, and warranty.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2505; 1945. Aluminum Paint Finishing. For parts which do not exceed an operating temperature of 350° F. Gives process, preparation, priming, aluminum paint finishing, and approved materials.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R144-45; 1945. Paints, Varnishes, and Related Products (Colors and Containers). This recommendation establishes a schedule for limiting the variety of colors and eliminating superfluous sizes of containers. Applies to colors of paints and sizes of containers for trade sales purposes, and does not apply to products for industrial use. It lists various items of oil paints, enamels, varnishes, and related products and gives recommended number of colors and size of container. Initiated by National Paint, Varnish and Lacquer Assn.

U. S. Gov., U. S. Army, Army Air Forces Specification 3-100-J; 1945. Protective Coatings and Finishes for Aircraft and Aircraft Parts, General Specification for.

U. S. Gov., U. S. Army, Corps of Engineers Specification 3-192; 1945. Finishing, Treating, and Painting for Engineer Equipment.

840.2 SAFETY CODES FOR HANDLING AND STORAGE OF PAINTS AND VARNISHES

National Board of Fire Underwriters. Paint Spraying and Spray Booths, No. 33; 1946. These standards refer to the application of paint, varnishes, lacquers, and similar flammable finishes by spraying. Gives introduction, location, spraying enclosures, booths, blower and exhaust systems, electric equipment, containers, mixing rooms and circulating pipe systems, protection, maintenance, hydrogen peroxide spraying, and electrostatic apparatus.

840.4 PAINT COLORS

U. S. Gov., Federal Specification TT-P-381; 1944. Amend. 1; 1945. Pigments-in-Oil; Paint-Colors. Covers one type and colors in blacks, blues, browns, greens, oranges, reds, and yellows. Gives requirements for color, character of tint, tinting strength, pigment content, coarse particles and skins, properties of vehicle, consistency, and skinning; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

840.5 TESTS OF PAINTS AND VARNISHES

American Society for Testing Materials, D 185-45; 1945. American Standards Assn., K42.1-1945. Standard Methods of Test for Coarse Particles in Pigments, Pastes, and Paints. Covers apparatus and procedures for insoluble dry pigments, except metallic aluminum and bronze powders, procedure for metallic aluminum and bronze powders, procedure for carbon black in pellet form, procedure for water-soluble pigments, pastes in oil, pastes in Japan, and mixed paints, procedure for ship-bottom paints containing resins and alcohol, and procedure for cellulose ester lacquers.

American Society for Testing Materials, D809-45T; 1945. Tentative Method of Preparation of Steel Panels for Testing Paint, Varnish, Lacquer, and Related Products. Gives scope, test panels, and preparation of test panels.

American Society for Testing Materials, D714-45; 1945. Standard Method for Evaluating the Degree of Resistance to Blistering of Coatings of Paint, Varnish, Lacquer, and Related Products on Metal When Subjected to Immersion or Other Tests Involving Exposure to Moisture or Liquids. The photographic reference standards included in this method are representative of different sizes of blisters that may develop on paint systems on iron, steel, or other metal surfaces when subjected to immersion tests. Covers types of blistering and use of photographic reference standards.

American Society for Testing Materials, D715-45; 1945. Standard Methods of Analysis of Barium Sulfate Pigments. These methods cover the procedures for the chemical analysis of barium sulfate pigments. Includes procedure for barium sulfate, ferric oxide, hydrogen ion concentration, matter soluble in water, moisture and other volatile matter, coarse particles, and free silica.

American Society for Testing Materials, D716-45; 1945. Standard Methods of Analysis of Mica Pigment. These methods cover the procedures for the chemical analysis of mica pigments. Includes procedure for apparent density, moisture and other volatile matter, grit, coarse particles, and color.

American Society for Testing Materials, D717-45; 1945. Standard Methods of Analysis of Magnesium Silicate Pigment. These methods cover the procedures for the chemical analysis of magnesium silicate pigment. Includes procedure for silicon dioxide, magnesium oxide, loss on ignition, moisture and other volatile matter, coarse particles, and color.

American Society for Testing Materials, D718-45; 1945. Standard Methods of Analysis of Aluminum Silicate Pigment. These methods cover the procedures for the chemical analysis of aluminum silicate pigment. Includes procedure for silicon dioxide, aluminum oxide, loss on ignition, moisture and other volatile matter, coarse particles, and color.

American Society for Testing Materials, D719-45; 1945. Standard Methods of Analysis of Diatomaceous Silica Pigment. These methods cover the procedures for the chemical analysis of diatomaceous silica pigment. Includes procedure for loss on ignition, matter soluble in hydrochloric acid, moisture and other volatile matter, volume of settling in petroleum spirits, coarse particles, and color.

American Society for Testing Materials, D821-45T; 1945. Tentative Method of Evaluating Degree of Resistance of Traffic Paint to Abrasion, Erosion, or a Combination of Both, in Road Service Tests. Gives scope, definition, type of failure, use of photographic reference standards, and figures.

American Society for Testing Materials, D822-45T; 1945. Tentative Recommended Practice for Operating Light and Water Exposure Apparatus (Carbon-Arc Type) for Testing Paint, Varnish, Lacquer, and

Related Products. To establish means for uniform operation of accelerated or artificial weathering apparatus. Gives apparatus and procedure.

American Society for Testing Materials, D823-45T; 1945. Tentative Methods for Producing Films of Uniform Thickness of Paint, Varnish, Lacquer, and Related Products on Test Panels. Covers three procedures—(A) automatic spraying machine, (B) automatic dip-coater, and (C) automatic doctor blade applicator. Gives outline of method, apparatus, procedure, and report for procedures A, B, and C.

U. S. Gov., Army-Navy Aeronautical Specification AN-TT-C-516-5; 1946. Coatings; Protective Organic (for Aircraft); General Specifications (Methods for Sampling and Testing).

U. S. Gov., Federal Specification TT-P-141a; 1944. Amend. 2; 1945. Paint, Varnish, Lacquer, and Related Materials; General Specification for Inspection, Sampling, and Testing. Covers inspection, sampling, preparation of test panels and application of films, package stability tests, physical tests of materials, chemical tests of materials, properties of coated panels, and analytical tests of ingredients.

840.6 PAINTING AND PROTECTIVE COATING EQUIPMENT

U. S. Gov., Army Air Forces Specification 50127G, 1945. Gun, Oil Spray.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-7A; 1945. Sprayer, Paint, Pneumatic Pressure Type, Trailer Mounted.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-9A; 1944. Sprayer, Paint (for Air Compressor Unit).

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-10B; 1944. Sprayer, Paint, Pneumatic, Portable, with Compressor, Gasoline Engine Driven, Wheelbarrow Type.

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-16; 1944. Agitator, Paint, Pneumatic, for Attachment to 55-Gallon Drum.

U. S. Gov., U. S. Army, Corps of Engineers Specification 42-91; 1945. Sprayer, Paint, Pneumatic, Portable, with Compressor; Motor Driven, 1/4 HP, 110 Volts, 60-Cycle, 1-Phase.

841. MINERAL PIGMENTS, DRY AND PASTE

841.8 WHITING OR PARIS WHITE

U. S. Gov., Navy Dept. Specification 52C28; 1945. Calcium-Carbonate, Precipitated (Pigment).

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-28 (Tentative) 1943. Pigment; Calcium Carbonate. Covers one grade and two types—(A) natural and (B) precipitated. Gives requirements for form, coarse particles, consistency of standard enamel, increase in consistency, gloss, and composition; inspection, sampling, and methods of test; and packaging and marking.

U. S. Gov., U. S. Maritime Commission Specification 52-MC-524; 1945. Pigment-Extender; Calcium Carbonate. Covers one type and one grade of a finely ground, dry pigment for use in ready-mixed paint.

Gives requirements for composition, physical properties, and color; inspection, sampling, and methods of test; and packaging and marking.

842. CHEMICAL PIGMENTS (DRY AND PASTE)

842.1 BLANC FIXE AND TITANIUM OXIDE (PIGMENTS)

Technical Assn. of the Pulp and Paper Industry. Determination of Titanium Dioxide, Standard T 627 m-45; 1945. Deals with the determination of titanium dioxide in raw materials such as pigments, fillers, and minerals, as well as in various stages of mill process. Covers volumetric method including apparatus, reagents, preparation of sample, and procedure; and colorimetric method including reagents, procedure, interfering elements, and report.

U. S. Gov., Federal Specification TT-T-425; 1944. Amend. 2; 1945. Titanium-Dioxide; Dry (Paint-Pigment). Covers one grade of soft, dry powder in three types—(I) free chalking (anatase); (II) semichalking in two classes—(A) antimony-aluminum-treated (anatase) and (B) aluminum-treated (rutile); and (III) chalk-resisting (rutile) in three classes—(A) zinc treated, (B) silicon-aluminum-treated, and (C) silicon-aluminum-zinc-treated. Gives requirements for composition, coarse particles, specific gravity, oil absorption, color, water solubility, tinting strength, hydrogen ion concentration, moisture, and chalk resistance; methods of sampling, inspection, and tests; and and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Maritime Commission Specification 52-MC-521; 1945. Pigment; Titanium-Calcium, Rutile. Covers one type and one grade of dry pigment. Gives requirements for coarse particles, chemical composition, specific gravity, hiding power, composition, color, and tinting strength; inspection, sampling, and methods of test; and packaging and marking.

842.2 CHINESE, PRUSSIAN, OR BRONZE BLUE PIGMENTS

U. S. Gov., Federal Specification TT-I-677; 1944. Amend. 1; 1945. Iron-Blue; Dry (Paint-Pigment) (formerly designated "Prussian Blue"). Covers one grade of iron blue (also called Chinese, Prussian, Milori, etc.) in one type only, a fine dry powder. Gives requirements for moisture and other volatile matter, total matter soluble in water, character of tint when diluted with zinc oxide, tint, and oil absorption; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

842.4 CARBON BLACK, LAMPBLACK, BONE BLACK, ETC.

U. S. Gov., Federal Specification TT-C-120; 1944. Amend. 1; 1946. Carbon-Black; Dry (Paint-Pigment). Covers two forms—(I) powder and (II) pellets (dustless), and two classes—(A) high color and (B) standard all-purpose. Gives requirements for ash, acetone extract, coarse particles, moisture, organic dyes, mass color and character of tint, and oil absorption; methods of sampling, inspection,

and tests; and packaging, packing, and marking for shipment.

842.5 CHROMIUM COLORS (PIGMENTS) (GREEN, YELLOW)

U. S. Gov., Army-Navy Aeronautical Specification AN-C-149; 1945. Chrome-Green; Dry.

U. S. Gov., Federal Specification TT-C-235; 1944. Amend. 1; 1945. Chromé-Green; Pure, Dry (Paint-Pigment). Covers the grade of pure chrome green (blend of chrome yellow and iron blue) for use in paints and shall be supplied in one type only, a fine dry powder. Gives requirements for lead chromate, coarse particles, total matter soluble in water, moisture and other volatile matter, tint, and oil absorption; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

842.6 LEAD PIGMENTS

842.64 White-Lead Pigments

U. S. Gov., Federal Specification TT-W-251b; 1945 and Amend. 1; 1945. White-Lead; Basic-Carbonate, Dry, Paste-in-Oil, and Semipaste Containing Volatile Thinner. Covers three types—(A) dry pigment, (B) paste in oil, and (C) semipaste containing volatile thinner. Gives requirements for composition and color of each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

842.69 Miscellaneous Lead Pigments

U. S. Gov., Navy Dept. Specification 52L15; 1945. Linoleate, Lead.

842.7 ZINC OXIDES AND ZINC SULPHIDES (PIGMENTS)

American Society for Testing Materials, D477-45; 1945. Zinc Sulfide Pigments. Covers zinc sulfide, zinc sulfide-barium pigment, zinc sulfide-magnesium pigment, lithopone, and titanated lithopone. Gives composition and properties, number of tests, and methods of testing.

U. S. Gov., Federal Specification TT-Z-291; 1946. Zinc-Dust (Metallic-Zinc-Powder); Dry (Paint Pigment). Covers one grade of a completely homogeneous dry powder in two types—(I) regular and (II) special. Gives detail requirements for regular zinc dust and special zinc dust; methods of sampling and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Maritime Commission Specification 52-MC-520; 1945. Pigment; Zinc Oxide, Acicular. Covers one type and grade of dry pigment. Gives requirements for composition, coarse particles, oil absorption, microscopic appearance, and color; inspection, sampling, and methods of test; and packaging and marking.

842.8 MISCELLANEOUS PIGMENTS, DRY AND PASTE, CLASSIFIED BY COLOR

842.82 Blue Pigments

U. S. Gov., Army-Navy Aeronautical Specification AN-C-153; 1945. Copper Phthalocyanine Blue; Dry Pigment.

U. S. Gov., Federal Specification TT-C-610; 1944. Amend. 1; 1945. Copper-Phthalocyanine-Blue; Dry (Paint Pigment). Covers one grade of a dry powdered pigment in two types—(I) toner type and (II) resinated or benzoated type. Gives requirements for material, composition, specific gravity, water solubility, oil absorption, color, light-fastness, and tests for identity; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

842.86 Red Pigments

U. S. Gov., Federal Specification TT-T-562; 1944. Amend. 1; 1945. Toluidine-Red-Toner; Dry (Paint Pigment). Covers one grade and type of a soft, dry powder. Gives requirements for coarse particles, ash, moisture and other volatile matter, paranitraniline red, solubility in chloroform, color, and tinting strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

842.9 MINERAL AND CHEMICAL PIGMENTS, DRY AND PASTE, NOT ELSEWHERE CLASSIFIED

U. S. Gov., Navy Dept. Specification 52A1g; 1946. Aluminum-Pigment (Paste Form).

U. S. Gov., Navy Dept. Specification 52C4c, 1945. Cuprous-Oxide.

U. S. Gov., Navy Dept. Specification 52C37a; 1946. Copper-Pigment (for Use in Antifouling Paint).

U. S. Gov., Navy Dept. Specification 52M2b, 1945. Magnesium-Silicate (Flatting Extender Pigment).

U. S. Gov., Navy Dept. Specification 52M3a; 1946. Mica (Extender Pigment).

U. S. Gov., Navy Dept. Specification 52S9; 1946. Silica, Diatomaceous (Flatting-Extender Pigment).

U. S. Gov., Navy Dept. Specification 52V19; 1945. Vermiculite, Expanded (Pigment).

U. S. Gov., U. S. Maritime Commission Specification 52-MC-522; 1945. Pigment; Diatomaceous Silica. Covers one grade and two types—(I) natural uncalcined material and (II) white calcined material. Gives requirements for form, microscopic appearance, and table showing details; inspection, sampling, and methods of test; and packaging and marking.

U. S. Gov., U. S. Maritime Commission Specification 52-MC-523; 1945. Pigment; Magnesium Silicate. Covers one grade of dry pigment in two types—(I) low oil absorption and (II) high oil absorption. Gives physical and chemical requirements, color, oil absorption, and flattening properties of type II; inspection, sampling, and methods of test; and packaging and marking.

843. MIXED PAINTS, ENAMELS, ENAMEL PAINT, AND JAPAN

843.1 FLAT FINISH PAINT

U. S. Gov., Federal Specification TT-P-47; 1943. Amend. 1; 1945. Paint; Oil, Interior, One-Coat-Flat, Heavy-Bodied (for Thinning), Light Tints and White (Combined Sealer, Primer, and Finish). Shall be furnished in one grade and one type only. Gives

material and workmanship, pigment, liquid, composition, color, speed of setting up and drying, specular gloss, flexibility, appearance, resistance to tint variation, dry opacity, scrubbing resistance, priming and sealing properties, and absorption; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification TT-P-51a; 1937. Amend. 2; 1945. Paints; Oil, Interior, Eggshell-Flat-Finish, Ready-Mixed, Light Tints and White. Covers one grade and type. Gives requirements for pigment, liquid, ready-mixed paint, consistency, color and color retention, wet hiding power, brushing, flowing, spreading and leveling properties, speed of setting, gloss, flexibility, appearance of painted surface, washability, spreading rate, and composition; methods of sampling and testing; and packaging, packing, and marking.

843.3 ENAMELS AND ENAMEL PAINTS

843.31 Black and Gray Enamel

U. S. Gov., Army-Navy Aeronautical Specification AN-TT-E-501-3; 1945. Enamel; Heat-Resisting, Glyceryl-Phthalate, Black.

U. S. Gov., Federal Specification TT-E-496; 1941. Amend. 2; 1945. Enamel; Heat-Resisting (400° F.), Black. Covers two types—(I) bituminous-base (unpigmented) and (II) resin-base (pigmented). Gives material, general requirements, consistency, nonvolatile matter, drying properties, color, finish, heat test, flexibility, flashpoint, hot water resistance, and gasoline resistance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 52E4; 1945. Enamel, Gray.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-26 (Tentative) 1942. Enamel; Light Gray, Interior (Oleoresinous), Gloss. Covers one grade and two types—(I) non-toxic and (II) toxic. Gives requirements for materials, workmanship, color, composition, kettle bodied linseed oil, fineness of grind, coarse particles and skins, odor, flash point, moisture, skinning, working properties, drying properties, after-tack, appearance after drying, recoating, gloss, dry opacity, compatibility, and package stability; inspection, sampling, and methods of test; and packaging and marking.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-27 (Tentative) 1943. Enamel; Dark Gray, Interior (Oleoresinous), Gloss. Covers one grade and two types—(I) non-toxic and (II) toxic. Gives requirements for materials, workmanship, color, composition, tinting, kettle bodied linseed oil, fineness of grind, weight per gallon, non-volatile, viscosity, coarse particles and skins, odor, flash point, moisture, skinning, working properties, drying properties, after-tack, appearance after drying, recoating, gloss, dry opacity, compatibility, and package stability; inspection, sampling, and methods of test; and packaging and marking.

843.33 Cream Enamel

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-25 (Tentative) 1943, amended 1944. Enamel; Cream, Interior (Oleoresinous), Gloss. Covers one grade and two types—(I) non-toxic and (II) toxic. Gives requirements for materials, workmanship, color, composition, kettle bodied linseed oil, fineness of grind, weight per gallon, non-volatile, viscosity, coarse particles and skins, odor, flash point, moisture, skinning, working properties, drying properties, after-tack, appearance after drying, recoating, gloss, dry opacity, compatibility, and package stability; inspection, sampling, and methods of test; and packaging and marking.

843.34 Green Enamel

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-102; 1946. Enamel; Striping, Green (Alkyd). Covers one type and grade. Gives requirements for raw materials, workmanship, color, composition, fineness of grind, weight per gallon, nonvolatile, viscosity, coarse particles and skins, odor, flash point, water, skinning, working properties, drying properties, recoating, gloss, wet hiding power, compatability, and package stability; inspection, sampling, and methods of test; and packaging and marking.

843.35 Olive-Drab Enamel

U. S. Gov., Marine Corps Specification, revised 1945. Enamel, Synthetic, Lustreless.

U. S. Gov., Marine Corps Specification, 1945. Enamel, Synthetic, Olive Green, Gloss.

843.36 Red and Maroon Enamels

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-104; 1946. Enamel; Striping, Red (Alkyd). Covers one type and grade. Gives requirements for raw materials, workmanship, color, composition, fineness of grind, weight per gallon, nonvolatile, viscosity, coarse particles and skins, odor, flash point, water, skinning, working properties, drying properties, recoating, gloss, wet hiding power, compatability, and package stability; inspection, sampling, and methods of test; and packaging and marking.

843.37 White Enamels

U. S. Gov., Federal Specification TT-E-508; 1946. Enamel; Interior, Semigloss, Tints and White. Covers one type and the color to be as specified. Gives requirements for pigment, vehicle, quantitative requirements, and qualitative requirements; methods of sampling and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-106; 1946. Enamels; White and Tints, Exterior (Semi-Gloss) Alkyd. Covers one grade and two types—(I) white and (II) tints. Gives requirements for raw materials, workmanship, color, composition, tinting, fineness of grind, weight per gallon, nonvolatile, viscosity, coarse particles and skins, odor, flash point, water, skinning, working properties, drying properties, recoating,

gloss, wet hiding powers, compatability, and package stability; inspection, sampling, and methods of test; and packaging and marking.

843.38 Yellow Enamels

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-101; 1946. Enamel; Striping, Yellow (Alkyd). Covers one type and grade. Gives requirements for raw materials, workmanship, color, composition, fineness of grind, weight per gallon, nonvolatile, viscosity, coarse particles and skins, odor, flash point, water, skinning, working properties, drying properties, recoating, gloss, wet hiding power, compatability, and package stability; inspection, sampling, and methods of test; and packaging and marking.

843.39 Miscellaneous Enamels and Enamel Paints

U. S. Gov., Army-Navy Aeronautical Specification AN-E-3-5; 1945. Enamel; Aircraft, Gloss.

U. S. Gov., Army-Navy Aeronautical Specification AN-E-13; 1945. Enamel; Lustreless Synthetic (for Ground Equipment).

U. S. Gov., Federal Specification TT-E-485a; 1945. Enamel; Drum-Coating, Exterior, Rust-Inhibiting, Solvent-Resistant. Covers one grade and one type of combination air; drying and baking enamel for metal, suitable for brush or spray application. Gives requirements for material, toxicity, color, composition, package stability, consistency, brushing properties, spraying properties, appearance, coarse particles, odor, drying time, gloss, hiding power, flexibility, adhesion, immersion resistance, recoating, salt spray resistance, accelerated weathering, and outdoor exposure; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification TT-E-491; 1946. Enamel; Gloss, Synthetic (for Metal and Wood Hospital Furniture). Covers one type, color to be specified, and two classes—(A) air-drying and (B) baking. Gives requirements for volatile matter, nonvolatile vehicle, pigment, quantitative requirements, and qualitative requirements; methods of sampling and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Marine Corps Specification, revised 1945. Enamel, Synthetic, Lustreless.

U. S. Gov., U. S. Army, Corps of Engineers Specification 3-187; 1944. Enamel, Glyceryl Pthalate, Special (for Coating Pipe Line Equipment).

U. S. Gov., U. S. Army, Corps of Engineers Specification 3-194; 1944. Enamel, Phenolic, Lustreless, Outside.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-67F; 1944. Enamel; Lustreless, Quick-Drying.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-188; 1944. Enamel; Wrinkle, Baking.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-191; 1944. Enamel; Baking Phenol- or Urea-Formaldehyde.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 3-177; 1943. Enamel, Gloss, for Wood (Cleansing Compound Resistant).

U. S. Gov., U. S. Army, Quartermaster Corps Specification 3-178; 1943. Enamel, Gloss, for Metal (Cleansing Compound Resistant).

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-24 (Tentative) 1943. Enamel; Buff, Interior (Oleoresinous), Gloss. Covers one grade and two types—(I) non-toxic and (II) toxic. Gives requirements for materials, workmanship, color, composition, kettle bodied linseed oil, fineness of grind, weight per gallon, non-volatile, viscosity, coarse particles and skins, odor, flash point, moisture, skinning, working properties, drying properties, after-tack, appearance after drying, recoating, gloss, dry opacity, compatibility, and package stability; inspection, sampling, and methods of test; and packaging and marking.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-103; 1946. Enamel; Striping, Blue (Alkyd). Covers one type and grade. Gives requirements for raw materials, workmanship, color, composition, fineness of grind, weight per gallon, nonvolatile, viscosity, coarse particles and skins, odor, flash point, water, skinning, working properties, drying properties, recoating, gloss, wet hiding power, compatibility, and package stability; inspection, sampling, and methods of test; and packaging and marking.

843.6 LEAD PAINTS, MIXED

843.62 White-Lead Paints

U. S. Gov., Federal Specification TT-P-40; 1943. Amend. 2; 1945. Paint; Oil, Exterior, Ready-Mixed, Light-Tints, and White. Covers two types—(I) mixed-pigment base (class A—white, general-purpose, B—white, special fume-proof (lead-free), and C—tint-base and (II) white-lead base. Gives requirements for tints, pigment, ingredients, extenders, vehicle, apparent daylight reflectance, drying properties, consistency, working properties and surface appearance, resistance to sulfide fumes; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

843.7 GRAPHITE PAINTS

U. S. Gov., Federal Specification TT-P-27; 1938. Amend. 2; 1945. Paint; Graphite, Outside, Ready-Mixed, Black. Covers a ready-mixed, linseed oil, black graphite paint intended for outside use on either wood or metal; and two types—(I) only natural crystalline flake graphite permitted and (II) may be either amorphous graphite, crystalline graphite, mined or manufactured, or a mixture thereof. Gives requirements for pigments, liquid, and details for ready-mixed paint; methods of sampling and testing; and packaging, packing, and marking for shipment.

843.8 IRON OXIDE PAINTS

U. S. Gov., Federal Specification TT-P-31a; 1941. Amend. 2; 1945. Paint; Iron-Oxide, Ready-Mixed, Red and Brown. Covers one grade and type of ready-mixed linseed oil-iron-oxide paint. Gives requirements for pigment, vehicle, and ready-mixed paint; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

844. MIXED PAINTS AND PROTECTIVE COMPOUNDS NOT ELSEWHERE CLASSIFIED

844.1 ANTIFOULING AND METAL-PROTECTING PAINTS AND COMPOUNDS

American Gear Manufacturers Assn. Standard 254.02; 1945. Data Sheet—Rust Preventives. Covers scope, preparation of surface for coating, inside preparation of gear cases, coating compounds for interior of cases, machined surfaces, coating compounds for external use, and rust removal from machined and non-machined surfaces.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 2574A, 1946. Preservation of Engines (Limited Period). Provides a procedure for preparing reciprocating aircraft engines to resist corrosion during shipment and limited storage under favorable conditions. Gives requirements for material and equipment, preliminary operation, preparation for storage procedure, recommended procedure for re-preservation, and general.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3065; 1946. Compound, Corrosion—Preventive (Thin Film). Gives use, material, requirements, test procedure, quality, report, identification, approval, and rejection.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-52b-1; 1946. Compound; Exterior-Surface, Hard-Film Corrosion-Preventive.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-53-3; 1946. Compound, Anti-Seize; White Lead Base for Threaded Fittings.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-124-6; 1945. Compound; Soft-Film Corrosion-Preventive.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-142; 1945. Coating; Rust-Inhibiting (for Metal Containers).

U. S. Gov., Army-Navy Aeronautical Specification AN-C-147-1; 1946. Compound; Anti-Seize, Graphite-Petrolatum.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-148-2; 1946. Coating; Permanent Resin (for Internal Engine Parts).

U. S. Gov., Army-Navy Aeronautical Specification AN-VV-C-576b; 1945. Compound; Corrosion-Preventive Aircraft Engine.

U. S. Gov., Joint Army-Navy Specification JAN-C-237; 1945. Coatings; Exterior, Air-Drying, Camouflage and Rust-Inhibiting, for Food Cans.

U. S. Gov., Joint Army-Navy Specification JAN-C-238; 1945. Coating, Exterior, Camouflage and Rust-Inhibiting (for Processed and Nonprocessed Food Cans).

U. S. Gov., Navy Dept. Specification 52C14a; 1946. Compound, Joint-and-Thread, High-Temperature.

U. S. Gov., Navy Dept. Specification 52C17; 1945. Compound, Rust-Preventive, Thick-Film (Pigmented and Nonpigmented).

U. S. Gov., Navy Dept. Specification 52C18c; 1946. Compound, Rust-Preventive, Thin-Film (Polar Type).

U. S. Gov., Navy Dept. Specification 52C19a; 1946. Compound, Antiseize.

U. S. Gov., Navy Dept. Specification 52C24, 1945. Coating, Organic (for Covering Shafts, Struts, and Other Exposed Surfaces).

- U. S. Gov., Navy Dept. Specification 52C41; 1946. Coating, Strippable, Spray-Type.
- U. S. Gov., Navy Dept. Specification 52P19c; 1945. Paint, Heat-Resisting.
- U. S. Gov., Navy Dept. Specification 52P61; 1946. Paint, Antifouling (for Low-Speed, Wood-Bottom Boats) (Formula No. 16X).
- U. S. Gov., Treasury Dept., Procurement Div., 752; 1946. Coating, Protective; Boiler-Interiors. Covers one type and one grade in liquid form. To protect hot wet metal surfaces of boiler interiors exposed to hot water and steam. Gives requirements for consistency, condition in container, drying properties, saponifiable content, and performance when exposed to steam at 300 pounds steam pressure for 7 days; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 3-205; 1945. Protective Coating Materials, Phenolic Resin Base, Air-Drying (for the Interior of Steel Potable-Water Tanks).
- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-13; 1945. Protective Coating Materials; Application to Interior of Steel Potable-Water Tanks.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-119; 1944. Compound, Anti-Seize; Mica-Base (for Threaded Fittings).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-121; 1944. Compound, Rust Preventive, Medium.
- U. S. Gov., U. S. Maritime Commission Specification 52-MC-403; 1945. Paint; Ship-Bottom, Anti-Fouling. Covers one type and one grade. Gives requirements for raw materials, workmanship, color, composition, viscosity, weight per gallon, nonvolatile, fineness of grind, coarse particles and skins, odor, flash point, water content, drying properties, and package stability; inspection, sampling, and methods of test; and packaging and marking.
- U. S. Gov., U. S. Maritime Commission Specification 52-MC-602; 1945. Compounds; Rust-Preventive. Covers four types—(A) light, (B) medium, (C) heavy (pigmented), and (D) firm film. Gives composition, general, corrosiveness, odor, package stability, and details; inspection, sampling, and methods of test; packaging, packing, and marking.

844.2 BUILDING PAINTS NOT ELSEWHERE CLASSIFIED

- U. S. Gov., Federal Specification TT-P-24; 1943. Amend. 3; 1945. Paint; Concrete and Masonry, Exterior, Eggshell-Finish, Ready-Mixed, White and Tints. Covers one grade and two types—(I) white only and (II) tint-base-white. Shall be ready-mixed and be suitable for use as an exterior finish coat on concrete, brick, stucco, and similar surface material (except floors). Gives requirements for pigment, vehicle, color, drying properties, consistency, flexibility, water resistance, working properties and surface appearance, and chalk resistance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

844.3 FIELD-COAT PAINTS

- U. S. Gov., Treasury Dept., Procurement Div., 439b; 1945. Coating-Material, Fatty Acid Pitch Base; (Nonbleeding) Brushing-Consistency (for Foundations, Roofs, Walls, Etc.). Covers one type and one grade composed of suitable inorganic filler, volatile organic solvent, and binder consisting of suitable fatty acid pitch material; intended for use as a dampproofing material in the maintenance of bituminous and metal roofing and for application on walls and foundations. Gives requirements for colors, consistency, nonvolatile matter, inorganic filler and coloring material, heat and cold test, and paint bleeding test; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

844.4 PRIMING PAINTS

- U. S. Gov., Army-Navy Aeronautical Specification AN-TT-P-656b-2; 1945. Primer; Zinc Chromate.
- U. S. Gov., Federal Specification TT-P-56a; 1945. Paint; Primer-Sealer (for) Plaster and Wallboard. Covers one grade and type. Gives requirements for pigment, liquid, quantitative requirements, and qualitative requirements; methods of sampling, inspection, and tests; and requirements for packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification TT-P-636; 1946. Primer, Paint; Synthetic (for Ferrous Metal and Wood Surfaces). Covers one type and grade of combination air-drying and baking oil-modified alkyd varnish-base primer for ferrous metal and wood. Gives requirements for material, color, pigment, vehicle, quantitative requirements, qualitative requirements, and toxicity; methods of sampling and test; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification TT-P-641; 1939. Amend. 2; 1945. Primer, Paint; Zinc Dust-Zinc Oxide (for Galvanized (Zinc-Coated) or Zinc Surfaces). Covers three types—(I) zinc dust-zinc oxide-linseed oil paint, (II) zinc dust-zinc oxide-glyceryl phthalate paint, and (III) zinc dust-zinc oxide-phenolic resin paint; and two classes—(A) ready-to-mix and (B) ready-mixed. Gives requirements for composition, pigment, liquid, and details for each type of paint; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 52P17b, 1945. Primer and Enamel, Asphalt.
- U. S. Gov., Navy Dept. Specification 52P18; 1945. Primer, Zinc-Chromate (Formula No. 84).
- U. S. Gov., Navy Dept. Specification 52P26, 1945. Primer, Metal (Brown).
- U. S. Gov., U. S. Army, Corps of Engineers Specification 3-193; 1944. Primer, Phenolic (Water Immersible).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-171; 1944. Primer, Synthetic, for Ferrous Metals.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-172A; 1944. Primer, Synthetic, Refinishing.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-201; 1945. Primer, Zinc Yellow.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-12 (Tentative) 1942. Primer; Gray Exterior (Wood). Covers one type and grade. Gives requirements for materials, workmanship, color, composition, weight per gallon, nonvolatile, viscosity, coarse particles and skins, odor, flash point, moisture, skinning, working properties, drying properties, after tack, appearance, recoating, gloss, compatibility, package stability, kettle bodied linseed oil, and driers; inspection, sampling, and methods of test; and packaging and marking.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-29 (Tentative) 1943, amended 1945. Primer; Zinc Chromate. Covers one type and grade. Gives requirements for materials and workmanship, tinting, weight per gallon, nonvolatile, viscosity, coarse particles and skins, odor, flash point (closed cup), moisture, skinning, working properties, drying properties, appearance after drying, recoating, gloss, compatibility, and package stability; inspection, sampling, and methods of test; and packaging and marking.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-201; 1948. Primer; Red Lead-Mixed Pigment. Covers one type and grade. Gives requirements for raw materials, workmanship, color, composition, fineness of grind, weight per gallon, nonvolatile, viscosity, coarse particles and skins, odor, flash point, skinning, working properties, drying properties, appearance after drying, recoating, gloss, compatibility, and package stability; inspection, sampling, and methods of test; and packaging and marking.

844.5 STENCIL PAINTS

U. S. Gov., Federal Specification TT-P-98; 1945. Paint; Stencil, Flat. Covers one grade and two types—(I) paint consistency and (II) semipaste consistency. Gives requirements for material, toxicity, color, condition in container, storage stability, nonvolatile matter, nonvolatile vehicle, consistency, brushing properties and appearance, drying time, gloss, dry opacity (hiding power), flexibility, miscibility, and resistance to light and water spray; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 52P77; 1945. Paint, Stencil.

844.6 PAINTS CLASSIFIED BY COLOR ONLY

844.61 Black and Gray Paints

U. S. Gov., Navy Dept. Specification 52P24; 1945. Paint, Tinting, Black (Formula No. 101).

U. S. Gov., Navy Dept. Specification 52P27; 1945. Paint, Deck, Black (Formula No. 24).

U. S. Gov., Navy Dept. Specification 52P29; 1946. Paint, Boot-Topping, Black (for Wooden Vessels) (Formula No. 3).

U. S. Gov., Navy Dept. Specification 52P36; 1945. Paint, Striping, Black (Formula No. 38).

U. S. Gov., Navy Dept. Specification 52P40a; 1946. Paint, Outside, Navy-Gray, No. 7 (Formula No. 5N).

U. S. Gov., Navy Dept. Specification 52P45c; 1946. Paint, Outside, Haze-Gray, No. 27 (Formula No. 5H).

U. S. Gov., Navy Dept. Specification 52P46a; 1946. Paint, Outside, Ocean-Gray, No. 17 (Formula No. 5-O).

U. S. Gov., Navy Dept. Specification 52P52; 1945. Paint, Outside, Light-Gray, No. 37 (Formula No. 5L).

U. S. Gov., Navy Dept. Specification 52P70a; 1946. Paint, Outside, Dull-Black (Formula No. 104).

U. S. Gov., Navy Dept. Specification 52P78; 1945. Paint, Outside, Gray, No. 46.

U. S. Gov., Navy Dept. Specification 52P79a, 1945. Paint, Outside, Gray, No. 11 (Formula No. 109).

U. S. Gov., Navy Dept. Specification 52P82; 1945. Paint, Deck, Interior, Gray (Formula No. 20L).

U. S. Gov., Navy Dept. Specification 52P86; 1946. Paint, Inside, Light-Gray, Fire-Retardant (Formula No. 27L).

U. S. Gov., U. S. Army, Corps of Engineers Specification 3-206; 1945. Paint, Traffic, Runway, Black.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-108F; 1945. Paint, Acid-Proof, Black, for Ammunition.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-13 (Tentative) 1942, amended 1944. Paints; Gray, Low-Visibility (Oleoresinous) Eggshell. Covers one grade and two types—(I) deck gray and (II) hull gray. Covers materials, workmanship, color, composition, tinting, weight per gallon, nonvolatile, viscosity, coarse particles and skins, odor, flash point, moisture, skinning, working properties, drying properties, after tack, appearance after drying, recoating, gloss, compatibility, package stability, kettle bodied linseed oil, and driers; inspection, sampling, and methods of test; and packaging and marking.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-105; 1946. Paint; Hull, Black. Covers one type and grade. Gives requirements for materials, workmanship, color, composition, fineness of grind, weight per gallon, nonvolatile, viscosity, coarse particles and skins, odor, flash point, water, skinning, working properties, drying properties, recoating, gloss, compatibility, and package stability; inspection, sampling, and methods of test; and packaging and marking.

U. S. Gov., U. S. Maritime Commission Specification 52-MC-151; 1945. Paint; Deck, Black, Oil Resisting. Covers one type and grade. Gives requirements for materials, workmanship, color, composition, weight per gallon, nonvolatile, viscosity, fineness of grind, coarse particles and skins, odor, flash point, water, skinning, working properties, drying properties, appearance after drying, recoating, gloss, oil resistance, gasoline resistance, compatibility, and package stability; inspection, sampling, and methods of test; and packaging and marking.

844.62 Blue Paints

U. S. Gov., Navy Dept. Specification 52P39; 1945. Paint, Striping, Blue (Formula No. 43).

- U. S. Gov., Navy Dept. Specification 52P43a, 1945. Paint, Deck, Gray, Outside (Formula No. 20).
 U. S. Gov., Navy Dept. Specification 52P44b; 1946. Paint, Outside, Navy-Blue (Formula No. 5NB).
 U. S. Gov., Navy Dept. Specification 52P49; 1945. Paint, Tinting, Thayer-Blue (Formula No. 5-BTM).

844.63 Brown Paints

- U. S. Gov., Navy Dept. Specification 52P38; 1945. Paint, Striping, Brown (Formula No. 41).
 U. S. Gov., Navy Dept. Specification 52P80; 1945. Paint, Outside, Ocean-Brown (Formula No. 5-OB).

844.65 Green and Olive Paints

- U. S. Gov., Federal Specification TT-P-71a; 1941. Amend. 2; 1945. Paint; Ready-Mixed, Exterior, Chrome-Green. Covers but one grade and type of ready-mixed green trim paint. Gives requirements for pigment, vehicle, ready-mixed paint, and composition; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
 U. S. Gov., Federal Specification TT-P-81a; 1943. Amend. 1; 1945. Paint; Ready-Mixed, Olive-Drab. Covers one grade and one type of linseed-oil olive-drab paint suitable for outside use. Gives requirements for pigment (white lead, zinc oxide, tinting colors and extending pigment, organic colors, and sulfide sulfur), vehicle, and ready-mixed paint (pigment, liquid, water, and coarse particles and skins); methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
 U. S. Gov., Navy Dept. Specification 52P32; 1945. Paint, Hospital-Ship, Green (Formula No. 12).
 U. S. Gov., Navy Dept. Specification 52P33b; 1946. Paint, Inside, Light-Green, Semi-Gloss, Fire-Retardant (Formula No. 31).
 U. S. Gov., Navy Dept. Specification 52P37; 1945. Paint, Striping, Green (Formula No. 39).
 U. S. Gov., Navy Dept. Specification 52P56a, 1945. Paint, Outside, Ocean-Green (Formula No. 5-OG).
 U. S. Gov., Navy Dept. Specification 52P81; 1945. Primer, Paint, Green, Rapid-Drying (Formula No. 106).
 U. S. Gov., Navy Dept. Specification 52P85; 1946. Paint, After-Pickling, Green (Formula No. 84 G).

844.66 Red Paints

- U. S. Gov., Navy Dept. Specification 52P23b; 1946. Paint, Deck, Nonskid, Fire-Retardant, Red.
 U. S. Gov., Navy Dept. Specification 52P31; 1945. Paint, Striping, Red (Formula No. 40).
 U. S. Gov., Navy Dept. Specification 52P84; 1946. Paint, After-Pickling, Red (Formula No. 84R).

844.67 White and Light-Tinted Paints

- U. S. Gov., Federal Specification TT-P-40; 1943. Amend. 2; 1945. Paint; Oil, Exterior, Ready-Mixed, Light-Tints, and White. Covers two types—(I) Mixed-pigment base (class A—white, general-purpose, B—white, special fume-proof (lead-free), and C—tint-base) and (II) white-lead base. Gives requirements for tints, pigment, ingredients, extenders, vehicle, apparent daylight reflectance, drying properties, consistency, working properties

and surface appearance, resistance to sulfide fumes; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification TT-P-88a; 1945. Paint; Resin-Base Emulsion, Interior, Paste, White and Tints. Covers one grade and type, for use, when thinned with water, as decorative coating on interior walls and ceilings. Gives requirements for material and workmanship, composition, properties of ready-mixed paste, brushing, spraying, flowing, spreading, recoating, apparent reflectance for white, color and appearance of tints, solids, cleansing, chalking, washability, dry opacity, wet opacity, yellowing of the white paint, flexibility, resistance to tint variation (tinted paint only), and stability under the brush; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
 U. S. Gov., Navy Dept. Specification 52P22a; 1946. Paint, Inside, White, Semi-Gloss, Fire-Retardant (Formula No. 27).
 U. S. Gov., Navy Dept. Specification 52P25; 1945. Paint, Outside, Untinted-Base (Formula No. 5U).
 U. S. Gov., Navy Dept. Specification 52P28; 1945. Paint, Outside, White (Formula No. 6).
 U. S. Gov., Navy Dept. Specification 52P48; 1945. Paint, Deck, White (Formula No. 20U).
 U. S. Gov., Navy Dept. Specification 52P73a; 1946. Paint, White, Silk-Screen.

844.68 Yellow, Cream, and Straw Paints

- U. S. Gov., Navy Dept. Specification 52P30; 1945. Paint, Striping, Yellow (Formula No. 42).

844.69 Miscellaneous Paints Classified by Color

- U. S. Gov., Federal Specification TT-P-59; 1937. Amend. 2; 1945. Paint; Ready-Mixed, International-Orange. Covers one class and one type of ready-mixed chrome orange linseed oil paint. Gives requirements for color, pigment, vehicle, and details for ready-mixed paint; methods of inspection and tests; and packaging, packing, and marking.

844.7 LUMINESCENT MATERIAL

- U. S. Gov., Army-Navy Aeronautical Specification AN-L-13a-1; 1946. Luminescent Material; Fluorescent-Radioactive.

844.9 MISCELLANEOUS PAINTS

- U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-577; 1942. Paint; Alkyd Resin-Emulsion, Exterior.
 U. S. Gov., Federal Specification TT-P-115; 1942. Amend. 1; 1945. Paint; Traffic, Exterior, White and Yellow. Covers one grade and two classes—(A) white and (B) yellow. Gives material, general requirements, drying properties, wet hiding power, color and daylight reflectance, consistency, flexibility, performance, water, and stability; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
 U. S. Gov., Navy Dept. Specification 52P62; 1945. Paint, Fire-Retardant (Binder for Anti-Sweat Coatings) (Formula No. 34).

U. S. Gov., Navy Dept. Specification 52P67; 1945. Paint, Zinc-Dust (for Fresh Water Tanks) (Formula No. 102).

U. S. Gov., U. S. Army, Corps of Engineers Specification 39-36; 1946. Paint, Camouflage, Bituminous-Emulsion.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-280; 1946. Paints; Binder (for Anti-Condensation Coatings). Covers two types—(I) regular and (II) fire-retardant. Gives requirements for materials, workmanship, composition, fineness of grind, weight per gallon, consistency, drying properties, coarse particles and skins, odor, and package stability; inspection, sampling, and methods of test; and packaging and marking.

845. STAINS

845.2 WOOD STAINS IN TURPENTINE

U. S. Gov., Federal Specification TT-S-711; 1945. Stain; Wood, Interior, Non-Bleeding. Covers one type and grade. Gives requirements for material, stability and condition of container, consistency, drying time, total nonvolatile matter, dilution, color and penetration, working properties, odor, and resistance to fading; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-202; 1945. Stain, Wood, Olive Drab.

845.3 WOOD STAINS IN OIL

U. S. Gov., Federal Specification TT-S-706; 1945. Stain; Opaque, Wood, Exterior, Oil. Covers one grade in red, brown, or green colors. Gives general requirements, pigments, liquid, complete stains composition, odor, drying time, weight, and color; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification TT-S-711; 1945. Stain; Wood, Interior, Non-Bleeding. Covers one type and grade. Gives requirements for material, stability and condition of container, consistency, drying time, total nonvolatile matter, dilution, color and penetration, working properties, odor, and resistance to fading; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 52S7; 1945. Stains.

845.9 MISCELLANEOUS STAINS

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-189A; 1945. Stain, Preservative, Water Soluble.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-190A; 1945. Stain, Preservative, Asphaltic Type.

846. VARNISH AND VARNISH GUMS AND RESINS

846.1 SPIRIT VARNISHES

846.11 Shellac Varnishes

U. S. Gov., Federal Specification TT-V-130; 1943. Amend. 1; 1945. Varnish; Spirit (Shellac Varnish

Replacement). Covers one grade and type. Gives requirements for material, appearance, color, viscosity, nonvolatile matter, ash, drying properties, working properties, adhesion properties, effect on wood, resistance to abrasion, odor, dilution, and sanding properties and sealing properties; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-22 (Tentative), 1943. Varnish; Spirit (Substitute for Shellac Varnish). Covers one grade and two types—(I) light and (II) dark. Gives requirements for materials, workmanship, color, appearance, viscosity, nonvolatile matter, water resistance, working properties, drying properties, sanding properties, adhesion properties, effect on wood, holdout, recoating, odor, and package stability; inspection, sampling, and methods of test; and packaging and marking.

846.12 Damar Varnishes

U. S. Gov., Federal Specification TT-V-61; 1939. Amend. 2; 1945. Varnish; Damar. Covers one grade. Gives requirements for material and workmanship, color, nonvolatile matter, nature of nonvolatile matter, nature of volatile matter, acid number, viscosity, appearance, and mixing and baking tests; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

846.2 LONG OIL VARNISHES

846.21 Spar Varnish

U. S. Gov., Army-Navy Aeronautical Specification AN-V-26; 1945. Varnish; Phenol-Formaldehyde Spar.

U. S. Gov., Army-Navy Aeronautical Specification AN-TT-V-116-3; 1945. Varnish; Spar, Glyceryl Phthalate.

U. S. Gov., Navy Dept. Specification 52V12d; 1946. Varnish, Spar, Water-Resisting (Formula No. 80).

U. S. Gov., U. S. Maritime Commission Specification 52-MC-302; 1945. Varnish; Spar, Water-Resisting. Covers one type and grade. For interior and exterior finishing varnish and as a vehicle for pigmented products. Gives requirements for material, workmanship, appearance, color, nonvolatile, viscosity, odor, flash point, skinning, working properties, safety of working, drying properties, recoating, gloss, kauri reduction, compatibility, water resistance, reactivity, and package stability; inspection, sampling, and methods of test; and packaging and marking.

846.3 SHORT OIL VARNISHES

846.31 Rubbing Varnish

U. S. Gov., U. S. Maritime Commission Specification 52-MC-304; 1945. Varnish; Interior, Rubbing. Covers one type and grade. Gives requirements for materials, workmanship, appearance, color, nonvolatile, viscosity, odor, flash point, skinning, working properties, safety of working, drying time, recoating, rubbing properties, gloss, flexibility, compatibility, water resistance, alcohol resistance, and package stability; inspection, sampling, and methods of test; and packaging and marking.

846.4 ASPHALT VARNISHES**846.41 Air Drying Asphalt Varnish**

U. S. Gov., U. S. Maritime Commission Specification 52-MC-303; 1945. Varnish; Asphalt, Black. Covers one type and one grade. Materials shall be as specified in Section C of Federal Specification TT-V-51a and varnish shall conform to Section E of Federal Specification TT-V-51a. Gives requirements for inspection, sampling, and methods of test; and packaging and marking.

846.5 CELLULOSE ACETATE AND CELLULOSE NITRATE PRODUCTS (LACQUERS AND PLASTICS)**846.50 General Items**

Manufacturing Chemists' Assn. of the U. S. Manual Sheet N-1. Handling of Nitrocellulose Wet With Alcohol (or Other Organic Liquid) or Water While in I.C.C. Containers; in Storage or in Process. Recommended Practice Adopted 1940, Revised 1945. Includes description of nitrocellulose, handling of containers, storage, handling in process, empty barrels, mechanical work and repairs, and fire prevention and protection.

846.51 Aircraft Varnish

U. S. Gov., Army-Navy Aeronautical Specification AN-C-145; 1945. Compound; Protective Plastic Stripping (Sprayable).

U. S. Gov., Army-Navy Aeronautical Specification AN-D-2-4; 1945. Dope; Cellulose-Acetate-Butyrate, Pigmented, Gloss.

U. S. Gov., Army-Navy Aeronautical Specification AN-V-27; 1945. Varnish; Wood Propeller.

U. S. Gov., Army-Navy Aeronautical Specification AN-TT-D-554-5; 1945. Dope; Cellulose-Nitrate, Pigmented.

846.52 Ammunition Varnish

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-162C; 1944. Lacquer Enamel, Lustreless.

846.53 Metal Varnish

U. S. Gov., Army-Navy Aeronautical Specification, AN-L-29-1; 1945. Lacquer; Cellulose Nitrate.

U. S. Gov., Navy Dept. Specification 33C8; 1945. Covering, Organic-Plastic (for Instrument Bodies).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-183; 1944. Primer, Synthetic, Lacquer-Resisting.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-184; 1944. Lacquer, Rust-Inhibiting, Clear.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-197; 1944. Surfacers, Synthetic.

846.54 Wood Varnish

U. S. Gov., Army-Navy Aeronautical Specification AN-C-83a, 1945. Coatings; Protective (for Wood).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-197; 1944. Surfacers, Synthetic.

846.59 Miscellaneous Cellulose Products

U. S. Gov., Army Air Forces Specification 14130A, 1945. Compound; Protective Plastic Stripping.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-117b-1; 1945. Compound; Protective, Strippable (Hot Dipping).

U. S. Gov., Army-Navy Aeronautical Specification AN-C-141; 1945. Cement; Acrylic Monomer Base (for Acrylic Plastic).

U. S. Gov., Army-Navy Aeronautical Specification AN-C-155; 1946. Coating; Protective (for Formed Acrylic Base Plastic).

U. S. Gov., Army-Navy Aeronautical Specification AN-E-12; 1945. Ethylene Glycol Monobutyl Ether.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-73; 1945. Primer; Lacquer Proof Metal (for Ground Equipment and Metal Containers).

U. S. Gov., Army-Navy Aeronautical Specification AN-T-27-2; 1946. Thinner; Cellulose Acetate Butyrate Dope.

U. S. Gov., Army-Navy Aeronautical Specification AN-TT-T-256-7; 1946. Thinner; Cellulose Nitrate Dope and Lacquer.

U. S. Gov., Joint Army-Navy Specification JAN-C-149; 1946. Compound, Protective, Strippable (Hot-Dipping).

U. S. Gov., U. S. Army, Corps of Engineers Specification 3-211; 1945. Lacquer, Brushing, Quick-Drying, Red.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-198; 1944. Lacquer, Ethyl Cellulose, Special (for Ordnance Materiel).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-199; 1944. Lacquer, Lustreless Sand, Obliterating.

846.6 VARNISH GUMS AND RESINS**846.61 Ester Gum**

U. S. Gov., Joint Army-Navy Specification JAN-G-276; 1946. Gum, Ester.

U. S. Gov., Navy Dept. Specification 52V22; 1945. Varnish, Ester-Gum; Grinding.

846.63 Resins and Resin Compounds

American Society for Testing Materials, D563-45T; 1945. Tentative Method of Test for Phthalic Anhydride Content of Alkyd Resins and Resin Solutions. Gives scope, apparatus, reagents, procedure, and calculations.

U. S. Gov., Navy Dept. Specification 52R13a, 1945. Resin, Alkyd, Solution.

U. S. Gov., Navy Dept. Specification 52R14; 1946. Resin, Phenol-Modified-Alkyd, Solution.

U. S. Gov., U. S. Maritime Commission Specification 52-MC-501; 1945. Resin; Alkyd, Solutions. Covers one grade and two types—(I) 70 percent nonvolatile and (II) 60 percent nonvolatile. Shall be a stable, homogeneous resin solution entirely suitable for use in the manufacture of ready-mixed paint. Gives requirements for color, appearance, flash point, odor, nonvolatile matter, solvent, reduced resin solution, and details; inspection, sampling, and methods of test; and packaging and marking.

846.9 MISCELLANEOUS VARNISH SPECIFICATIONS

U. S. Gov., Army-Navy Aeronautical Specification AN-V-29; 1945. Varnish; Decalcomania Adhesive.

U. S. Gov., Navy Dept. Specification 52L13; 1945. Lacquer, Clear, Brushing; and Thinner.

U. S. Gov., Navy Dept. Specification 52P59; 1945. Protective-Coating (Heat-Hardening), Phenol-Formaldehyde.

U. S. Gov., Navy Dept. Specification 52V18a, 1945. Varnish, Mixing, Alkyl-Phenolic.

U. S. Gov., U. S. Maritime Commission Specification 52-MC-301; 1945. Varnish; Phenolic, Mixing. Covers one type and one grade of a stable, homogeneous mixing varnish. Gives requirements for raw materials, composition, appearance, color, flash point, odor, viscosity, rosin and rosin derivatives, skinning, gas-proofness, water resistance, and alkali resistance; inspection, sampling, and methods of test; and packaging and marking.

847. BRONZE POWDERS AND VEHICLES

847.1 ALUMINUM BRONZE

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3128; 1945. Aluminum Pigment Paste. Primarily as a pigment for aluminum paint to be used as exterior protective coating on metal surfaces. Gives composition, components, requirements, packaging, identification, approval, reports, and rejections. Similar specification: Army-Navy Aeronautical AN-TT-A-461a; TT-A-468, Grade I, Type II, Class B; ASTM D474-41, Type B.

U. S. Gov., Army-Navy Aeronautical Specification AN-TT-A-461a-1; 1944. Aluminum-Pigment-Paste; Aircraft.

U. S. Gov., Federal Specification TT-A-468; 1942. Amend. 2; 1945. Aluminum-Pigment; Powder and Paste (for) Paint. Covers two types—(I) powder and (II) paste, and two classes—(A) for general paint use and (B) for special finishes. Gives aluminum pigment powder, total nonvolatile, total impurities, acetone extract, coarse particles, mica, fillers and other adulterants, leafing, working properties and surface appearance, condition in container, and stability; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

847.3 COPPER BRONZE

U. S. Gov., Treasury Dept., Procurement Div., 758; 1946. Bronze—Pigment; Powder (for) Gold Paint. Covers one type and one grade. Shall be made from new ingot metals, in the form of fine polished flakes, suitable for making gold paint. Gives requirements for working properties and surface appearance, leafing, acetone extract, coarse particles, and color; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

848. OILS AND THINNERS FOR PAINTS AND VARNISHES

848.1 LINSEED OIL

848.12 Boiled Linseed Oil

U. S. Gov., Navy Dept. Specification 52-O-17a, 1945. Oil, Linseed, Alkali-Refined.

U. S. Gov., Navy Dept. Specification 52-O-20; 1945. Oil, Linseed, Heat-Bodied.

848.6 TURPENTINE

U. S. Gov., U. S. Maritime Commission Specification 52-MC-551; 1945. Turpentine. Covers one grade and any of the kinds specified in Section B of Federal Specification LLL-T-791b. Shall conform to Section E of Federal Specification LLL-T-791b, except certification. Gives requirements for inspection, sampling, and methods of test; and packaging and marking.

848.7 TURPENTINE SUBSTITUTES, MINERAL SPIRITS

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3165; 1945. Solvent, Petroleum, Aromatic. A blend of petroleum hydrocarbons to be used primarily as a paint thinner where applicable. Gives requirements, reports, identification, approval, and rejections. Similar specification: Army-Navy Aeronautical AN-VV-N-96; 1944.

U. S. Gov., Federal Specification TT-T-291a; 1945. Thinner; Paint, Volatile Mineral Spirits (Petroleum-Spirits). Covers two grades—(1) light thinner and (2) heavy thinner. Gives requirements for appearance, color, spot test, blackening, and acidity; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

848.9 MISCELLANEOUS OIL AND THINNER SPECIFICATIONS

American Society for Testing Materials, D361-36; 1936. Standard Specifications for Industrial 90 Benzene for Use in Paint, Varnish, Lacquer, and Related Products. Gives scope, specific gravity, color, distillation range, nonvolatile matter, odor, water, acidity, sulfur, corrosion, and methods of testing.

American Society for Testing Materials, D362-36; 1936. Standard Specifications for Industrial Grade Toluene for Use in Paint, Varnish, Lacquer, and Related Products. Gives scope, specific gravity, color, distillation range, nonvolatile matter, odor, water, acidity, sulfur, corrosion, and methods of testing.

American Society for Testing Materials, D364-36; 1936. Standard Specifications for Industrial Grade Xylene or Solvent Naphtha for Use in Paint, Varnish, Lacquer, and Related Products. Gives scope, specific gravity, color, distillation range, nonvolatile matter, odor, water acidity, sulfur, corrosion, and methods of testing.

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3130; 1945. Paint Vehicle—Glyceryl Phthalate. Primarily as vehicle for aluminum paint but may be used as a transparent finish coating for metal and wood where applicable. Gives composition, components, requirements, test panels, properties of clear vehicle, properties of pigmented vehicle, identification, approval, reports, and rejections.

U. S. Gov., Army-Navy Aeronautical Specification AN-T-8b-4; 1946. Thinner; Primer and Enamel.

U. S. Gov., Navy Dept. Specification 52-0-19b, 1945. Oil, Varnish.

U. S. Gov., Navy Dept. Specification 52X1; 1945. Xylene (Xylol).

849. MISCELLANEOUS MATERIALS RELATING TO PAINTS AND PRESERVATIVE COATINGS

849.1 PAINT DRIERS

849.19 Miscellaneous Paint Driers

U. S. Gov., Navy Dept. Specification 52L15; 1945. Linoleate, Lead.

849.2 WOOD FILLERS AND OTHER FILLING MATERIALS

U. S. Gov., Navy Dept. Specification 52W4b, 1945. Wood-Substitute, Plastic; and Solvent-Fluid.

U. S. Gov., Treasury Dept., Procurement Div., 597a; 1946. Filler: Crack and Seam. Covers one grade and two types—(I) powder and (II) paste. Intended for use in filling cracks in wood, metal, and cement, but not for expansion joints or calking. Gives requirements for material, color, sagging, adhesion, hardening, shrinkage, and application of finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 3-186; 1945. Sealer, Wood, Preservative.

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-31 (Tentative); 1943. Sealer; Spirit, for Bituminous Products. Covers one type and grade. Gives requirements for material, workmanship, appearance of dried film, viscosity, nonvolatile matter, working properties, drying properties, adhesion properties, sealing properties, odor, and stability; inspection, sampling, and methods of test; and packaging and marking.

849.3 PUTTY

U. S. Gov., Navy Dept. Specification 52P69; 1946. Putty, Sealing (for Bolted-Steel Petroleum Tanks).

849.4 PAINT AND VARNISH REMOVERS

U. S. Gov., Army Air Forces Specification 14119A, 1945. Remover; Paint (for Aircraft Finishes).

U. S. Gov., Navy Dept. Specification 52R12a, 1946. Remover, Paint and Varnish (Noninflammable Type).

849.6 WATERPROOFING COMPOUND FOR TEXTILES AND OTHER FABRICS

Society of Automotive Engineers, Inc. Aeronautical Material Specification 3610A, 1945. Plastic Film—Transparent, Moisture-Vapor Resistant. For use in fabrication of envelopes or bags for enclosing aircraft engines, accessories and/or spare parts when dehydrated for shipment or storage. Gives requirements, test procedures, quality, reports, packaging, marking, approval, and rejections. Similar specification: Army-Navy Aeronautical AN-B-20.

U. S. Gov., Joint Army-Navy Specification JAN-P-101; 1945. Packaging and Packing for Overseas Shipment;

Adhesive, Water-Resistant, for Sealing Fiberboard Boxes.

U. S. Gov., Navy Dept. Specification 52C26; 1946. Compound, Preservative; Fire-, Water-, Mildew-, and Weather-Resistant (for Canvas).

U. S. Gov., Navy Dept. Specification 52C29a, 1945. Cement, Synthetic (for Hard Cellular Buoyancy-Material).

U. S. Gov., Navy Dept. Specification 52C36; 1945. Compound, Synthetic (for Hose-Cover Repair).

U. S. Gov., U. S. Army, Quartermaster Corps Specification 4-1131; 1945. Compound, Retreating, Water, Weather and Mildew Resistant (for Cotton Duck and Webbing).

849.7 WATER COLORS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS130-46; 1946. Color Materials for Art Education in Schools. To provide a guide to school authorities in the purchase of color materials for art education in schools. Covers minimum requirements for color materials of satisfactory color and working properties. Gives definitions and detail requirements for wax crayons, pressed crayons, semi-moist water colors, dry cake water colors, liquid tempera, powder tempera, white dustless blackboard crayons, sight saving dustless blackboard crayons, colored dustless crayons, molded sight saving blackboard crayons, molded white chalk crayons, molded colored chalk crayons, lecturers' colored chalk crayons, lecturers' colored dustless crayons, pastel crayons, and modeling clay. Initiated by the Crayon, Water Color and Craft Institute, Inc.

849.9 MISCELLANEOUS MATERIALS RELATING TO PAINTS NOT ELSEWHERE CLASSIFIED

U. S. Gov., Army Air Forces Specification 14143; 1945. Coating; Protective, for Formed Plastic, Acrylic Sheet.

U. S. Gov., Navy Dept. Specification 52M4; 1945. Methyl-Abletate, Hydrogenated (Plasticizer).

U. S. Gov., Navy Dept. Specification 52P80a; 1946. Protective-Coating-Material, Polymer-Powder (Product of an Organic Dihalide and an Inorganic Polysulfide).

U. S. Gov., U. S. Maritime Commission. Specification 52-MC-601; 1945. Deck Covering; Anti-Slip, Abrasive Paste. Covers one grade and two types—(I) deck gray and (II) interior colors. Gives requirements for materials, workmanship, color, composition, fire resistance, anti-slip properties, accelerated weathering resistance, resistance to salt water and temperature change, salt spray resistance, dry weight, impact resistance, resistance to oil, resistance to gasoline, resistance to elevated temperature, drying properties, flash point, skinning, and package stability; inspection, sampling, and methods of test; and packaging and marking.

860-869**EXPLOSIVES, FIREWORKS, AND AMMUNITION****860. GENERAL ITEMS**

U. S. Gov., Federal Specification W-B-411; 1941. Amend. 2; 1945. Blasting-Apparatus (Machines, Blasting; Galvanometers and Rheostats for Testing Blasting Circuits and Machines). Covers one grade in three types—(I) galvanometers for testing blasting circuits; (II) blasting machines, in four classes—(A) 10 cap capacity, (B) 30 cap capacity, (C) 50 cap capacity, and (D) 100 cap capacity; and (III) rheostats for testing blasting machines. Gives material and workmanship, general requirements, and details for each type and class; methods of inspection and tests; and packing and marking for shipment.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Includes definitions of explosives and dangerous articles other than explosives, accepted and forbidden, for transportation by common carriers by rail freight, rail express, highway, or water. Classification of explosives as—class A, dangerous explosives (ammunition for cannon; ammunition—nonexplosive; ammunition—projectiles, grenades, bombs, mines, and torpedoes; ammunition for small arms with explosive bullets or projectiles; ammunition, chemical, explosive; black powder and low explosives; high explosives; and initiating or priming explosives); class B, less dangerous explosives (ammunition for cannon with empty, sand loaded or solid projectiles or without projectiles; fireworks; and smokeless powder); and class C, relatively safe explosives (ammunition for small arms; blasting caps; cordeau detonant; fuzes; igniters; instantaneous fuse; primers; safety fuse; and toy caps). Classification of dangerous articles other than explosives as—inflammable liquids, inflammable solids and oxidizing materials, acids and other corrosive liquids, compressed gases, and poisonous articles—class A, extremely dangerous poisons; class B, less dangerous poisons; and class C, tear gas or irritating substances. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

861. POWDER

U. S. Gov., Joint Army-Navy Specification JAN-P-223; 1945. Powder, Black.

U. S. Gov., Joint Army-Navy Specification JAN-P-231; 1945. Powder, Smokeless, Pyrocellulose.

U. S. Gov., Joint Army-Navy Specification JAN-P-270; 1945. Powder, Propellant, Cannon.

U. S. Gov., Joint Army-Navy Specification JAN-P-381; 1946. Powder, Propellant, 4.2-Inch Chemical Mortar.

U. S. Gov., Navy Dept. Specification 4G2a; 1946. Grains, Powder, Flashless.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-12-9B; 1944. Powder, Smokeless, for Cartridges, Caliber .30 and Caliber .50.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-12-13; 1944. Powder, Smokeless, for Cartridge, Carbine, Caliber .30, M1.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-12-14A; 1945. Powder, Ignition Cartridge, 60-MM, 81-MM, Mortar.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-12-18; 1945. Powder, Propellant, M12, for 20MM Gun, AN-M2.

862. DYNAMITE AND OTHER HIGH EXPLOSIVES

U. S. Gov., Joint Army-Navy Specification JAN-N-246; 1945. Nitroglycerin.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-21A; 1945. Cratering Explosive, Ammonium Nitrate Base.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-36; 1945. Snake, Demolition, M3.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-42; 1945. Charge, Springing, Rod, Earth, Blast-Driven.

864. FUSES, DETONATORS, AND FIRING DEVICES

U. S. Gov., Joint Army-Navy Specification JAN-D-268; 1945. Demolition-Equipment-Standards.

U. S. Gov., Joint Army-Navy Specification JAN-F-360; 1946. Fuse, Blasting, Time.

U. S. Gov., Joint Army-Navy Specification JAN-F-381; 1946. Firing Devices, Pressure Release Type, M-5.

U. S. Gov., Joint Army-Navy Specification JAN-F-364; 1946. Firing Devices, Pull Friction Type, M-2.

U. S. Gov., Joint Army-Navy Specification JAN-C-373; 1946. Clips, Cord, Detonating, M-1.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-8C; 1945. Lighter, Fuse, Friction Type, M1.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-18A; 1945. Firing Device, Pressure Type, M-1A1.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-20A; 1945. Cap, Blasting, Special.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-22A; 1944. Adaptor, Priming, Explosive, M-1A3.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-23A; 1945. Lighter, Fuse, Weatherproof, M-2.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-25; 1945. Primer, Percussion Cap; M-2.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-26A; 1945. Firing Device; Pull, Release Type, M-3.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-33A; 1945. Detonators Delay.

U. S. Gov., U. S. Army, Corps of Engineers Specification 49-41; 1945. Firing Device, Delay Type, M-1.

866. AMMUNITION

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation

R31-45; 1945. Loaded Paper Shot Shells. This recommendation establishes a list of standard sizes and varieties of paper shot shells for low cup (smokeless), progressive-burning powder (medium cup), and progressive-burning powder (high cup); and includes trap loads, skeet loads, short-range loads, rifled slug loads, and buck-shot loads. Covers shell gage, weight of powder, weight of shot, shot sizes, length of shell unloaded, and maximum height of brass cup. Sponsored by Sporting Arms and Ammunition Manufacturers' Institute.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R62-45; 1945. Metallic Cartridges. This recommendation establishes a list of types and varieties of metallic cartridges including smokeless powder, black powder, and Lesmok powder for rim-fire cartridges (ball, shot, and blank) and smokeless powder and black powder for center-fire cartridges (ball, blanks, and shot). Sponsored by Sporting Arms and Ammunition Manufacturers' Institute.

867. POWDER FOR FUSES, PRIMER AND DETONATORS, FLARES, AND PYROTECHNICS

U. S. Gov., Joint Army-Navy Specification JAN-M-219; 1945. Mercury Fulminate.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-14-6A; 1945. Powders, Fuze.

868. CHEMICALS NOT OTHERWISE CLASSIFIED FOR USE IN MANUFACTURING PYROTECHNICS, EXPLOSIVES, AND AMMUNITION

U. S. Gov., Joint Army-Navy Specification JAN-A-202; 1945. Anthracene (Technical Grade).

U. S. Gov., Joint Army-Navy Specification JAN-S-177-1; 1945. Strontium Nitrate, Anhydrous.

U. S. Gov., Joint Army-Navy Specification JAN-C-206-1; 1945. Cellulose, Cotton (for Use in Explosives).

U. S. Gov., Joint Army-Navy Specification JAN-C-216-1; 1945. Cellulose, Woodpulp (Sulfite) (for Use in Explosives).

U. S. Gov., Joint Army-Navy Specification JAN-D-218; 1945. Dibutylphthalate (for Use in Explosives).

U. S. Gov., Joint Army-Navy Specification JAN-S-230; 1945. Silicon, Powdered.

U. S. Gov., Joint Army-Navy Specification JAN-H-235-1; 1945. Hexachlorethane.

U. S. Gov., Joint Army-Navy Specification JAN-D-242; 1945. Diethylphthalate (for Use in Explosives).

U. S. Gov., Joint Army-Navy Specification JAN-N-244-1; 1945. Nitrocellulose (for Use in Explosives).

U. S. Gov., Joint Army-Navy Specification JAN-E-255; 1945. Ethyl Centralite (Carbamite).

U. S. Gov., Joint Army-Navy Specification JAN-H-257; 1945. Hexachlorbenzene.

U. S. Gov., Joint Army-Navy Specification JAN-I-275; 1945. Iron-Oxide, Magnetic (for Use in Pyrotechnics).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-64B; 1944. Strontium, Peroxide.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-90A; 1944. Cement, Nitrocellulose (for Use in Ammunition).

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-125; 1944. Hexamine.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-122; 1944. Pentaerythritol.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 50-11-126; 1944. Pentolite, 50/50.

870-879 SOAPS, COSMETICS, AND TOILET PREPARATIONS

871. SOAPS AND OTHER DETERGENTS

871.0 GENERAL ITEMS

American Society for Testing Materials, D459-45T; 1945. Tentative Definitions of Terms Relating to Soaps and Other Detergents. Defines soap, alkali detergent, anhydrous soap, anionic detergent, blended soap, builder, built soap, cationic detergent, cleaning, detergency, detergent, dry cleaning, scouring, soap powder, soil, straight soap, titer, washing, and various other terms.

American Society for Testing Materials, D800-45; 1945. Standard Methods of Chemical Analysis of Industrial Metal Cleaning Compositions. Cover industrial metal cleaning compositions in solid, paste, or liquid form. Gives scope, preparation of sample, reagents, procedure, calculations, and reports for total alkalinity, total fatty acids, anhydrous soap, rosin, total silica, phosphates, combined sodium and potassium oxides, chlorides, sulfates, water, carbon dioxide, total matter insoluble in alcohol, free alkali, synthetic detergent or wetting agent, volatile hydrocarbons, loss on ignition, and report.

American Society for Testing Materials, D820-45T; 1945. Tentative Methods of Chemical Analysis of Soaps Containing Synthetic Detergents. Gives ana-

lytical procedures for moisture and other matter volatile at 105 C., free alkali or free acid, anhydrous, salt-free, soda soap, alcohol-soluble matter, matter insoluble in water, total alkalinity of matter insoluble in alcohol, sodium silicate, fatty matter, chlorides in alcohol-soluble matter, rosin, synthetic detergent, and neutral, inorganic salts.

National Cottonseed Products Assn., Inc. Rules, 1946. Definitions of Grade and Quality, article 19. Soap Stock and Acidulated Soap Stock. Rules 137 and 138. Covers soap stock and acidulated soap stock.

National Cottonseed Products Assn., Inc. Rules, 1946. Sampling and Methods of Chemical Analysis. Soap Stock and Acidulated Soap Stock, Rules 243 and 276. Covers drawing samples, handling samples, preservation of samples, dry-extraction method (except from copra and palm kernel oils), optional wet-extraction method (except from copra and palm kernel oils), and total fatty acids of soap stock or acidulated soap stock from copra and palm kernel oils.

871.1 TOILET SOAPS

871.12 Liquid Toilet Soap

American Society for Testing Materials, D799-45; 1945. Standard Specifications for Liquid Toilet Soap.

Gives scope, general requirements, chemical composition, basis of purchase, and methods of sampling and analysis.

871.14 Shaving Soap

U. S. Gov., Federal Specification FFF-C-641; 1936. Amend. 2; 1945. Cream and Soap; Shaving. Covers two types—(I) soap (cakes, stick, and powder) and (II) cream (lather and brushless). Gives material, general requirements, volatile matter, matter insoluble in ethyl alcohol, free alkali, free fatty acids, matter insoluble in hot distilled water, anhydrous soap, and computation; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

871.19 Miscellaneous Toilet Soaps

U. S. Gov., Federal Specification P-D-221a; 1946. Detergents, Hand; Paste and Powder, for Mechanics' Use. Covers three types—(I) hand grit-paste detergent, (II) hand scouring powder with mineral abrasive, and (III) hand scouring powder with vegetable abrasive. Gives requirements for materials, use, odor, volatile matter, alkaline salts, free alkali, free acid, anhydrous soda soap, insoluble siliceous material, insoluble sawdust or corn meal, fineness, rosin, sugar, volatile hydrocarbons, and computation; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification P-S-576a; 1945. Soap; Grit, Hand, Cake. Covers one type. Gives requirements for volatile matter, alkali as alkaline salts, free alkali, insoluble siliceous material, rosin, sugar and foreign matter, anhydrous soap, computation, and weight of cake; methods of sampling and testing; and packaging, packing, and marking for shipment.

871.2 LAUNDRY AND KITCHEN SOAP, CHIPS, AND POWDER

871.23 Soap Powders

U. S. Gov., Federal Specification P-S-606a; 1942. Amend. 4; 1945. Soap-Powder. Covers one type of a uniform mixture of soap and sodium carbonate, and/or other alkaline salts, in powdered form. Gives requirements for anhydrous soap, and alkaline salts; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 51847; 1945. Soap, Salt-Water, Powdered (for Use in Soft, Hard, or Sea Water).

U. S. Gov., Navy Dept. Specification 51851; 1945. Sodium-Resinate (Rosin Soap).

871.26 Scouring Soaps

U. S. Gov., Federal Specification P-S-571a; 1942. Amend. 4; 1945. Soap; Grit, Cake. Covers two types—(A) for fine work, such as glass and enamel, and (B) for scouring and scrubbing. Gives requirements for moisture and volatile matter, alkali as alkaline salts, free alkali, insoluble siliceous material, sugar and foreign matter, anhydrous soda soap, and physical properties;

methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 51820c; 1945. Soap, Grit, Cake.

871.27 Scouring Powders

U. S. Gov., Federal Specification P-P-591a; 1946. Powder; Scouring (for) Floors. Covers three types—(I) for fine marble floors, (II) for tile or ceramic and terrazzo floors, and (III) soap scouring compound. Shall be white or light gray unscented powder of uniform composition. Gives requirements for volatile matter, sodium carbonate, anhydrous soda, free alkali and insoluble siliceous material; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

871.29 Miscellaneous Specifications for Laundry and Kitchen Soaps

U. S. Gov., Federal Specification P-S-600; 1943. Amend. 3; 1945. Soap; Low-Titer (for Low-Temperature Washing). Covers two types—(I) bar form and (II) other forms, and three classes—(A) granular, (B) powdered, and (C) flake. Gives requirements for material, color, odor, bid sample, and details of chemical and physical requirements; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 51049a; 1946. Compound, Dishwashing.

U. S. Gov., Navy Dept. Specification 51834; 1946. Soap, Low-Titer (for Low-Temperature Washing).

U. S. Gov., Navy Dept. Specification 51850; 1946. Soap, Built, High-Titer, Powdered.

871.4 AUTOMOBILE SOAP

U. S. Gov., Federal Specification P-S-596; 1941. Amend. 5; 1945. Soap, Liquid and Paste; (for) Automobile, Floor, and General Cleaning. Covers two types—(I) liquid and (II) paste. Gives material, general requirements, consistency, color, odor, moisture, solubility and sudsing, bid samples, keeping qualities, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

871.5 SALT-WATER SOAP

U. S. Gov., Navy Dept. Specification 51846a, 1945. Soap, Salt-Water, Bar-Form (Containing Synthetic Detergent).

U. S. Gov., Navy Dept. Specification 51847; 1945. Soap, Salt-Water, Powdered (for Use in Soft, Hard, or Sea Water).

871.9 MISCELLANEOUS SOAP AND CLEANING COMPOUNDS.

American Society for Testing Materials, D595-45; 1945. Standard Specifications for Tetrasodium Pyrophosphate (Anhydrous). A mildly alkaline material with water softening properties for washing, cleaning, and scouring processes with soap or other detergents. Gives tetrasodium pyrophosphate, chemical composition, basis of purchase, rejection, and methods of sampling and analysis.

- U. S. Gov., Army Air Forces Specification 20015D, 1945. Compound; Cleaning (for Aircraft).
- U. S. Gov., Army-Navy Aeronautical Specification AN-S-55-1; 1946. Stripper; Cleaner and Paint (for Ferrous Surfaces).
- U. S. Gov., Federal Specification O-C-426; 1945. Cleaner; Toilet-Bowl (Sodium-Bisulfate). Covers one grade in crystalline or granular form. Gives requirements for sulfuric acid equivalent and particle size; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification P-D-236; 1941. Amend. 4; 1945. Detergents, Special (for Aluminum-ware, Dishwashing-Machines, and Manual Cleaning). Covers two types—(I) for use in mechanical dishwashing-machines and (II) for manual cleaning, and two classes—(A) nonabrasive and (B) abrasive. Gives material, general requirements and details for turbidity, foaming, corrosion, water-softening

capacity, hydrogen-ion content and buffer index, cleaning ability, relative cost, abrasion, corrosion, and rinsibility; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Navy Dept. Specification 51C10a, 1945. Compound, Sweeping.
- U. S. Gov., Navy Dept. Specification 51C58; 1946. Compound, Oil- and Water-Absorbing (for Floors and Decks).
- U. S. Gov., Navy Dept. Specification 51T7; 1945. Tetrasodium-Pyrophosphate (Anhydrous).
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 2-117; 1944. Cleaner, Rifle Bore.

872. TOILET PREPARATIONS

872.3 FOOT POWDER

- U. S. Gov., U. S. Army, Medical Dept. Specification 4-1030A; 1945. Foot Powder.

880-889

DISINFECTANTS AND WATER TREATMENTS

881. DISINFECTANTS AND INSECTICIDES

881.0 GENERAL ITEMS

- U. S. Gov., Federal Security Agency, Food and Drug Administration. Title 21, Part 120; 1944. Poisons in Food. Tolerances for Fluorine Spray Residue on Apples and Pears. Gives findings of fact and conclusions.

881.1 INSECT STOMACH POISONS

881.19 Miscellaneous Insect Stomach Poisons

- U. S. Gov., Joint Army-Navy Specification JAN-I-180; 1945. Insecticide, Powder, Louse.

881.2 CONTACT INSECTICIDES

881.26 Insect Powder (Pyrethrum)

- U. S. Gov., Navy Dept. Specification 51P15a; 1946. Pyrethrum-Concentrate (for Use in Insecticide).

881.29 Miscellaneous Contact Insecticides

- U. S. Gov., U. S. Army, Quartermaster Corps Specification 4-1134; 1945. Insecticide, Spray, DDT, Residual Effect (Stock No. 51-I-305).

881.9 MISCELLANEOUS DISINFECTANTS AND INSECTICIDES

- U. S. Gov., Joint Army-Navy Specification JAN-R-249; 1945. Repellent, Insect.
- U. S. Gov., Navy Dept. Specification 14K1c; 1946. Kerosene, Water-White (for Use in Insecticide).
- U. S. Gov., Navy Dept. Specification 51D6a; 1945. Disinfectant, Germicide, and Fungicide.
- U. S. Gov., Navy Dept. Specification 51D23; 1946. Deodorant, Block.
- U. S. Gov., Navy Dept. Specification 51E2a; 1945. Exterminators, Roach and Water-Bug.
- U. S. Gov., Navy Dept. Specification 51-I-14a; 1946. Insecticide-Ingredient; Solvent for DDT.
- U. S. Gov., Treasury Dept., Procurement Div., 755; 1946. D.D.T. (Dichlorodiphenyl Trichloroethane).

Covers one type and two grades—(A) aerosol and (B) technical. Gives requirements for chemical and physical properties and form for each grade; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

882. WATER TREATMENTS, SEWAGE TREATMENTS

882.0 GENERAL ITEMS

American Society for Testing Materials, D860-45T; 1945. Tentative Recommended Practice for Sampling Boiler Water From Stationary Boilers. Covers the basic requirements for the sampling of boiler water from stationary boilers for analysis and control of boiler water concentrations and constituents. Gives description of terms, apparatus, point of sampling, procedure in taking samples, and suspended solids.

882.2 ANTISCALE BOILER COMPOUND

- U. S. Gov., Navy Dept. Specification 13C3j, 1945. Compound, Boiler, Navy, 1941.

882.3 DRINKING WATER AND TREATMENT OF DRINKING WATER

- U. S. Gov., Army Air Forces Specification 40897; 1945. Kit; Sea Water Distillation, Type LL-1.
- U. S. Gov., Army-Navy Aeronautical Specification AN-W-5b-2; 1946. Water; Emergency Drinking (in Sealed Cans).

882.6 WATER FOR INDUSTRIAL USE

American Society for Testing Materials, D857-45T; 1945. Tentative Method of Test for Total Aluminum and Aluminum Ion in Industrial Waters. Covers the colorimetric determination of aluminum in industrial waters by the use of hematxylin. Gives application, apparatus, purity of reagents, reagents, determination of total aluminum, determination of aluminum ion, calculations, and accuracy.

American Society for Testing Materials, D858-45T; 1945. Tentative Method of Test for Manganese in Industrial Waters. Covers the colorimetric determination of manganese in industrial waters when present in any form possessing a valence of seven or less but does not distinguish the form in which the manganese was originally present. Gives application, apparatus, purity of reagents, reagents, procedure, calculation, and precision.

American Society for Testing Materials, D859-45T; 1945. Tentative Methods of Test for Silica in Industrial Waters. Gives scope, collection of sample, and purity of reagents; and principle of method, application, reagents, procedure, and calculation for referee method (hydrochloric acid method), non-referee method A (perchloric acid method), non-referee method B, and non-referee method C.

890-899

MISCELLANEOUS CHEMICAL PRODUCTS

891. BLEACHES, POLISHES, DRESSINGS

Technical Assn. of the Pulp and Paper Industry. Analysis of Bleaching Powder, Bleach Liquor, and Bleach Sludge, Standard T 611 m-45; 1945. Gives a general discussion and covers bleaching powder, bleach liquor, bleach sludge, and additional information.

U. S. Gov., Army Air Forces Specification 14099A; 1945. Cleaner; Liquid, for Glass.

U. S. Gov., Army Air Forces Specification 14125A, 1945. Compound; Cleaning, Heavy Duty (for Steel and Brass Parts).

U. S. Gov., Army Air Forces Specification 14132A, 1945. Compound; Shearling Refinishing.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-154; 1945. Compound; Polishing (for Acrylic Plastic).

U. S. Gov., Federal Specification TT-D-636; 1943. Amend. 2; 1946. Dressing; Leather, Transmission-Belt. Covers two types—(I) liquid or paste and (II) stick. Gives general requirements, physical requirements, and performance requirements; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Navy Dept. Specification 51C18c, 1945. Compound, Polishing.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 92-61; 1945. Compound, Leather Dressing, Preservative, for Field Treatment.

Plastics Under Load. Cover two procedures for determining the deformation under compression of nonmetallic sheet and molded plastic materials, of all classes and all commercial thicknesses, intended for structural and insulating purposes. Gives nature of test, apparatus, test specimens, conditioning, test temperatures, procedure, and report for rigid plastics; scope, nature of test, apparatus, test specimens, conditioning, procedure, calculations, and report for nonrigid plastics; and appendix.

American Society for Testing Materials, D648-45T; 1945. Tentative Method of Test for Heat Distortion Temperature of Plastics. Gives scope, apparatus, preparation of apparatus, test specimens, conditioning test specimens, procedure, and report.

American Society for Testing Materials, D675-45; 1945. Standard Descriptive Nomenclature of Objects Made From Plastics. Provides simple terms, adequate to convey with maximum brevity and certainty, an accurate description of any visible characteristic of a plastic object which can be seen, but which cannot be expressed in numerical values. Gives terms relating to color characteristics, surface characteristics, clarity, soundness or structure, and shape. Defines recommended nomenclature terms and lists terms not recommended.

American Society for Testing Materials, D790-45T; 1945. Tentative Method of Flexural Test of Plastics. Gives scope, apparatus, test specimens, number of test specimens, conditioning test specimens, procedure, retests, calculations, and report.

American Society for Testing Materials, D796-45T; 1945. Tentative Recommended Practice for Molding Specimens of Phenolic Materials. Gives scope, apparatus, conditioning, and procedure.

American Society for Testing Materials, D832-45T; 1945. Tentative Recommended Practice for Conditioning of Rubber and Plastic Materials for Low-Temperature Testing. This recommended practice covers the general theory underlying all low-temperature testing of rubber and plastic materials. Gives general considerations, simple temperature effects, second-order transitions (vitrification), crystallization (first-order transitions), effects associated with plasticizers, tests for effects of second-order transition (vitrification) only, tests for effects of crystallization (first-order transition) only, and tests for the effects associated with plasticizers.

American Society for Testing Materials, D834-45T; 1945. Tentative Method of Test for Ammonia in

893. PLASTICS

893.0 GENERAL ITEMS

American Society for Testing Materials, D618-45T; 1945. Tentative Method for Conditioning Plastics and Electrical Insulating Materials for Testing. Many Plastics and electrical insulating materials respond to temperature and relative humidity in a manner that materially affects test results. Gives definitions, conditioning prior to test, tests at normal temperatures, tests at other standard test temperatures, selection of conditioning procedure, report, and appendix.

American Society for Testing Materials, D620-45T; 1945. Tentative Method of Test for Colorfastness of Plastics to Light. To establish a laboratory procedure for evaluating the relative resistance of plastics to change in color when exposed to sunlight. Gives apparatus, test specimen, procedure, and report.

American Society for Testing Materials, D621-45T; 1945. Tentative Methods of Test for Deformation of

- Phenol-Formaldehyde Molded Materials. Gives scope, apparatus, reagents, preparation of sample, procedure, and calculation.
- American Society for Testing Materials, D863-45T; 1945. Tentative Method of Designating the Flow Temperature of Thermoplastic Molding Materials. Gives scope, method, and flow designation.
- American Society for Testing Materials, D864-45T; 1945. Tentative Method of Test for Coefficient of Cubical Thermal Expansion of Plastics. Gives scope, apparatus, test specimens, conditioning of specimens, procedure, calculations, and report.
- National Fire Protection Assn. and U. S. Dept. of Agriculture, joint sponsors. American Standards Assn., Z12.16-1945. Code for the Prevention of Dust Explosions in the Plastics Industry. Gives definitions, introduction, plant arrangement, building construction, communications, explosion preventive measures, electrical equipment, minimizing the effect and extent of explosions in dry powder processing and handling equipment, housekeeping, fire extinguishing systems, and appendix.
- U. S. Gov., Army Air Forces Specification 40142; 1945. Durometer; Portable, Hand (Soft Metals and Plastics).
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-45-2; 1945. Plastic; Working and Installation of Transparent Sheet (General Specification for).
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-78; 1945. Plastic Parts in Hydraulic Equipment; General Tests for.
- 893.3 PLASTIC TABLEWARE**
- U. S. Gov., Navy Dept. Specification 63T12; 1945. Tableware, Plastic.
- 893.4 PLASTIC SHEETS**
- American Society for Testing Materials, D786-45T; 1945. Tentative Specifications for Cellulose Acetate Plastic Sheets. Gives scope, type, general requirements, detail requirements, sampling, methods of testing, number of tests, retest and rejection, and packing and marking.
- American Society for Testing Materials, D819-45T; 1945. Tentative Specifications for Cast Alkyl Plastic Sheets, Rods, Tubes, and Shapes. Gives scope, types and grades, general requirements, detail requirements, sampling, methods of testing, number of tests, retest and rejection, and packing and marking.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 3535; 1945. Moisture — Vapor-Resistant Sheet. Shall be an opaque, flexible, moisture-resistant sheet constructed of one or more plies. Gives use, requirements, test procedures, quality, reports, packaging, marking, approval, and rejections.
- U. S. Gov., Army Air Forces Specification 12041; 1945. Plastic-Sheet; Transparent Vinyl Copolymer Base.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-44a; 1945. Plastic; Acrylic Sheet.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-68; 1945. Phenolic Sheet; Laminated Paper Base High Strength.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-84; 1946. Plastic; Cellulose Acetate Base Sheet.
- U. S. Gov., Federal Specification L-C-175; 1946. Cellulose, Regenerated; Sheet, Dental. Covers one type, one grade, and two classes—(A) embossed linen finish and (B) smooth finish. Gives requirements for material, workmanship, general description, dimensions, and finish; sampling and inspection; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 33M1a, 1945. Methacrylate (or Similar Plastic Glazing Material).
- U. S. Gov., Navy Dept. Specification 33P40a, 1945. Plastic, Transparent, Sheet, Cellulose-Acetate.
- U. S. Gov., U. S. Maritime Commission. Specification 27-MC-51; 1946. Curtains, Shower; Plastic Sheeting. Covers one type and two classes—(A) light weight and (B) heavy weight. Gives requirements for materials, workmanship, construction, size, and identification and marking; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.
- 893.5 TRANSPARENT PLASTICS**
- American Society for Testing Materials, D672-45T; 1945. Tentative Method of Test for Haze of Transparent Plastics by Photoelectric Cell. Designed to measure photoelectrically the haze of colored or colorless transparent plastics, using specimens with substantially plane, parallel faces. Gives definition, apparatus, test specimens, procedure, calculation, and report.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-70a; 1945. Covers; Light-Transmitting (for Aeronautical Lights).
- U. S. Gov., Joint Army-Navy Specification JAN-P-80; 1946. Plastic-Materials, Anti-Electrostatic, Clear, Transparent (for Indicating-Instrument Windows).
- U. S. Gov., Navy Dept. Specification 33M1a, 1945. Methacrylate (or Similar Plastic Glazing Material).
- 893.8 PLASTIC MATERIALS AND COMPOUNDS**
- American Society for Testing Materials, D700-45T; 1945. Tentative Specifications for Phenolic Molding Compounds. Cover hot-molding thermosetting compounds consisting of essentially a phenol-formaldehyde resin either alone or intimately combined in the uncured or partially cured condition with fillers, pigments and dyes, as required, to obtain the properties desired. Gives types, general requirements, detail requirements, sampling, methods of testing, number of tests, retest and rejection, and packing and marking.
- National Electrical Manufacturers Assn. Standards for Laminated Thermosetting Products, 46-118; 1946. Provides practical information concerning the manufacture, test and performance of laminated thermosetting sheets, tubing and rods used in the manufacture of electrical apparatus and supplies. Covers general requirements, sizes and variations, physical and electrical properties, and test methods for physical and electrical properties and dimensions.

- U. S. Gov., Joint Army-Navy Specification JAN-P-13-1; 1945. Plastic-Materials, Laminated Thermosetting Sheets and Plates.
- U. S. Gov., Joint Army-Navy Specification JAN-P-77; 1945. Plastic-Materials, Cast, Thermosetting.
- U. S. Gov., Joint Army-Navy Specification JAN-P-78; 1945. Plastic-Materials, Laminated, Thermosetting (for Name, Graphic, Chart, Instruction, and Designating Plates).
- U. S. Gov., Joint Army-Navy Specification JAN-P-79; 1945. Plastic-Materials, Laminated, Thermosetting; Rods and Tubes.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 61-13; 1944. Covering, Organic Plastic (for Instrument Bodies).

893.9 MISCELLANEOUS PLASTIC ARTICLES

- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 278; 1944. Specification for Tube Fittings Molded From Thermosetting Plastic Materials. Gives applicable specifications, types and classes, material and workmanship, general requirements, detail requirements on test specimens, sampling, inspection, and tests on molded materials, detail requirements on molded fittings, inspection and tests on fittings, packaging, packing, and marking for shipment, notes, figures, and tables. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 279; 1944. Specification for Tubing Fabricated From Thermoplastic Materials. Gives applicable specifications, types and classes, material and workmanship, general requirements, detail requirements on test specimens, sampling, inspection and tests on molded specimens, detail requirements on production tubing, inspection and tests on production tubing, packaging, packing, and marking for shipment, notes, figures, and tables. Developed by National Aircraft Standards Committee.
- Aircraft Industries Assn. of America, Inc. National Aircraft Standard NAS 281; 1944. Tubing—Thermoplastic. Gives drawing with dimensions and notes. Developed by National Aircraft Standards Committee.
- American Society for Testing Materials, D819-45T; 1945. Tentative Specifications for Cast Alkyl Plastic Sheets, Rods, Tubes, and Shapes. Gives

- scope, types and grades, general requirements, detail requirements, sampling, methods of testing, number of tests, retest and rejection, and packing and marking.
- Society of Automotive Engineers, Inc. Aeronautical Material Specification 3630A, 1945. Flexible Plastic Extrusions (Vinyl Chloride-Acetate). Gives form and color, application, quality, requirements, samples, dimensions and tolerances, reports, identification, packaging and marking, approval, and rejections.
- U. S. Gov., Army Air Forces Specification 12047-1; 1945. Tubing; Extruded Flexible Vinyl Plastic.
- U. S. Gov., Army-Navy Aeronautical Specification AN-K-3a, 1945. Knobs; Pointer.
- U. S. Gov., Army-Navy Aeronautical Specification AN-P-48a-2; 1946. Pumps; Plastic Hand Air.
- U. S. Gov., Joint Army-Navy Specification JAN-R-83A; 1945. Rulers, Parallel.
- U. S. Gov., Navy Dept. Specification 33B2; 1943. Bearing-Sleeves, Phenolic-Material, Laminated (for Stern and Strut Bearings on Small Boats).
- U. S. Gov., Navy Dept. Specification 33B4; 1945. Bearings, Laminated-Phenolic (Water or Grease Lubrication).
- U. S. Gov., Navy Dept. Specification 33T5a; 1946. Tubing, Elastomer (polyvinyl Chloride).
- U. S. Gov., Navy Dept. Specification 42H3c, 1945. Hooks, Coat and Hat.
- U. S. Gov., Navy Dept. Specification 42T1f, 1945. Tags, Key; and Rings, Key.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 17-207; 1945. Filter; High Transmission, for Flashlight Type TL-122 (B, C, and D).
- U. S. Gov., U. S. Army, Corps of Engineers Specification 81-57; 1945. Screening, Insect, Plastic, Vinylidene Chloride.
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-130; 1945. Box, Match, Waterproof.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-44; 1945. Message Holder PG-67 (Transparent).
- U. S. Gov., U. S. Maritime Commission Specification 55-MC-7; 1946. Aprons; Galley, Plastic Sheeting. Covers aprons of the bib type in two classes—(A) light weight and (B) heavy weight. Gives requirements for materials, workmanship, construction, size, and identification and marking; sampling, inspection, and methods of tests; and packaging, packing, and marking for shipment.

900-999 COMMODITIES NOT ELSEWHERE CLASSIFIED

910-919 SCIENTIFIC AND PROFESSIONAL APPARATUS AND SUPPLIES

910. GENERAL ITEMS

National Safety Council, joint sponsor with International Assn. of Industrial Accident Boards and Commissions and National Council on Compensation Insurance. American Standards Assn., Z16.1-1945. Method of Compiling Industrial Injury Rates. Provides a practical and uniform basis for recording and measuring industrial injury experience. Gives injury rate, industrial injuries, classification of industrial injuries, time charges for industrial injuries, exposure, compilation of industrial injury rates, and doubtful cases.

U. S. Gov., U. S. Army, Corps of Engineers Specification 100-12A; 1945. Infrared Reflectance of Camouflage and Other Materials; Method of Test for.

911. PHOTOGRAPHIC GOODS

911.0 GENERAL ITEMS

American Standards Assn., Z38.8.2-1945. Sponsored by Optical Society of America. American Standard Practice for Conversions of Weights and Measures for Photographic Use. For U. S. systems of weights and measures, metric system, and British Imperial measure. Covers scope, abbreviations, conversion tables of weights and measures for photographic use, conversion factors for weights and measures, tolerances for rounding off values after conversion, and tables.

American Standards Assn., Z52.38-1945. Method of determining Signal-to-Noise Ratio of 16-Mm. Sound Motion Picture Prints (American War Standard). Applicable to both variable area and variable density sound prints. Gives scope and purpose, definitions, test method, and figure.

Optical Society of America, sponsor. American Standards Assn., Z38.2.1-1946. Standard Method for Determining Photographic Speed and Speed Number. This method of determining speed and speed number applies to roll films, film packs, miniature camera films, sheet films and plates intended for the making of monochromatic, continuous-tone negatives in pictorial photography, exclusive of photography in the infrared. Covers introduction—discussion of problem and explanation of terms, determination of speed and speed number of a specific sample, and determination of speed and speed number of a product.

Optical Society of America, sponsor. American Standards Assn., Z38.2.4-1946. American Standard Method for Determining Spectral-Sensitivity Indexes and Group Numbers for Photographic Emulsions. It is generally accepted that the most complete and exact expression of spectral sensitivity takes the form of a curve in which sensitivity is plotted as a function of wavelength. Covers function and applicability, equipment and preliminary calculations, determination of filter factors required for these calculations, calculations, expression of the

spectral-sensitivity index, classification into spectral-sensitivity groups, designation, and appendix.

Optical Society of America, sponsor. American Standards Assn., Z38.2.5-1946. American Standard for Diffuse Transmission Density. Covers introduction, scope, general definition of density, totally diffuse density, American Standard diffuse density, American Standard diffuse visual density, American Standard diffuse printing density, integrating sphere method, opal glass method, contact printing method, and appendix.

Optical Society of America, sponsor. American Standards Assn., Z38.4.8-1944. Picture Sizes for Roll Film Cameras. Gives diagram and tables showing nominal picture size, width, length, and maximum corner radius for picture sizes for cameras using roll film and using 35-Mm. film.

Optical Society of America, sponsor. American Standards Assn., Z38.8.3-1944. Proposed American Standard Practice for Photographic Processing Manipulation of Films and Plates. Applies to operations concerned with the processing of silver halide photographic layers involving developing, rinsing, fixing, washing, and drying of films and plates, excluding reversal and color processes. Gives definitions, agitation in processing manipulation, processing manipulation with trays, processing manipulation with open tanks, processing manipulation with darkroom loading tanks for daylight (or artificial light) developing, processing manipulation and recommended practice requirements for fixing, processing manipulation and recommended practice requirements for washing, and processing manipulation and recommended practice requirements for drying.

Optical Society of America, sponsor. American Standards Assn., Z38.8.4-1945. American Standard Dimensions for Bite of Film Clips. Covers film clips and dimensions for maximum bite.

Optical Society of America, sponsor. American Standards Assn., Z38.8.6-1946. Proposed American Standard Practice for Photographic Processing Manipulation of Paper. This standard refers only to manipulations during processing. Gives scope, definitions, darkroom tray processing, processing by mechanical manipulation, processing manipulation and requirements for fixing, processing manipulation and requirements for washing, processing manipulation and requirements for drying, and straightening prints.

911.1 CAMERAS AND CAMERA DEVICES

American Standards Assn., Z52.47-1946. Location and Size of Picture Aperture of 16-Millimeter Sound Motion Picture Cameras (American War Standard). Gives diagram, table showing dimensions in inches and millimeters, and appendix.

- American Standards Assn., Z52.48-1946. Location and Size of Picture Aperture of 16-Millimeter Silent Motion Picture Cameras (American War Standard). Gives diagram, table showing dimensions in inches and millimeters, and appendix.
- American Standards Assn., Z52.60-1945. Method of Determining Noise Level of Motion Picture Cameras (American War Standard). Describes a practical method of making motion picture camera noise level measurements, and the conditions under which such measurements shall be made. Gives general requirements, arrangement of equipment for test, test procedure, and chart.
- American Standards Assn., Z52.62-1946. Exposure Time Marking for Between-the-Lens Shutters (American War Standard). Covers scope, definitions, markings, and performance.
- American Standards Assn., Z52.63-1946. Method of Determining Performance Characteristics of Between-the-Lens Shutters Used in Still Picture Cameras (American War Standard). Covers scope and purpose, test equipment, test method, and figures.
- American Standards Assn., Z52.65-1946. Method of Determining Performance Characteristics of Focal Plane Shutters Used in Still Cameras (American War Standard). Covers scope and purpose, test equipment, test method, sample calculation, and figures.
- American Standards Assn., Z52.68-1946. Dimensions and Location of Direct Finder Aperture for 35-Mm. Motion Picture Cameras (American War Standard). Covers definitions, dimensions, location, and figure.
- American Standards Assn., Z52.69-1945. Auxiliary Finder Aperture for 35-Mm. Motion Picture Cameras (American War Standard). Covers definitions, dimensions, and figure.
- Optical Society of America, sponsor. American Standards Assn., Z38.1.47-1946. American Standard Dimensions for 35-Millimeter Film Magazines for Still Picture Cameras. Gives drawing with table showing dimensions.
- Optical Society of America, sponsor. American Standards Assn., Z38.4.9-1944. Back Window Location for Roll Film Cameras. Gives diagram of camera viewed from back and table showing dimensions for back window location for roll film cameras for various negative sizes and exposures.
- U. S. Gov., Army Air Forces Specification 31378; 1945. Camera, Aircraft, Type A-9 (35 Mm. Sound Motion Picture).
- U. S. Gov., Army Air Forces Specification 31383-1; 1945. Camera, Aircraft, Type B-3 (16 Mm. Silent Motion Picture).
- U. S. Gov., Army Air Forces Specification 31391; 1945. Cover, Camera, Type B-8 (Electrically Heated—K-22 Cameras).
- U. S. Gov., Army Air Forces Specification 31392; 1945. Cover, Camera, Type B-9 (Electrically Heated—K-22 Cameras).
- U. S. Gov., Army Air Forces Specification 31393; 1945. Cover, Camera, Type B-10 (Electrically Heated—K-22 Cameras).
- U. S. Gov., Army Air Forces Specification 31398; 1945. Camera, Aircraft, Type K-32.
- U. S. Gov., Army Air Forces Specification 31400; 1945. Body Assembly; Aircraft Camera (Type K-17C Camera).
- U. S. Gov., Army Air Forces Specification 31403; 1945. Body Assembly; Aircraft Camera (Type K-22A Camera).
- U. S. Gov., Army Air Forces Specification 31407; 1945. Focalscope, Aerial Camera Focusing (Autocollimator).
- U. S. Gov., Army Air Forces Specification 31410; 1945. Cover, Camera, Type B-11 (Electrically Heated—Type K-22 Cameras).
- U. S. Gov., Army Air Forces Specification 31414; 1945. Heater, Aircraft Camera, Type P-1 (K-24 Camera—12 and 20 Inch Lens Cone).
- U. S. Gov., U. S. Army, Army Air Forces Specification 75-70-B; 1945. Camera; Ground, Type C-3.
- U. S. Gov., U. S. Army, Army Air Forces Specification 75-94-D; 1945. Camera, Aircraft, Type K-17C.
- U. S. Gov., U. S. Army, Army Air Forces Specification 75-97-D; 1945. Camera, Aircraft, Type K-19C.
- U. S. Gov., U. S. Army, Army Air Forces Specification 75-221-B; 1945. Camera, Aircraft, Type K-22A.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-61; 1944. Camera, Copying, Complete, with Accessories, 24 by 24 In. and 24 by 30 In.
- U. S. Gov., U. S. Army, Signal Corps Specification 75-302; 1944. Identification Equipment; Portable, General Specification for. (35Mm. Still Camera with Accessories).
- U. S. Gov., U. S. Army, Signal Corps Specification 75-317A; 1945. Camera, Still Picture (Army Model 35).
- U. S. Gov., U. S. Army, Signal Corps Specification 75-376; 1945. Cable Release, Still Camera.
- U. S. Gov., U. S. Army, Signal Corps Specification 75-415; 1945. Viewfinder, Variofocal (35 Mm. and 16 Mm. Motion Picture Camera).

911.2 FILMS, PLATES, AND REELS

- American Standards Assn., Z22.2-1946. Emulsion and Sound Record Positions in Camera for 35-Millimeter Sound Motion Picture Film. Gives drawing, emulsion position, speed of projection, and distance between picture and sound.
- American Standards Assn., Z22.3-1946. Emulsion and Sound Record Positions in Projector for 35-Millimeter Sound Motion Picture Film. Gives drawing, emulsion position, speed of projection, and distance between picture and sound.
- American Standards Assn., Z22.9-1946. Emulsion Position in Camera for 16-Millimeter Silent Motion Picture Film. Gives drawing, emulsion position, and normal speed of exposure.
- American Standards Assn., Z22.15-1946. Emulsion and Sound Record Positions in Camera for 16-Millimeter Sound Motion Picture Film. Gives drawing, emulsion position, speed of projection, and distance between picture and sound.
- American Standards Assn., Z22.21-1946. Emulsion Position in Camera for 8-Millimeter Silent Motion Picture Film. Gives drawing, emulsion position, and normal speed of exposure.
- American Standards Assn., Z22.40-1946. Sound Records and Scanning Area of 35-Millimeter Sound Motion Picture Prints. Gives drawings and notes.

- American Standards Assn., Z22.41-1946. Sound Records and Scanning Area of 16-Millimeter Sound Motion Picture Prints. Gives drawings and notes.
- American Standards Assn., Z22.42-1946. Sound-Focusing Test Films for 16-Millimeter Sound Motion Picture Projection Equipment. Gives scope and purpose and test films.
- American Standards Assn., Z22.43-1946. 3000-Cycle Flutter Test Film for 16-Millimeter Sound Motion Picture Projectors. Gives scope and purpose, recording, film stock, resistance to shrinkage, standard length of film, and leader and trailer.
- American Standards Assn., Z22.44-1946. Multi-Frequency Test Film for Field Testing 16-Millimeter Sound Motion Picture Projection Equipment. Gives scope and purpose, frequencies, frequency tolerance, recording, film stock, resistance to shrinkage, film identification, and calibration.
- American Standards Assn., Z22.45-1946. 400-Cycle Signal Level Test Film for 16-Millimeter Sound Motion Picture Projection Equipment. Gives scope and purpose, recording, film stock, resistance to shrinkage, standard length, measurement requirements, and leader and trailer.
- American Standards Assn., Z22.46-1946. 16-Millimeter Positive Aperture Dimensions and Image Size for Positive Prints Made from 35-Millimeter Negatives. Gives drawing and table showing reduction ratio 2.15 to 1.00 for millimeters to inches.
- American Standards Assn., Z22.47-1946. Negative Aperture Dimensions and Image Size for 16-Millimeter Duplicate Negatives Made from 35-Millimeter Positive Prints. Gives drawing and table showing reduction ratio 2.15 to 1.00 for millimeters to inches.
- American Standards Assn., Z22.48-1946. Printer Aperture Dimensions for Contact Printing 16-Millimeter Positive Prints from 16-Millimeter Negatives. Gives drawing and table showing millimeter sizes reduced to inches.
- American Standards Assn., Z22.49-1946. Printer Aperture Dimensions for Contact Printing 16-Millimeter Reversal and Color Reversal Duplicate Prints. Gives drawing and table showing millimeter sizes reduced to inches.
- American Standards Assn., Z22.50-1946. Reel Spindles for 16-Millimeter Motion Picture Projectors. Gives round section, square section, cumulative effect of eccentricity, and reel position on spindles.
- American Standards Assn., Z22.51-1946. Intermodulation Tests on Variable-Density 16-Millimeter Sound Motion Picture Prints. Gives scope and purpose, test method, test equipment, and figures.
- American Standards Assn., Z22.52-1946. Cross-Modulation Tests on Variable-Area 16-Millimeter Sound Motion Picture Prints. Gives scope and purpose, test method, test equipment, and figure.
- American Standards Assn., Z52.14-1944. Nomenclature for Motion Picture Film Used in Studios and Processing Laboratories (American War Standard). Gives definitions of terms, materials, and processes now most widely used by studios and processing laboratories. Covers general requirements, negative film, positive film, color and reversal film terms, chart, and index.
- American Standards Assn., Z52.29-1945. Specifications for 35-Mm. Slide Film for Use in Still Picture Projectors (American War Standard). Gives scope and requirements for film.
- American Standards Assn., Z52.31-1945. Leaders and Trailers for 16-Mm. Sound Motion Picture Release Prints Made from 16-Mm. Original Material (American War Standard). Covers protective leader, identification leader, picture section, runout trailer, test leader, and protective trailer.
- American Standards Assn., Z52.34-1945. Reel Spindles for 16-Mm. Motion Picture Projectors (American War Standard). Gives requirements for round section, square section, cumulative effect of eccentricity, and reel position on spindles.
- American Standards Assn., Z52.36-1945. Sound Records and Scanning Area of 35-Mm. Sound Motion Picture Prints (American War Standard). Gives drawings with dimensions and notes.
- American Standards Assn., Z52.53-1945. Picture and Sound Synchronization Marks for 35-Mm. and 16-Mm. Sound Motion Picture Release Negatives and Other Preprint Material (American War Standard). Gives scope and purpose, definitions, basis synchronization sound mark, picture synchronization marks, alignment of marks for printing, placement of synchronization marks, printing of synchronization marks, and figures.
- Optical Society of America, sponsor. American Standards Assn., Z38.1.32-1945. American Standard Dimensions of 5 1/4- x 2 1/8-Inch Aerial Film Spools. Gives diagram, table showing dimensions, and notes.
- Optical Society of America, sponsor. American Standards Assn., Z38.1.33-1945. American Standard Dimensions of 5 1/2- x 2 5/8-Inch Aerial Film Spools. Gives diagram, table showing dimensions, and notes.
- Optical Society of America, sponsor. American Standards Assn., Z38.1.34-1945. American Standard Dimensions of 7- x 1 13/16-Inch Aerial Film Spools. Gives diagram, table showing dimensions, and notes.
- Optical Society of America, sponsor. American Standards Assn., Z38.1.36-1945. American Standard Dimensions of 7- x 2 3/8-Inch Aerial Film Spools. Gives diagram, table showing dimensions, and notes.
- Optical Society of America, sponsor. American Standards Assn., Z38.1.37-1945. American Standard Dimensions of 7- x 4 5/8-Inch Aerial Film Spools. Gives diagram, table showing dimensions, and notes.
- Optical Society of America, sponsor. American Standards Assn., Z38.1.38-1945. American Standard Dimensions of 9 1/2- x 4-Inch Aerial Film Spools. Gives diagram, table showing dimensions, and notes.
- Optical Society of America, sponsor. American Standards Assn., Z38.1.39-1945. American Standard Dimensions of 9 1/2- x 5 3/16-Inch Aerial Film Spools. Gives diagram, table showing dimensions, and notes.
- Optical Society of America, sponsor. American Standards Assn., Z38.1.40-1945. American Standard Dimensions of 9 1/2- x 6 5/8-Inch Aerial Film Spools. Gives diagram, table showing dimensions, and notes.
- Optical Society of America, sponsor. American Standards Assn., Z38.3.2-1945. Specifications for Films for Permanent Records. Covers processed films ready for storage in repositories and unexposed undeveloped photographic films so constituted in

manufacture that they will have maximum storage life. Gives definitions, raw stock requirements, processed film requirements, test methods, and appendix.

Optical Society of America, sponsor. American Standards Assn., Z38.7.17-1946. American Standard for Reels for Processed Microfilm. Gives drawing with dimensions, spindle holes, core, separation and thickness of flanges, and capacity and outside diameter.

Society of Motion Picture Engineers, sponsor. American Standards Assn., Z22.31-1946. Definition for Motion Picture Safety Film. The term "safety film" as applied to motion picture materials shall comply with American Standard Definition of safety photographic film. All 32-mm., 16-mm., and 8-mm. film must be of the safety type.

U. S. Gov., Army-Navy Aeronautical Specification AN-F-40-2; 1945. Film; Aerial Photographic.

U. S. Gov., Joint Army-Navy Specification JAN-F-31A-1; 1945. Film, Photographic; General Specification for.

U. S. Gov., Joint Army-Navy Specification JAN-F-33-1; 1945. Film, Photographic, Motion-Picture.

U. S. Gov., Joint Army-Navy Specification JAN-F-35-1; 1945. Film, Photographic, Cut-Sheet and Pack.

U. S. Gov., Joint Army-Navy Specification JAN-F-36-1; 1945. Film, Photographic, Photomechanical.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-296-A; 1945. Plates, Photographic Lantern Slide.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-373A; 1945. Plates; Photographic Ferrottype (Chrome Plated).

U. S. Gov., U. S. Army, Signal Corps Specification 75-405; 1945. Rewinds, Film (35mm. and 16mm.).

U. S. Gov., U. S. Army, Signal Corps Specification 75-447; 1945. Rewinder, "V-Mail."

U. S. Gov., U. S. Army, Signal Corps Specification 75-487; 1945. Flanges, Motion Picture Film (16mm.).

U. S. Gov., U. S. Army, Signal Corps Specification 75-488; 1945. Flanges, Motion Picture (35mm.).

911.3 PHOTOGRAPHIC PAPER

Optical Society of America, sponsor. American Standards Assn., Z38.1.43-1944. American Standard Dimensions of Inch-Size Photographic Papers. Covers inch sizes, squareness, and method of measuring.

Optical Society of America, sponsor. American Standards Assn., Z38.1.44-1944. Designation for Thickness of Photographic Paper. Gives table showing designation by thickness.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-157-D; 1945. Paper, Photographic.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-424; 1944. Paper, White-Tissue (Photographic Dodging).

911.4 PHOTOGRAPHIC APPARATUS

American Standards Assn., Z52.61-1945. Photographic Filter Terminology and Nomenclature (American War Standard). Applies only to sharp cut, medium cut, bond transmission, bond absorption, and neutral filters. Gives scope, basic specification of filters, designation of filters, transmittance, classification of filters, standard filter nomenclature,

figures, mathematical procedures, plotting of spectrophotometric curves, and appendix.

Optical Society of America, sponsor. American Standards Assn., Z38.4.13-1944. Specifications for Distance (Focusing) Scales Marked in Meters. Gives basis for marking of scales, series for meter scale, and infinity symbol.

U. S. Gov., Army-Navy Aeronautical Specification AN-I-25-1; 1945. Intervalometers; Camera.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-53-C; 1945. Filters; Photographic (for Aircraft Cameras).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-355-A; 1945. Magazine; Aircraft Camera, Type A-9A (9-by 9-Inch Capacity).

U. S. Gov., U. S. Army, Corps of Engineers Specification 42-64; 1944. Marker and Point Selector, Stereoscopic, w/Case.

U. S. Gov., U. S. Army, Signal Corps Specification 75-497; 1945. Enlarger, Continuous, V-Mail.

U. S. Gov., U. S. Army, Signal Corps Specification 75-507; 1945. Covers, Camera, Silencing.

911.5 CAMERA MOUNTS

U. S. Gov., Army-Navy Aeronautical Specification AN-M-34-2; 1945. Mounts; Vertical Aerial Camera.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-468; 1945. Mount, Vertical Camera, Type A-27A.

U. S. Gov., U. S. Army, Signal Corps Specification 75-455; 1945. Tripod, Motion Picture, Medium Duty.

U. S. Gov., U. S. Army, Signal Corps Specification 75-478; 1945. Tripod, Motion Picture, Heavy Duty.

U. S. Gov., U. S. Army, Signal Corps Specification 75-482; 1945. Tripod, Still Camera, Metal, Adjustable.

U. S. Gov., U. S. Army, Signal Corps Specification 75-491; 1945. Tripod, Motion Picture, Light Duty.

911.6 PHOTOGRAPHIC LENSES

American Standards Assn., Z22.53-1946. Method of Determining Resolving Power of 16-Millimeter Motion Picture Projector Lenses. Gives scope and purpose, test method, test projector, test object, and figure.

American Standards Assn., Z52.50-1946. Registration Distance and Mounting Dimensions for 16-Millimeter Motion Picture Camera Lenses (American War Standard). Covers registration distance and mounting dimensions.

American Standards Assn., Z52.51-1946. Base Point for Distance (Focusing) Scales for Lenses for 16-Millimeter Motion Picture Cameras (American War Standard). Gives diagram and data.

American Standards Assn., Z52.70-1945. Registration Distance and Lens-Mounting Dimensions for 35-Mm. Motion Picture Cameras (American War Standard). Gives definitions, camera registration distance, lens-mounting dimensions, and appendices.

Optical Society of America, sponsor. American Standards Assn., Z38.4.11-1944. Specifications for Threads for Attaching Mounted Lenses to Photographic Equipment. Gives table showing standard major diameters for lens mounting threads, threads per inch, and maximum length; thread form; and limiting dimensions and tolerances.

Optical Society of America, sponsor. American Standards Assn., Z38.4.12-1944. Specifications for Attachment Threads for Lens Accessories. Gives table showing basic thread diameters, pitch, length, thread form, and limiting dimensions and tolerances.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-83; 1946. Posts; Aerial Camera Lens Focusing.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-144-E; 1945. Cone; Aircraft Camera Lens (K-17C Camera).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-145-B; 1945. Lens; Photographic (24-Inch, F/6.0).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-148-A; 1945. Lens; Photographic (12-Inch, F/5.0).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-196-A; 1945. Lens; Photographic (12-Inch, F/2.5).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-212A, 1945. Lens; Photographic (6 3/8-Inch, F/4.5).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-214-A; 1945. Lens; Photographic (20-Inch, F/5.6 Telephoto).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-216-A; 1945. Lens; Photographic (40-Inch, F/8 Telephoto).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-222-B; 1945. Cone, Aircraft Camera Lens (Type K-22A Camera).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-425; 1944. Lens Cone, Single and Stereoscopic (for Type S-7 Camera).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-466; 1945. Lens; Photographic (48-Inch F/6.3 Telephoto).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-469; 1945. Posts, Lens Focusing (Aerial Cameras).

U. S. Gov., U. S. Army, Signal Corps Specification 75-150-C; 1945. Lenses; Photographic, General Specification for.

911.9 MISCELLANEOUS PHOTOGRAPHIC GOODS

U. S. Gov., Army Air Forces Specification 24906A-1; 1945. Photoplate; Bombing Trainer.

U. S. Gov., Army Air Forces Specification 24998; 1945. Viewer; Film, Type B-2 (Bombsight—35 Mm.).

U. S. Gov., Army Air Forces Specification 31342A-1; 1945. Machine; Photographic, Negative, Identification Stamping Type A-3.

U. S. Gov., Army Air Forces Specification 31367-3; 1945. Kit, Photographic Processing, Type N-8 (Contact Printing).

U. S. Gov., Army Air Forces Specification 31388-2; 1945. Developer; Film Type K-3, Photographic.

U. S. Gov., Army Air Forces Specification 31402; 1945. Printer, Projection, Type B-15 (4- by 5-Inch Negative).

U. S. Gov., Joint Army-Navy Specification JAN-M-58-1; 1944. Meters, Photographic-Exposure (Reflected-Light, Photoelectric Type).

U. S. Gov., Joint Army-Navy Specification JAN-C-250; 1945. American Standards Assn. Z52.18-1945. Contact-Printers, Photographic.

U. S. Gov., Treasury Dept., Procurement Div., 633a; 1945. Developer; Photographic, X-Ray Film, Powder. Shall be one type and one grade in powder or crystalline form consisting of a developer proper and of a separate reducing agent. Intended for use in the developing of standard medical X-ray film. Gives requirements for solubility and developing properties; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 669a; 1945. Fixer; Photographic, X-Ray Film, Powder. Covers one type and one grade in powder or crystalline form consisting of a unit made up of a fixer and of a separate hardener. Intended for use in the fixing of standard medical X-ray film. Gives requirements for solubility, fixing properties, hardening properties, sulfuration life at 120°F., and developer capacity; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 679b; 1945. Developer; Photocopying-Machines, Powder. Covers one grade and two types—(I) daylight development and (II) dark development. Shall be in powder or crystalline form consisting of developer proper and a reducing agent. Gives requirements for solubility and developing properties; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 739; 1945. Trimmers; Photographic-Print, with Wood-Base, Hand-Operated. Covers type—(I) portable, class (A) general duty in five sizes and class (B) heavy duty in two classes; and type (II) table in one size. Gives requirements for material, workmanship, design, board, knives, hand lever, graduated rule, finish, marking, performance, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-69-B; 1945. Washer; Photographic Print Type A-1B.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-200-A; 1945. Developer, Film, Type B-5 (Portable).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-201-A; 1945. Washer, Photographic Print, Type A-2A.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-220A; 1945. Kit, Photo Interpreter's, Type F-2.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-247-A; 1945. Dryer, Aerial Roll Film, Type A-10A.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-358-A; 1945. Kit, Photographic Copying and Enlarging, Type P-1 (Airborne).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-423; 1944. Powders; Film and Paper Developer (for Photographic Use).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-467; 1945. Viewer, Continuous-Strip Stereo (Prints and Transparencies).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-470; 1945. Developer, Test-Strip Film, Type N-1 (35 Mm. Motion Picture).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-471; 1945. Kit, Darkroom Photographic, Type U-2 (Portable by Air).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-472; 1945. Printer; Continuous Contact, Type C-1 (Photographic).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-474; 1945. Kit; Photographic Processing, Type N-4 (Printing Sink).

U. S. Gov., U. S. Army, Army Air Forces Specification 75-576; 1945. Kit, Photographic Processing; Type N-3 (Negative Marking).

U. S. Gov., U. S. Army, Signal Corps Specification 75-48-A; 1945. Printers, Contact, Motion Picture, Continuous (16 Mm. and 35 Mm.).

U. S. Gov., U. S. Army, Signal Corps Specification 75-192; 1945. Holder, Sheet Film 5 Inch x 7 Inch.

U. S. Gov., U. S. Army, Signal Corps Specification 75-398; 1945. Splicers, Film, 35 and 16 Mm. (Hand Operated).

U. S. Gov., U. S. Army, Signal Corps Specification 75-408; 1945. Notcher, Film (35 Mm. and 16 Mm.).

U. S. Gov., U. S. Army, Signal Corps Specification 75-456; 1945. Film Repair Equipment (for 16 Mm. Motion Picture Film).

U. S. Gov., U. S. Army, Signal Corps Specification 75-459; 1945. Splicer, Paper, Photographic, "V-Mail."

U. S. Gov., U. S. Army, Signal Corps Specification 75-486; 1945. Racks, Film Storage.

U. S. Gov., U. S. Army, Signal Corps Specification 75-489; 1945. Enlarger, Microfilm.

912. PROJECTION APPARATUS

American Standards Assn., Z22.54-1946. Freedom from Travel Ghost in 16-Millimeter Sound Motion Picture Projectors. Gives scope and purpose, definition, test film, test method, and figure.

American Standards Assn., Z52.41-1945. Sizes of Projection Screens (American War Standard). Covers the sizes of projection screens used for viewing motion pictures, slides, and slidefilms. Gives tables showing standard sizes for portable spring-roller screens, springless-roller screens, folding unperforated screens, fixed-frame unperforated screens, and fixed-frame perforated screens; selection of screen sizes; and figures.

American Standards Assn., Z52.42-1945. Emulsion and Sound Record Positions for Direct Front Projection of 35-Mm. Sound Motion Picture Prints (American War Standard). Gives drawing showing film as seen from the light source in the projector, emulsion position, speed of projection, and distance between sound reproduction point and picture projection aperture.

American Standards Assn., Z52.44-1945. Sound Transmission of Perforated Projection Screens (American War Standard). Gives requirements for sound transmission characteristics and method of measurement.

American Standards Assn., Z52.45-1945. Whiteness of Projection Screens (Semi-Diffusing Reflecting Surface) (American War Standard). Covers the whiteness

of projection screens with a semi-diffusing reflecting surface. Gives requirements for new screens, artificially aged screens, aging apparatus, test specimens, and determination of spectral reflection characteristics.

American Standards Assn., Z52.46-1945. Brightness Characteristics of Projection Screens (Semi-Diffusing Reflecting Surface) (American War Standard). Covers the brightness characteristics of projection screens with a semi-diffusing reflecting surface, which are used for viewing motion pictures, slides, and slide films. Gives definitions, brightness characteristics, and test equipment.

American Standards Assn., Z52.55-1945. Method of Determining Resolving Power of Slide Film Projector Lenses (American War Standard). Describes a method of determining the resolving power of projection lenses used in slide and slide film projectors. Gives test method, test projector, test object, and figures.

Optical Society of America, sponsor. American Standards Assn., Z38.3.3-1946. American Standard Specifications for 35-Millimeter Slidefilm Projection Rolls. Gives definition, use of safety film mandatory, dimensions of slidefilm, dimensions of pictures, and positioning of pictures.

Optical Society of America, sponsor. American Standards Assn., Z38.7.9-1946. American Standard Specifications for Microfilm Readers. Gives definition, dimensions, lens, magnification, illumination, temperature, reels, and sprockets.

Optical Society of America, sponsor. American Standards Assn., Z38.7.15-1945. Specifications for Slidefilm Projectors. Covers slidefilm projectors for projecting either single-frame or double-frame images made on 35-mm. film in unmounted strip or roll form. Gives slidefilm, gates, aperture plates, film advancing mechanism, uniformity of illumination, and slidefilm temperature.

Optical Society of America, sponsor. American Standards Assn., Z38.7.16-1945. Proposed American Standard Method for Determining Resolving Power of Lenses for Projectors for 35-Mm. Slidefilm and 2- x 2-Inch Slides. Gives scope and purpose, test method, test projector, test plate, and figures showing resolution test patterns and resolving power test chart.

Society of Motion Picture Engineers, sponsor. American Standards Assn., Z22.28-1946. Dimensions for Projection Rooms and Lenses for Motion Picture Theaters. Gives projection lens height, projection angle, observation port, projection lens mounting, projection lens focal length, and projection objectives, focal markings.

Society of Motion Picture Engineers, sponsor. American Standards Assn., Z22.29-1946. Standard Dimensions for Theater Projection Screens. Gives table showing screen sizes, grommet spacing, and screen placement.

U. S. Gov., Army Air Forces Specification 40865A; 1945. Trainer; General Purpose, Type R-2 (Opaque Objects).

U. S. Gov., Joint Army-Navy Specification JAN-P-49; 1945. American Standards Assn., Z52.1-1944. Projection Equipment, Sound Motion Picture, 16-Mm. Class 1.

- U. S. Gov., Joint Army-Navy Specification JAN-R-214; 1945. American Standards Assn. Z52.33-1945. Reels and Reel Containers; 16-Mm. Motion Picture Projection.
- U. S. Gov., Joint Army-Navy Specification JAN-P-229; 1945. Projection Equipment, Sound Motion Picture, 16-Mm., Continuous.
- U. S. Gov., Joint Army-Navy Specification JAN-P-245; 1945. Projectors (for Slides and Slide Films).
- U. S. Gov., Treasury Dept., Procurement Div., 429d; 1945. Projectors; Motion-Picture, Portable, 16-Mm. Silent and Sound. Covers three types—(I) silent film projector, (II) silent and sound film projector, (III) sound film projector, which shall be furnished in two classes—(A) 85 decibel above reference sound level, (B) 90 decibel above reference sound level. Gives material, workmanship, general design, electrical system, mechanical requirements, picture projection, sound reproduction, carrying cases, and details; methods of inspection and test; and packing and marking for shipment.
- U. S. Gov., Treasury Dept., Procurement Div., 612a; 1946. Projection Screens and Accessories. Covers two types—(I) glass beaded reflecting surface and (II) semi-diffusing reflecting surface; and two styles—(A) case with attached tripod and (B) hanging case. Gives requirements for sizes, material, workmanship, screen fabrics, spring rollers, battens, operational life, screen cases, carrying cases, and details for each type and style; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-92; 1945. Projector; Vertical, Reflecting.
- U. S. Gov., U. S. Army, Signal Corps Specification 75-413; 1945. Stand, Timing, Portable.
- U. S. Gov., U. S. Army, Signal Corps Specification 75-477; 1945. Projector, Film Inspection, 16Mm. V-Mail.

914. OPTICAL GOODS

914.2 BINOCULARS AND TELESCOPES

- U. S. Gov., Navy Dept. Specification 18B2d; 1945. Binoculars, 6 Power, 30 Mm. Aperture; and Accessories.
- U. S. Gov., Navy Dept. Specification 18B4b; 1945. Binoculars, 7 Power, 50 Mm. Aperture; and Accessories.
- U. S. Gov., Navy Dept. Specification 18S22; 1946. Spyglasses, Officer-of-the-Deck, 10-Powder.
- U. S. Gov., Navy Dept. Specification 18S23; 1946. Spyglasses, Quartermaster, 16-Power (Shipboard Use).
- U. S. Gov., Navy Dept. Specification 18T26; 1945. Telescopes, Ships', Mark I (with Mount).

914.4 READING GLASSES

- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-52; 1944. Glass, Reading, with Case.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-97A; 1946. Glass, Reducing, Engraved Scale.

914.5 EYE AND FACE SHIELDS AND GOGGLES

- U. S. Gov., Army Air Forces Specification 3200-B; 1945. Goggle; Flying, Type B-8.

- U. S. Gov., Joint Army-Navy Specification JAN-G-252; 1945. Goggles, Variable-Density (Lookout).
- U. S. Gov., Navy Dept. Specification 37G13a; 1946. Goggles, Combustion.
- U. S. Gov., Navy Dept. Specification 37G17a; 1945. Goggles, Eyecup, Chippers' (Frames and Lenses).
- U. S. Gov., Navy Dept. Specification 37M7b; 1945. Masks, Face, Winter, N-1.
- U. S. Gov., Navy Dept. Specification 37M12; 1945. Masks, Face, Anti-Flush.
- U. S. Gov., Navy Dept. Specification 37P1; 1945. Protectors, Eye (for Submarine-Escape Apparatus).
- U. S. Gov., Navy Dept. Specification 37S13; 1946. Shields, Face, Plastic.
- U. S. Gov., Navy Dept. Specification 57S20; 1945. Shades, Eye, Cellulose-Acetate.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 41-8; 1945. Shield, Face, Sawyers.

914.9 MISCELLANEOUS OPTICAL GOODS

- U. S. Gov., Federal Specification GG-S-612; 1945. Spectacles; Smoked-Glass. Covers two classes—(A) metal frames and (B) plastic frames. Gives requirements for material, workmanship, instructions, frames, lenses, diameter, tolerance, and thickness; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-87; 1945. Stereoscope, Magnifying, Pocket.

915. DENTAL, SURGICAL, AND MEDICINAL EQUIPMENT AND SUPPLIES

915.0 GENERAL ITEMS

American Trudeau Society, Medical Section of the National Tuberculosis Assn. Minimal Medical and Administrative Standards for Tuberculosis Hospitals and Sanatoria, 1945. A report of the committee on Sanatorium Standards. These standards are concerned principally with the minimal standards for medical administration. Gives data for organization, medical staff, medical services, care of children, routine laboratory procedures, nursing service, health supervision of nurses and other employees, special services, and salaries.

- U. S. Gov., Navy Dept. Specification 51M4c; 1945. Medicinal-Products and Clinical-Laboratory-Reagents.
- U. S. Gov., U. S. Army, Medical Dept. Specification 100-43A; 1945. Preservation, Packaging, and Packing of Surgical, Dental, and Veterinary Instruments.

915.1 DENTAL EQUIPMENT AND SUPPLIES

915.10 General Items

American Dental Assn. Accepted Dental Remedies, Twelfth Edition, 1946. The Council on Dental Therapeutics, which is a standing committee of the American Dental Assn., was organized in January, 1930. Since its founding, it has given consideration to thousands of dental products, of which approximately 600 are currently accepted and are described in this book.

American Dental Assn. Official Rules of the Council on Dental Therapeutics, 1945. An outline of information required by the Council concerning products proposed for inclusion in accepted dental remedies.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Circular C433; 1942. Physical Properties of Dental Materials. This 222 page publication on the physical and chemical properties of dental materials consummates twenty-three years of research at the NBS. Covers general introduction, metals and alloys, ceramic materials, organic materials, dentifrice, methods of purchasing, specifications, bibliography, and appendix.

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R195-46; 1946. Dental Excavating Burs. To reduce the number of bur sizes. Gives tables showing recommended shape of bur and size numbers for burs for angle and straight handpieces and for short-necked burs for angle handpieces.

915.11 DENTAL INSTRUMENTS

U. S. Gov., Federal Specification H-B-248; 1946. Brushes; Flexible-Wire, Dental. Covers one type. Gives requirements for material, workmanship, description, dimensions, and tubing; methods of sampling and inspection; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-B-823; 1946. Burs; Denture-Trimming. Covers one type and three shapes—(A) bud shaped, (B) pear shaped, and (C) flame shaped. Gives requirements for material, workmanship, hardness, fatigue in cutting, eccentricity, marking, dimensions, and blades; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-D-423; 1946. Disks; Safe-Sided, Metal, Abrasive, Dental. Covers one type and two sizes—(1) 5/8 inch in diameter and (2) 7/8 inch in diameter. Gives requirements for material, workmanship, description, metal disk, abrasive, and deterioration; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-F-336; 1946. Files, Dental; Pulp-Canal, with Handle. Covers two types—(I) short handle and (II) long handle; and six sizes—(1) extra, extra fine, (2) extra fine, (3) fine, (4) medium, (5) coarse, and (6) extra coarse. Gives requirements for material, workmanship, marking, preservative covering, cold bend, design, and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-H-563; 1946. Holders; Cotton-Pellet, Dental. Covers one type. Gives requirements for material, workmanship, description, dimensions, and plating; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-K-508; 1946. Knives, Dental; Compound, Office, and Plaster. Covers three types—(I) knife, compound (style A—adjustable blade and B—fixed blade); (II) knife, office and laboratory (style A—two-piece handle and B—one-piece handle); and (III) knife, plaster. Gives requirements for material, workmanship, cutting edge, marking, and details for each type; methods of sampling inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-M-108; 1946. Mandrels; Dental. Covers three types—(I) Morgan-Maxfield, (II) plain screw head, and (III) compensating screw head; two grades—(A) corrosion-resisting steel and (B) brass, nickel plated; and two classes—(1) angle and (2) straight. Gives requirements for sizes, material, workmanship, type designation, eccentricity, shanks, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2129B; 1945. Forceps, Tooth Extracting.

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2130B; 1945. Scissors, General Operating.

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2651A; 1945. Punch, Dental, Veterinary.

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2656A; 1945. File, Bone, Dental, Double-Ended.

915.12 Dental Alloys

U. S. Gov., Federal Specification U-A-451b; 1946. Alloy; for Amalgam, Dental. Covers one type and grade. The comminuted silver alloy shall be in the form of filings. Gives requirements for certification, instructions, chemical composition, and properties after amalgamation; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

915.13 Dental Rubber Goods

U. S. Gov., Federal Specification ZZ-B-117; 1946. Bands; Rubber, Dental Ligature. Covers two sizes—(1) large and (2) small. Gives requirements for material, workmanship, design, physical characteristics, and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

915.19 Miscellaneous Dental Supplies

U. S. Gov., Federal Specification L-C-175; 1946. Cellulose, Regenerated; Sheet, Dental. Covers one type, one grade, and two classes—(A) embossed linen finish and (B) smooth finish. Gives requirements for material, workmanship, general description, dimensions, and finish; sampling and inspection; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification P-C-582; 1945. Compound; Lubricating, Dental. Covers one type. Gives requirements for material, workmanship, consistency, and tubes; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification P-C-601; 1945. Amend. 1; 1946. Cones; Paper, Garnet, Dental. Covers three classes—(A) No. 60, coarse grit; (B) No. 80, medium grit; and (C) No. 100, fine grit. Gives requirements for material, workmanship, cones, and form and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification P-P-156; 1945. Paste, Abrasive; Dental. Covers one type. Gives requirements for material, workmanship, vehicle, preservative, greases, fineness of silicon carbide, and consistency; methods of sampling, inspection,

- and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification U-C-133; 1946. Cavity-Lining and Thinner (Dental). Covers one type and grade. Gives requirements for material, workmanship, description, physical and chemical requirements, and instructions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification U-C-198; 1946. Cement; Red-Copper, Dental. Covers one grade. Gives requirements for material, workmanship, powder, liquid, cement, measuring pipette, labeling, and instructions for use; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification U-C-208; 1945. Cement, Temporary; Antiseptic, Dental. Covers one type. Gives requirements for material, workmanship, standard of purity, instruction for use, general description, antiseptic properties, liquid, powder, bottles, labeling, and cement; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-A-546; 1945. Anvils; Dental. Covers one type. Gives requirements for material, workmanship, description, dimensions, assembly, weight, finish, base, and marking; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-B-95; 1946. Bands and Strips, Matrix; Steel, Dental. Covers one grade; two types—(I) steel matrix strip and (II) steel matrix bands; two classes—(A) bands for No.1 matrix retainer and (B) bands for No.8 and No.9 matrix retainers; and eight sizes. Gives requirements for material, workmanship, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-B-686; 1945. Broaches; Pulp-Canal, Dental. Covers two types—(I) smooth and (II) barbed. Gives requirements for material, workmanship, description, finish, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-C-55; 1945. Cabinets, Developing; X-Ray Film, Dental (Complete with Developing-Tank and Accessories). Covers one type, grade, and class. Gives requirements for material, workmanship, labeling, design, dimensions, construction, developing tank, safelight, viewing tank, fittings, connections, and other accessories; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-C-576; 1946. Cones and Wheels; Felt, Dental. Covers four types—(I) cone, blunt; (II) cone, pointed (size 1 and 2); (III) wheel, square edge; and (IV) wheel, knife edge. Gives requirements for material, workmanship, holes, centers, fiber identification, and details for each type; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-D-426; 1945. Disks; Separating, Silicon-Carbide, Dental. Covers three types—(I) flat in six classes, (II) cup shape in three classes, and (III) knife edge; and three sizes—(1) 5/8 in. in diameter, (2) 3/4 in. in diameter, and (3) 7/8 in. in diameter. Gives requirements for material, workmanship, tolerance, mandrel holes, grit, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-O-671; 1945. Orangewood; Sticks and Points (Dental). Covers two types—(I) sticks and (II) points in three classes—(A) wedge shaped flat point, (B) concave flat point, and (C) spoon shaped flat point. Gives requirements for material, workmanship, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification JJ-B-178; 1946. Belts; for Dental Engines. Covers one type. Gives requirements for material, workmanship, description, length, breaking strength, and elongation; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification QQ-P-428; 1946. Platinum; Foil, Dental. Covers one type. Gives requirements for material, suitability, softness, dimensions, and weight tolerance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification QQ-S-554; 1946. Solder; Gold, Dental. Covers four types—(I) for use with 18-carat gold, (II) for use with 18-carat gold, (III) for use with 20-carat gold, and (IV) for use with 22-carat gold; and two sizes—(1) one-pennyweight strip and (2) two pennyweight strip. Gives requirements for material, workmanship, markings, composition, dimensions, weight tolerances, fusion characteristics, and suitability; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification RR-B-96; 1946. Bands and Sheets; Copper, Dental. Covers two types—(I) copper bands and (II) copper sheets. Gives requirements for material, workmanship, description, size, inside diameter, and bend test; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification RR-R-166; 1946. Receptacles, Waste; Dental. Covers one type. Gives requirements for material, workmanship, design, dimensions, body, removable top, handle, insert retainer, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification SS-P-446; 1946. Plaster-of-Paris; Dental and Orthopedic. Covers three types—(I) model and orthopedic, (II) impression, and (III) impression, self-separating. Gives requirements for material, workmanship, instructions, fineness, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification UU-C-620; 1946. Covers; Headrest (Dental-Chair), Paper. Covers one type. Gives requirements for material, workmanship,

paper stock, description, size, stretch, tensile strength, and seams and stitching; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification ZZ-B-616; 1945. Bowls, Plaster; Rubber, Dental. Covers three bowl sizes—(1) large, (2) medium, and (3) small. Gives requirements for material, workmanship, marking, design, pliability, dimensions, color, flexibility, and aging characteristics; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification FFF-F-486; 1945. Floss, Dental, Waxed. Covers one type, one grade, and four classes—(A) silk, (B) viscose rayon, (C) vinyl resin fibers, and (D) nylon. Gives requirements for material, workmanship, labeling, waxing, sizes, tensile strength, fiber identification, and individual package; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification JJJ-C-555; 1945. Cotton; Pellets, Dental. Covers three sizes—(1) 1/4 in. in diameter, (2) 3/16 in. in diameter, and (3) 1/8 in. in diameter. Gives requirements for material, workmanship, size, and sterility; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2748B; 1945. Gold Solder.

U. S. Gov., U. S. Army, Medical Dept. Specification 10-3014; 1945. Mixer, Investment, Inlay, Small.

915.2 SURGICAL AND MEDICAL INSTRUMENTS

915.24 Mirrors

U. S. Gov., Federal Specification GG-M-408; 1948. Mirrors; Head. Covers one type. Gives requirements for material, workmanship, design, finish, heat resistance, and marking; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-M-416; 1945. Mirrors; Laryngeal. Covers two types—(I) mirrors and universal handles (class A—mirrors only and B—universal handle only) and (II) mirrors with attached handles. Gives requirements for sizes, material, workmanship, marking, handles, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-M-431; 1946. Mirrors and Mirror-Handles; Mouth. Covers two types—(I) plane mirrors and (II) magnifying mirrors. Gives requirements for material, workmanship, mirror, handle, finish, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

915.25 Sphygmomanometers

U. S. Gov., Federal Specification GG-S-618; 1945. Sphygmomanometers; Aneroid and Mercurial. Covers two types—(I) aneroid and (II) mercurial. Gives requirements for material, workmanship, instruction

sheet, leakage of manometer, barometric pressure, finish, identification marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

915.27 Syringes and Needles

U. S. Gov., Federal Specification GG-S-926; 1945. Amend. 1; 1946. Syringé; Ear, Metal (Pomeroy) with Tips. Covers one type and two sizes—(A) two-ounce capacity, and (B) four-ounce capacity. Gives requirements for material, workmanship, threads, marking, description, construction, corrosion resistance, and leakage; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

915.29 Miscellaneous Surgical and Medical Instruments

American Medical Assn. Council on Physical Medicine. Minimum Requirements for acceptable Audiometers, 1945. An instrument for measuring at prescribed frequencies and auditory threshold of any individual in decibels referred to a standard intensity level known as the "normal threshold of hearing." Gives requirements for frequency range, purity of test tones, intensity range and calibration, bone conduction receivers, inherent noise, guarantees, and marketing and advertising.

U. S. Gov., Federal Specification G-H-222; 1946. Hemoglobin-Scale (Tallquist Type). Gives requirements for material, workmanship, design, construction, leaves, absorption, Tallquist-type color scale, labeling, and instructions for use; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-D-798; 1945. Duodenal-Outfits (Rehfuß). Covers one type. Gives requirements for material, workmanship, description, duodenal tube, Rehfuß tip or bucket, adapter, syringe connecting tube, observation tube, assembly, and marking; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-F-591; 1946. Forceps; Cover-Glass. Covers six types—(I) Cornet, (II) Ehrlich, (III) Kalteyer, (IV) Novy, (V) Stewart, and (VI) Mood. Gives requirements for material, workmanship, usability, dimensions, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-K-516; 1946. Knives, Surgical; Detachable Blades and Handles. Covers handles—size 1, narrow nose and size 2, wide nose; blades—size 1, small tang and size 2, large tang; and various types. Gives requirements for material, workmanship, identification, tolerances, gages, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-O-758; 1946. Oscopes; Electric. Covers one type. Gives requirements for material, workmanship, otoscope head, specula, insufflator attachment, battery-handle,

adapter, cord-handle, stamping, lamp, carrying case, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification GG-P-311; 1945. Phorometers. Covers one type, one grade, and two classes--(A) mounted on floor stand and (B) mounted on a wall bracket. Gives requirements for materials, workmanship, marking, general description, components, reading card holder, interpupillary distance, corneal distance gage, leveling device, mounts, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-R-778; 1945. Rules, Prince; Wood (with Leake Attachment). Covers one type, grade, and class. Gives requirements for material, workmanship, description, rule, carrier, Leake attachment, test type card, finish, and marking; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-U-872; 1945. Urethroscopes; Young-Type. Covers two types--(I) straight (anterior) and (II) beaked (posterior); two grades--(A) sterling silver and (B) nickel silver; and four sizes--(1) 22F, (2) 24F, (3) 26F, and (4) 28F. Gives requirements for material, workmanship, description, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2130B; 1945. Scissors, General Operating.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2146C; 1945. Saws, Stille-Gigli.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2536A; 1945. Drill, Bone, with Detachable Metal Handle.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2593A; 1945. Lancet, Blood.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2986A; 1945. Scoop, Gallstone and Scoop, Common Duct.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-3021; 1945. Scissors; Eye, Ear, Nose, and Throat.

915.3 MEDICAL AND HOSPITAL EQUIPMENT

915.31 Disinfectors, Inhalers, and Irrigators

American Medical Assn. Council on Physical Medicine. Ultraviolet Lamps for Disinfecting Purposes, Present Status, 1945. Gives a general discussion of ultraviolet lamps that are in use and includes tentative requirements for acceptance of ultraviolet lamps for disinfecting the air.

915.32 Sterilizers

- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2625A; 1945. Sterilizer Drum.

915.33 Litters and Stretchers

- U. S. Gov., Navy Dept. Specification 57L2d; 1946. Litters, Metal (Steel and Aluminum).
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2002A; 1945. Litter, Metal, Stokes.

915.34 Atomizers

- U. S. Gov., Navy Dept. Specification 57A5; 1945. Atomizers, Hand, Plastic.

915.36 Hospital Furniture

- U. S. Gov., U. S. Army, Quartermaster Corps Specification 32-53; 1946. Table, Bedside, Metal.

915.39 Miscellaneous Medical and Hospital Equipment

- American Medical Assn. Council on Physical Medicine. Acceptance of Sunlamps, 1940. Utilizes the erythema reaction as a basis for judging the effectiveness of ultraviolet lamps and includes requirements for acceptance of sunlamps and regulations to control advertising of sunlamps sold to the public.
- U. S. Gov., Federal Specification DD-B-115; 1946. Baths, Eye; Glass. Covers one type. Gives requirements for material, workmanship, description, cup, stem, base, dimensions, and resistance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-B-81; 1945. Bakers, Therapeutic; Electric, Portable. Covers one type and four sizes--(1) 18 in., (2) 24 in., (3) 36 in., and (4) 54 in. Gives requirements for material, workmanship, construction, overall dimensions, width adjustment, height adjustment, outer shells, inner shells, insulation for heat, handle, lamps, lampholders, switches, wiring, cord and plug, voltage, marking, finish, and dielectric strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-E-438; 1945. Electrocardiographs; Portable. Covers two types--(I) power operated and (II) battery operated. Gives requirements for material, workmanship, carrying cases, stand, accessories and supplies, and details for each type; methods of inspection and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-S-836; 1945. Splints; Wire-Ladder (Medical and Surgical Use). Covers one type, grade, and class. Gives requirements for material, workmanship, marking, description, frame, crosspiece, assembly, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification GG-T-598; 1945. Tourniquets; Braided-Line, Spanish-Windlass-Type. Covers one type, grade, and class. Gives requirements for material, workmanship, description, construction, halliard, color, and unit size package; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 51D15; 1946. Dispensers (for Aerosol Insecticide).
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2005C; 1945. Spoon, Metal (for Typhoid-Carrier Examination).
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2799B; 1945. Frame, Bradford.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2941A; 1945. Lamp, Therapeutic, Mercury Arc, Air-Cooled, Portable.

U. S. Gov., U. S. Army, Medical Dept. Specification 10-3017; 1946. Light, Bench, Laboratory.
 U. S. Gov., U. S. Army, Medical Dept. Specification 10-3018; 1946. Arbor, Emery, for Handpiece.
 U. S. Gov., U. S. Army, Medical Dept. Specification 10-3020; 1946. Unit, Aspirating, Portable.

915.4 HOSPITAL UTENSILS

915.41 Basins

U. S. Gov., Navy Dept. Specification 57B61a; 1946. Basins, Solution, Ring-Mounted (Shipboard Use, in Operating Rooms).

915.45 Medicine Droppers and Glasses

U. S. Gov., Federal Specification DD-G-618a; 1946. Glasses; Medicine. Covers two types—(I) hospital and (II) dental. Gives requirements for material, workmanship, resistance, finish, and details for each type; methods of sampling; inspection, and tests; and packaging, packing, and marking for shipment.

915.46 Stands, Trays, and Carriers

U. S. Gov., Navy Dept. Specification 57S1c; 1945. Stands, Instrument and Dressing, Operating-Room.
 U. S. Gov., U. S. Army, Medical Dept. Specification 10-2518A; 1946. Stand, Bowl, Immersion.
 U. S. Gov., U. S. Army, Medical Dept. Specification 10-2975A; 1944. Tray Set, Type 6.

915.5 MEDICAL AND HOSPITAL SUPPLIES

915.52 First-Aid Supplies

U. S. Gov., Joint Army-Navy Specification JAN-K-280; 1945. Kits, First-Aid, Camouflaged (Aviation, Individual).
 U. S. Gov., Joint Army-Navy Specification Jan-K-303; 1946. Kits, First-Aid, Aeronautic.
 U. S. Gov., U. S. Army, Medical Dept. Specification 10-2068C; 1945. Dressing, First-Aid, Field Brown.

915.56 Suture Material

U. S. Gov., Federal Specification GG-C-439; 1946. Clips, Suture; Metal. Covers one grade of the Michel type, and five sizes—(1) 11 mm., (2) 14 mm., (3) 16 mm., (4) 18 mm., and (5) 22 mm. Gives requirements for material, workmanship, description, dimensions, and temper; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
 U. S. Gov., Federal Specification GG-S-816; 1944. Amend. 1; 1945. Sutures, Surgical; Silk and Nylon. Covers four types—(I) braided, (II) dermal, (III) monofilament, and (IV) twisted; two grades—(A) silk and (B) nylon; three colors—(W) white, (B) black, and (C) colored; containers; treatment; and sizes. Gives requirements for material and workmanship, control (lot) numbers, general characteristics, impregnation, labels, tolerances, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

915.59 Miscellaneous Medical and Hospital Supplies

U. S. Gov., Navy Dept. Specification 57D21; 1945. Dispensers, Salt-Tablet.

916. SURVEYORS' AND ENGINEERS' INSTRUMENTS AND SUPPLIES

916.1 MATHEMATICAL INSTRUMENTS

U. S. Gov., Army-Navy Aeronautical Specification AN-C-108a-1; 1945. Computers; Balance.
 U. S. Gov., U. S. Army, Corps of Engineers Specification 26-46; 1944. Rule, Slide, Stadia, 20-Inch, w/Case.
 U. S. Gov., U. S. Army, Corps of Engineers Specification 42-73; 1945. Computer, Stadia.

916.2 LENGTH AND ANGLE MEASURING INSTRUMENTS

916.22 Angle-Measuring Instruments

U. S. Gov., Army Air Forces Specification 27473A-1; 1946. Sextant; Aircraft Type A-10A, Bubble Type.
 U. S. Gov., Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways. Specification CAA-529; 1942. Clinometers.
 U. S. Gov., Joint Army-Navy Specification JAN-A-188; 1946. Alidades, Telescopic (Shipboard Use).
 U. S. Gov., Joint Army-Navy Specification JAN-C-228; 1945. Circles, Azimuth; and Circles, Bearing.
 U. S. Gov., Navy Dept. Specification 18P7a; 1946. Protractors, Position-Plotting, Hoey.
 U. S. Gov., Navy Dept. Specification 18P6; 1946. Protractors, Parallel-Motion, Plastic.
 U. S. Gov., Navy Dept. Specification 18S14d; 1945. Sextants, High-Grade, Endless-Tangent-Screw, Mark II.
 U. S. Gov., U. S. Army, Corps of Engineers Specification 42-89; 1945. Protractor, Fan, Plastic, Range Deflection, Graduated in Mils and Yards.
 U. S. Gov., U. S. Army, Signal Corps Specification 74-1-E; 1945. Theodolite ML-247-() and Tripod ML-78-().
 U. S. Gov., U. S. Army, Signal Corps Specification 74-104; 1945. Clinometer ML-119-().
 U. S. Gov., U. S. Army, Signal Corps Specification 75-32-E; 1946. Theodolite PH-()-33 and Associated Equipment.
 U. S. Gov., U. S. Maritime Commission Specification 18-MC-13; 1946. Sextants; Plastic, Lifeboat (with Accessories for Navigation). Covers one type and one grade. Gives requirements for materials, workmanship, construction, size, index arm, pivot, mirrors, peep sight tube, shade glasses, handle, finish, accuracy, dimensional stability, color stability, hardness, marking, case, and accessories; inspection, sampling, and methods of test; and packaging, packing, and marking for shipment.

916.5 TRANSIT

U. S. Gov., U. S. Army, Corps of Engineers Specification 42-15B; 1944. Transit, Engineers, with Accessories and Tripod.

916.6 LEVELS (OTHER THAN CARPENTERS')

- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-74; 1945. Level, Engineer, Military with Accessories and Tripod.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-79; 1945. Pin, Turning Point, Level.

916.9 MISCELLANEOUS INSTRUMENTS

- U. S. Gov., Army Air Forces Specification 41028-1; 1945. Trainer; Mock-Up, Type O-85 (Vaid-Radar Aid Computer).

917. METEOROLOGICAL INSTRUMENTS**917.2 BAROMETERS AND BAROGRAPHS**

American Society of Mechanical Engineers. Power Test Codes, Auxiliary Sections. Part 2—Pressure Measurement, Chapter 1 and 6; 1941. Describes various types of barometers, their uses and calibration. Also gives tables, multipliers, and standards for barometers, mercury and water columns, and pressure measurements.

917.3 PSYCHROMETERS, CASE AND SLING

- U. S. Gov., U. S. Army, Signal Corps Specification 74-57; 1946. Thermometers ML-4, ML-5, ML-7 and Psychrometers, ML-24, ML-224.
- U. S. Gov., U. S. Maritime Commission Specification 18-MC-4a; 1945. Hygrometers; Mason's Form. Shall be but one type and one grade. Gives requirements for materials, workmanship, design and construction, thermometric tube assembly, stems, bulb, reservoir, wicks, scales, mounting panel, methods of mounting, accuracy, resistance to salt spray, humidity chart, and marking; inspection, sampling, and methods of test; and packaging, packing, and marking for shipment.

917.9 MISCELLANEOUS METEOROLOGICAL INSTRUMENTS

- U. S. Gov., U. S. Army, Signal Corps Specification 74-81; 1945. Plotting Set AN/GMQ-3 ().

918. LABORATORY APPARATUS AND SUPPLIES**918.2 BEAKERS, GLASSES, GRADUATES, AND FUNNELS**

- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2494A; 1945. Graduates, Enamelware (60, 500, and 1,000 Cc. Capacity).
- U. S. Gov., U. S. Army, Signal Corps Specification 75-8-B; 1945. Graduates, Glass, for Photographic Use.

918.3 CRUCIBLES, BOTTLES, BRUSHES, AND JARS

- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2246B; 1945. Bottle, Specific Gravity.

918.5 DISHES

- U. S. Gov., Federal Specification GG-C-821; 1946. Cups, Dissolving; with Covers and Racks. Covers one type. Gives requirements for material, workmanship, description, dimensions, cups, cover, rack, and marking; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

918.6 MORTARS AND PESTLES

- U. S. Gov., Federal Specification GG-M-621; 1945. Mortars and Pestles; Glass and Porcelain. Covers two types—(I) porcelain (class A—glazed outside and B—unglazed) and (II) glass (class A—regular and B—dental). Gives requirements for material, workmanship, tolerances, identification, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

918.8 BIOLOGICAL APPARATUS AND SUPPLIES**918.81 Albuminometers**

- U. S. Gov., Federal Specification GG-A-438; 1945. Albuminometers. Covers one type, one grade, and one class. Gives requirements for material, workmanship, instructions, description, and physical requirements; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

918.86 Haemocytometers

- U. S. Gov., Federal Specification GG-H-216; 1946. Hemacytometers. Covers one type. Gives requirements for material, workmanship, description, counting chamber, pipettes, carrying case, and instructions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

918.87 Spatulas

- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2517A; 1945. Spatulas.

918.9 MISCELLANEOUS LABORATORY APPARATUS AND SUPPLIES

- American Society for Testing Materials, D647-45T; 1945. Tentative Specifications for Molds for Test Specimens of Molding Materials Used for Electrical Insulation. Cover the design of standard molds to be used to mold test specimens from molding materials used for electrical insulation. Gives molds for 1/2 by 1/2 by 5 in. specimen, molds for disk test specimen, and molds for tension test specimen.
- U. S. Gov., Federal Specification GG-T-696; 1946. Tripods; Laboratory. Covers two types—(I) grate type (4 1/2 in. diameter) and (II) ring type (size 1, 5 in. diameter and size 2, 8 in. diameter). Gives requirements for material, workmanship, branding, finish, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification LLL-R-53; 1945. Racks; Test-Tube. Covers one grade, one class, and two types—(I) 24-tube capacity and (II) 14-tube capacity. Gives requirements for material, workmanship, design, construction, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Navy Dept. Specification 57T6c; 1945. Testing-Outfits, Dissolved-Oxygen.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2351B; 1945. Support, Test Tube, Wassermann Rack.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2744A; 1945. Blowpipe Outfit.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 56-85-14; 1946. Analyzer, Exhaust-Gas; Electric, Portable (Dry-Battery Operated).

919. MISCELLANEOUS SCIENTIFIC AND LABORATORY APPARATUS

919.3 COMPASSES

American Institute of Electrical Engineers. Recommended Practice for Electrical Installations on Shipboard, 45; 1945. Gyro Compass Equipment and Gyro Pilot. Gives general requirements, installation and location, and wiring for gyro compass equipment and general requirements, power supply, wiring and installation, and standard parts for gyro pilots.

U. S. Gov., Army Air Forces Specification 27646; 1945. Compass, Pocket, Type H-4.

U. S. Gov., Army-Navy Aeronautical Specification AN-A-8a-1; 1945. Amplifiers; Gyro Flux Gate Compass.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-79b; 1945. Compasses; Pilot's Card Type Magnetic.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-92-3; 1945. Compasses; Astro.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-116-2; 1945. Compass Liquid; Aircraft.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-138-1; 1945. Compasses; Remote Indicating Magnetic.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-146-2; 1946. Compasses; Pilot's Standby.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-156; 1946. Compasses; Installation of Pilot's Standby.

U. S. Gov., Navy Dept. Specification 18C1d; 1945. Compasses, Ship, Navy No.1, Magnetic (7 1/2 Inch Card).

U. S. Gov., Navy Dept. Specification 18P3C; 1945. Peloruses, Illuminated and Nonilluminated.

U. S. Gov., U. S. Army, Corps of Engineers Specification 42-70; 1945. Compass, Sun, Universal Type.

919.4 HYDROMETERS

U. S. Gov., Federal Specification GG-T-241; 1944. Amend. 1; 1945. Testers; Antifreeze-Solutions. Covers one grade; two types—(I) combination and (II) single; and three classes—(A) alcohol, (B) methanol, and (C) ethylene glycol. Gives requirements for material, workmanship, rubber fittings, glass parts, marking, identification, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

919.6 NAUTICAL INSTRUMENTS

U. S. Gov., Federal Specification GG-D-236; 1945. Depth-Perception-Apparatus. Covers one type. Gives requirements for material, workmanship, description, construction, and finish; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GGG-C-106; 1945. Calipers and Depth-Gages; Micrometer. Covers eight

types of micrometer calipers and depth gage micrometers measuring 1,000ths in., 10,000ths in., and 100ths millimeter. Gives requirements for material and workmanship, size and range, frames, micrometer screw spindle, measuring faces, barrel and thimble, graduations, spindle lock nut or clamp ring, ratchet or friction stop, adjustments, accuracy, finish, marking, and details for each type; method of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Joint Army-Navy Specification JAN-C-222; 1945. Calculators, Distance-Speed-Time, Navigational.

U. S. Gov., Navy Dept. Specification 18P8; 1945. Protractors, Parallel-Motion, Plastic.

U. S. Gov., Navy Dept. Specification 18S12b; 1945. Scales, Measuring, for Sounding-Machine Tubes.

U. S. Gov., U. S. Maritime Commission Specification 18-MC-5a; 1945. Protractors; Navigational. Covers one type, grade, and size in two compositions—(A) methyl methacrylate resin and (B) vinyl chloride-vinyl acetate copolymer. Gives requirements for material, workmanship, body, thickness, accuracy, flexibility, dimensional stability, water absorption, finish, identification, folder, and details for each composition; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

919.8 THERMOMETERS AND PYROMETERS

919.80 General Items

American Society of Mechanical Engineers. Power Test Codes, Auxiliary Sections. Part 3—Temperature Measurement, Chapter 4; 1945. This pamphlet describes three types of resistance thermometers—platinum, nickel, and copper, and discusses their range, accuracy and construction; as well as their advantages and disadvantages when compared with liquid-in-glass thermometers.

919.81 Bath Thermometers

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2171B; 1946. Thermometer, Bath.

919.82 Chemical Thermometers

American Society for Testing Materials, E1-45T; 1945. American Assn. of State Highway Officials M93-45. Tentative Specifications for A.S.T.M. Thermometers. For glass thermometers graduated in centigrade or Fahrenheit degrees. Gives requirements, type, stem, bulb, graduations, special marking, scale error, standardization, test for permanency of range, case, and gives table showing added requirements.

U. S. Gov., Navy Dept. Specification 18T8d; 1945. Thermometers, Chemical.

919.84 Maximum and Minimum Thermometers

U. S. Gov., Joint Army-Navy Specification JAN-T-290; 1946. Thermometers, Maximum-and-Minimum.

919.89 Miscellaneous Thermometers

U. S. Gov., Army Air Forces Specification 27528A-1; 1945. Indicator; Temperature Type A-1A, Aircraft Thermocouple Single Type.

- U. S. Gov., Army Air Forces Specification 27529-1; 1945. Indicator; Temperature, Type A-2 (Aircraft—Thermocouple Type).
- U. S. Gov., Army Air Forces Specification 27530A; 1945. Indicator; Temperature Type B-1A, Aircraft Thermocouple Dual Type.
- U. S. Gov., Army Air Forces Specification 27531-1; 1945. Indicator; Temperature, Type B-2 (Aircraft—Thermocouple Type).
- U. S. Gov., Army Air Forces Specification 27538-6; 1945. Indicator; Temperature, General Specification for.
- U. S. Gov., Navy Dept. Specification 18T1e; 1945. Thermometers, Water, Standard.
- U. S. Gov., Navy Dept. Specification 18T5c; 1945. Thermometers, Air, Standard.
- U. S. Gov., Navy Dept. Specification 18T7L; 1946. Thermometers, Industrial.
- U. S. Gov., Navy Dept. Specification 18T9f; 1945. Thermometers, Storage-Battery.
- U. S. Gov., Navy Dept. Specification 18T13c; 1945. Thermometers, Distant-Reading, Indicating-Dial.
- U. S. Gov., Navy Dept. Specification 18T24b; 1946. Thermometers, Mercurial, for Superheated Steam.
- U. S. Gov., U. S. Army, Signal Corps Specification 74-57; 1948. Thermometers ML-4, ML-5, ML-7 and Psychrometers, ML-24, ML-224.
- U. S. Gov., U. S. Army, Signal Corps Specification 74-86; 1945. Strut Thermometer ML-353 ()/AM.
- U. S. Gov., U. S. Maritime Commission Specification 18-MC-2a; 1945. Thermometers; Shiphold and Utility. Covers one grade, two types, and two classes. Gives requirements for materials, workmanship, construction, scale, thermometric tube assembly, accuracy, corrosion resistance, dimensional stability, resistance to immersion, freezing, and thawing, light stability, marking, and details; inspection, sampling, and methods of test; and packaging, packing, and marking for shipment.

919.9 SCIENTIFIC AND LABORATORY APPARATUS NOT ELSEWHERE CLASSIFIED

- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-3A; 1945. Comparator; Color, Residual Chlorine and pH Indicator, for Water Purification Units.

930-939 OFFICE, PRINTING, LITHOGRAPHIC, AND EDUCATIONAL SUPPLIES

931. HANDWRITING SUPPLIES

931.1 PENCILS, LEADS, AND CRAYONS

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS130-46; 1946. Color Materials for Art Education in Schools. To provide a guide to school authorities in the purchase of color materials for art education in schools. Covers minimum requirements for color materials of satisfactory color and working properties. Gives definitions and detail requirements for wax crayons, pressed crayons, semi-moist water colors, dry cake water colors, liquid tempera, powder tempera, white dustless blackboard crayons, sight saving dustless blackboard crayons, colored dustless crayons, molded sight saving blackboard crayons, molded white chalk crayons, molded colored chalk crayons, lecturers' colored chalk crayons, lecturers' colored dustless crayons, pastel crayons, and modeling clay. Initiated by the Crayon, Water Color and Craft Institute, Inc.
- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R192-46; 1945. Crayons, Chalks, and Related Art Materials for School Use (Types, Sizes, Packaging, and Colors). Covers types, sizes, containers, number to package, colors, shapes, and packaging. Gives tables showing data for drawing crayons, kindergarten or enlarged drawing crayons, pastels, dustless chalk, molded chalk, colored chalk, lecturers' chalk, modeling clay, pans for semimoist water colors, size of cake for dry-cake water colors, and colors for crayons, chalks, water colors, and tempera.
- 931.4 ERADICATORS AND ERASERS**
- U. S. Gov., Federal Specification GG-S-321a; 1946. Shields; Erasing, Draftsmen's. Covers one type and grade. Gives requirements for material, workmanship, finish, thickness, elasticity, and design and

size; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

931.5 DESK PADS, BLOTTER HOLDERS, AND HAND BLOTTERS

- U. S. Gov., Navy Dept. Specification 53B7A; 1946. Blotters, Hand, Wood, or Plastic.

932. OFFICE DEVICES AND SUPPLIES (EXCEPT HANDWRITING SUPPLIES)

932.1 OFFICE MACHINES

- U. S. Gov., Treasury Dept., Procurement Div., 764; 1946. Time-Stampers. Covers two types—(I) non-electric, spring driven, manual imprint and (II) electric; two classes—(A) motor driven A.C. and (B) minute impulse; two styles—(1) manual imprint and (2) magnetic imprint; and three models—(a) hand trip, (b) paper trip, and (c) remote magnetic trip. Gives requirements for general design, imprint and imprint mechanism, clock face, housing, marking, and details for each type, class, style, and model; method of sampling, inspection, and test; and packaging, packing, and marking.
- U. S. Gov., Treasury Dept. Procurement Div., 765; 1946. Adding-Machines; Listing, Stationary Carriage. Covers two types—(I) columnar keyboard and (II) 10-key keyboard type; three classes—(A) single register, hand operated, (B) single register, electrically operated, and (C) duplex register, electrically operated; and three styles—(1) addition only, (2) addition and direct subtraction, and (3) addition, direct subtraction and credit totals. Gives requirements for sizes, material and workmanship, bid sample, operation, minimum features, carriage, ribbon, keys, base, and details for each type, class, and style; methods of sampling, inspection and tests; and packaging, packing, and marking for shipment.

932.2 SUPPLIES FOR OFFICE MACHINES

U. S. Gov., Federal Specification L-S-281; 1946. Shields; Erasing, Typists'. Covers one type and grade. Gives requirements for material, workmanship, bid sample, finish, thickness, design, flammability, and flexibility; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification DDD-R-311b; 1945. Ribbons; Typewriter. Covers one grade and three types—(A) single color, (B) two-color, and (C) combined record and copying. Gives requirements for material and workmanship, comparison sample, fabric, thread count, width, length, thickness, edges, inking, character of writing, wear-down, recovery, permanence of writing, and spools and reversing attachments; methods of sampling and tests; and packaging, packing, and marking for shipment.

932.3 RECEPTACLES, SUPPORTS, AND HOLDERS

U. S. Gov., Treasury Dept., Procurement Div., 595a; 1946. Holders; Copy, Typist's. Covers three types—(I) forward reading, mechanical adjustment (class A—collapsible, B—noncollapsible, and C—stationary reading plate); (II) side reading, mechanical adjustment (class A—flat reading plate and B—cylindrical body); and (III) side reading, manual adjustment. Gives requirements for material, workmanship, general design, line spacing, construction, rigidity, finish, marking, instructions, and details for each type and class; methods of sampling and inspection; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Corps of Engineers Specification 42-104; 1946. Holder, Ink Bottle, Bronzed Iron.

932.6 BINDERS AND STUB FILES

U. S. Gov., Navy Dept. Specification 53B6b; 1946. Binders, Loose-Leaf, Catalog.

U. S. Gov., Navy Dept. Specification 53B14; 1946. Binders, Loose-Leaf, Special (Locked-Ring Type).

U. S. Gov., U. S. Army, Corps of Engineers Specification 1-43; 1944. Binder; Loose-Leaf, Ring-Type, with Filler and Index.

932.9 MISCELLANEOUS OFFICE DEVICES AND SUPPLIES

U. S. Gov., Federal Specification TT-C-621; 1942. Amend. 1; 1945. Correction-Compound; Stencil. Covers one type and grade. Gives material, workmanship, general requirements, viscosity, drying properties, thinning properties, film properties, and performance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification ZZ-P-41; 1937. Amend. 1; 1945. Pads; Finger, Rubber and Synthetic Rubber, (for) Office Use. Covers a single grade and two types—(I) perforated and (II) without perforations. Gives requirements for material, bid samples, design, dimensions, tensile strength, ultimate elongation, and accelerated aging test; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Treasury Dept., Procurement Div., 298c; 1946. Stamps, Rubber. Covers one grade and four types. Gives requirements for material, workmanship, and details of each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

933. INKS**933.9 SPECIAL AND MISCELLANEOUS INKS**

U. S. Gov., Federal Specification TT-I-558; 1945. Ink, Stencil; Opaque, for Marking Nonporous Surfaces (Metal, Glass, Etc.). Covers one grade and type. Gives pigment, vehicle, quantitative requirements, qualitative requirements, and colors; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification TT-I-559; 1945. Ink, Stencil; Opaque, for Marking Porous Surfaces (Wooden-Boxes, Fiber-Cartons, Etc.). Covers one grade and type. Gives pigment, vehicle, quantitative requirements, qualitative requirements, and colors; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 746; 1946. Ink; Numbering-Machine. Covers one grade and five types—(A) black, (B) blue, (C) green, (D) red, and (E) violet. Intended for use with hand operated numbering machines having metal type. Gives requirements for material, stability, impression, drying time, and fading; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

935. DRAFTSMEN'S AND ENGRAVERS' DEVICES AND SUPPLIES

Society of Automotive Engineers, Inc. Aeronautical Drafting Manual, 1946. Includes procedures for preparation of drawings, dimensioning by the decimal system, notes, abbreviations and symbols, definitions, threads, gears, splines and serrations, forgings, finish marks and special finishes, springs, and tables.

U. S. Gov., Federal Specification GG-S-161; 1946. Scales; Draftsmen's. Covers two types—(I) architects' and (II) engineers'; three classes—(A) flat two-bevel, (B) flat four-bevel, and (C) triangular; and two styles—(1) wood with white plastic facings and (2) plastic with white plastic facings. Gives requirements for material, workmanship, construction, tolerances, sizes, sheaths, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification GG-S-776a; 1945. Straightedges; Steel (Draftsmen's). Covers two types—(I) square-edged and (II) one edge bevelled. Gives requirements for sizes, material, workmanship, working edges, and dimensions; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Joint Army-Navy Specification JAN-R-63A; 1945. Rulers, Parallel.

U. S. Gov., Joint Army-Navy Specification JAN-P-288; 1946. Protractors, Three-Arm, Metal.

- U. S. Gov., Joint Army-Navy Specification JAN-P-305; 1946. Protractors, Parallel-Motion.
- U. S. Gov., Joint Army-Navy Specification JAN-S-330; 1946. Stick, Cruiser, Timber.
- U. S. Gov., Navy Dept. Specification 18-I-1c; 1945. Instruments, Drawing.
- U. S. Gov., Navy Dept. Specification 18P10; 1946. Pantographs, 26-Inch.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 26-2B; 1944. Instruments, Drawing (First Grade, in Sets).
- U. S. Gov., U. S. Army, Corps of Engineers Specification 26-41A; 1944. Protractors, Semicircular, Plastic, Graduated in Mils and Yards.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-53A; 1946. Planimeter, Polar, Compensating, with Case.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-68; 1945. Angulator.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-83; 1945. Scale, 45 Degree, Plotting, Plastic, 26 to Set.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-86; 1945. Square, 45 Degree, Plotting Plastic.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-88; 1945. Scales, Plotting, Flat, Boxwood.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-93A; 1945. Straightedge, Steel, Both Edges Beveled, Graduated in Yards, 1/25,000 One Edge, 1/50,000 Other Edge.

936. PRINTING AND LITHOGRAPHING DEVICES AND SUPPLIES

- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-60; 1944. Press, Lithographic Offset, Motor Driven, 110-Volts 60-Cycle AC (20 x 22 1/2 In. Sheet Size).
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-72; 1945. Frame, Printing, Blue Print, Brown Print, etc., 24 x 30 Inches.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 42-112; 1946. Frame, Printing, Photolithographic Plate, Vacuum, Bench Type.

937. EDUCATIONAL SUPPLIES

937.1 BLACKBOARD CHALK

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS130-46; 1946. Color Materials for Art Education in Schools. To provide a guide to school authorities in the purchase of color materials for art education in schools. Covers minimum requirements for color materials of satisfactory color and working properties.

940-949 TOYS, ATHLETIC AND SPORTING GOODS, AND INSIGNIA

943. ATHLETIC AND SPORTING GOODS

943.1 BALLS

- American Bowling Congress. Rules and Regulations, 1945-1946. Includes weight and size, and balance of balls.
- National Duck Pin Bowling Congress, 1944-45. Balls. Gives requirements for diameter and weight.

Gives definitions and detail requirements for wax crayons, pressed crayons, semi-moist water colors, dry cake water colors, liquid tempera, powder tempera, white dustless blackboard crayons, sight saving dustless blackboard crayons, colored dustless crayons, molded sight saving blackboard crayons, molded white chalk crayons, molded colored chalk crayons, lecturers' colored chalk crayons, lecturers' colored dustless crayons, pastel crayons, and modeling clay. Initiated by the Crayon, Water Color and Craft Institute, Inc.

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R192-45; 1945. Crayons, Chalks, and Related Art Materials for School Use (Types, Sizes, Packaging, and Colors). Covers types, sizes, containers, number to package, colors, shapes, and packaging. Gives table showing data for drawing crayons, kindergarten or enlarged drawing crayons, pastels, dustless chalk, molded chalk, colored chalk, lecturers' chalk, modeling clay, pans for semimoist water colors, size of cake for dry-cake water colors, and colors for crayons, chalks, water colors, and tempera.
- U. S. Gov., Federal Specification SS-C-838a; 1945. Crayons; Chalk, White. Covers three types—(I) dustless (95 percent calcium carbonate), round and hexagonal; (II) dustless (50 percent calcium carbonate), round and hexagonal; and (III) molded (90 percent calcium sulphate). Gives requirements for material and workmanship, composition, length, diameter, minimum weight, and minimum breaking strength; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

937.9 MISCELLANEOUS EDUCATIONAL SUPPLIES

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS130-46; 1946. Color Materials for Art Education in Schools. To provide a guide to school authorities in the purchase of color materials for art education in schools. Covers minimum requirements for color materials of satisfactory color and working properties. Gives definitions and detail requirements for wax crayons, pressed crayons, semi-moist water colors, dry cake water colors, liquid tempera, powder tempera, white dustless blackboard crayons, sight saving dustless blackboard crayons, colored dustless crayons, molded sight saving blackboard crayons, molded white chalk crayons, molded colored chalk crayons, lecturers' colored chalk crayons, lecturers' colored dustless crayons, pastel crayons, and modeling clay. Initiated by the Crayon, Water Color and Craft Institute, Inc.

- U. S. Golf Assn. Rules for Golf, 1946. Includes requirements for form and make of golf clubs and balls.

943.8 FISHING LINES AND ACCESSORIES

- U. S. Gov., Army Air Forces Specification 16181; 1945. Line; Nylon Fishing.
- U. S. Gov., Navy Dept. Specification 37K1; 1945. Kits, Fishing, Emergency.

943.9 MISCELLANEOUS ATHLETIC AND SPORTING GOODS**943.93 Golf Goods**

U. S. Golf Assn. Rules for Golf, 1946. Includes requirements for form and make of golf clubs and balls.

943.98 Bowling Goods and Apparatus

National Duck Pin Bowling Congress, 1944-46. Alleys. Gives requirements for width, length, clear run, friction member, pin spots, foul line, and electric eye.

National Duck Pin Bowling Congress, 1944-46. Duckpins. Gives requirements for diameter at top, diameter at middle, diameter at base, height, taper, weight, maple, and fiber band.

National Duck Pin Bowling Congress, 1944-46. Gutters and Pits. Gives requirements for location, wood necessary, width, shape, and depth of gutters; and for depth, width, incline, board at rear of alley bed, kickbacks, and kickback plates.

944. BADGES, INSIGNIA, AND MARKINGS**950-959****CONTAINERS****950. GENERAL ITEMS**

American Society for Testing Materials, D642-45T; 1946. Tentative Method of Compression Test for Shipping Containers. Covers two procedures--(A) ability to resist external compressive loads applied to its faces and (B) ability to resist external compressive loads applied to diagonally opposite edges or corners. Suitable for testing boxes, crates, barrels, drums, kegs, and pails made of metal, wood, fiberboard, and combinations of these materials. Gives apparatus, test specimens and number of tests, sealing fiberboard containers, conditioning, moisture content, procedure A, procedure B, and report.

American Society for Testing Materials, D776-45T; 1945. Tentative Method of Drop Test for Shipping Containers. Covers two procedures--(A) ability to provide protection to its contents and (B) ability to withstand rough handling. Suitable for testing boxes, crates, barrels, drums, kegs, and pails made of metal, wood, fiberboard, or combinations of these materials. Gives apparatus, test specimens and number of tests, conditioning, moisture content, general procedure, procedure A, procedure B, report, and appendix.

Assn. of American Railroads, Freight Loading and Container Section. Bulletin 45; 1944. Dictionary of Standard Terms for Use in Describing Containers and Loading and Bracing Methods for Fruits, Fresh (Not Cold-Packed Nor Frozen) and Vegetables, Fresh or Green (Not Cold-Packed Nor Frozen). The purpose of this Dictionary is to describe, define and illustrate the usual terms and expressions used to describe the containers used and the methods of loading, stripping, and bracing followed. Section I covers loading and bracing and Section II covers containers.

944.1 BADGES

U. S. Gov., Marine Corps Specification, revised 1944. Bars, Qualification.

944.2 IDENTIFICATION TAGS

U. S. Gov., U. S. Army, Quartermaster Corps Specification 34-18B; 1945. Tags, Identification.

944.3 INSIGNIA AND ORNAMENTS

U. S. Gov., Marine Corps Specification, 1946. Numerals, Athletic.

U. S. Gov., Navy Dept. Specification 71D3; 1945. Devices, Collar, Women's Naval Reserve.

U. S. Gov., Navy Dept. Specification 71M4a; 1946. Marks, Sleeve, Women's Naval Reserve.

944.5 DECALCOMANIA

U. S. Gov., Army-Navy Aeronautical Specification AN-D-16; 1945. Decalcomanias; Aircraft.

944.7 EMBLEMS

U. S. Gov., Marine Corps Specification, 1944. Emblem, Honorable Discharge.

Manufacturing Chemists' Assn. of the U. S. Manual Sheet H-1 (for Shippers and Consignees). Aqueous Hydrofluoric Acid (HF). Recommended Practice for the Safe Handling and Discharging of Containers, adopted 1940, revised 1945. Includes description of product, precautions, labels, shipping containers for aqueous hydrofluoric acid, rubber drums, lined and unlined steel drums, lead carboys, wood barrels, tank cars, and facsimile of labels recommended for application to containers.

U. S. Gov., Army Air Forces Specification 41014; 1946. Packaging of Army Air Forces Clothing and Shoes.

U. S. Gov., Army Air Forces Specification 40737A; 1946. Marking; Petroleum-Product Container, Domestic and Export.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-13a-1; 1945. Preservation and Packaging; Parts and Equipment (General Specification for).

U. S. Gov., Army-Navy Aeronautical Specification AN-P-62b-1; 1946. Packaging of Lightweight Aircraft Accessories.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-81-1; 1946. Packaging and Packing of Aircraft Materiel in Steel Shipping Containers.

U. S. Gov., Federal Specification U-M-166; 1944. Amend. 1; 1945. Medicinal Products and Clinical Laboratory Reagents; General Specification for Containers (Packaging and Packing). Gives requirements for types and classes, grades and sizes, material, workmanship, labeling, compatibility of container, and details for glass, metal, fiber, paper, plastic, and wood containers; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Includes definitions of explosives and dangerous

articles other than explosives, accepted and forbidden, for transportation by common carriers by rail freight, rail express, highway, or water. Classification of explosives as—class A, dangerous explosives (ammunition for cannon; ammunition—non-explosives; ammunition—projectiles, grenades, bombs, mines, and torpedoes; ammunition for small arms with explosive bullets or projectiles; ammunition, chemical, explosive; black powder and low explosives; high explosives; and initiating or priming explosives); class B, less dangerous explosives (ammunition for cannon with empty, sand loaded or solid projectiles or without projectiles; fireworks; and smokeless powder); and class C, relatively safe explosives (ammunition for small arms; blasting caps; cordeau detonant; fuzes; igniters; instantaneous fuse; primers; safety fuse; and toy caps). Classification of dangerous articles other than explosives as—inflammable liquids, inflammable solids and oxidizing materials, acids and other corrosive liquids, compressed gasses, and poisonous articles (class A, extremely dangerous poisons; class B, less dangerous poisons; and class C, tear gas or irritating substances). Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Joint Army-Navy Specification JAN-P-100; 1945. Packaging and Packing for Overseas Shipment, General Specification.

U. S. Gov., Joint Army-Navy Specification JAN-P-116; 1945. Packaging and Packing for Overseas Shipment; Preservation, Methods of.

U. S. Gov., Joint Army-Navy Specification JAN-P-131-1; 1945. Packaging and Packing for Overseas Shipment—Barrier-Material; Moisture-Vaporproof, Flexible.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 100-2E; 1944. Standard Specification for Marking Shipments by Contractors.

U. S. Gov., U. S. Army, Signal Corps Specification 71-4944; 1945. Identification Marking of Ground Signal Equipment.

951. BARRELS, DRUMS, AND TUBS

951.1 BARRELS

951.12 Metal Barrels

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5, Steel Barrels or Drums (Removable Head Containers Authorized). Capacities of not over 5, 10, and 33 gal. for straight side type without rolling hoops; 33, 55, and 110 gal. for straight side type with U-rolling hoops and with I-bar rolling hoops; 33 and 55 gal. for straight side type with rolled or swedged in rolling hoops; and 33 and 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other

Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5A, Steel Barrels or Drums (Removable Head Containers Not Authorized). Capacities of not over 10 gal. for straight side type without rolling hoops; 30, 55, and 110 gal. for straight side type with I-bar rolling hoops; and 30 and 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5B, Steel Barrels or Drums (Removable Head Containers Authorized). Capacities of not over 5 and 10 gal. for straight side type without rolling hoops; 33, 55, and 110 gal. for straight side type with rolled or swedged in hoops; and 33 and 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5C, Steel Barrels or Drums (Removable Head Containers Not Authorized). To be of 18 chrome 8 nickel alloy or other types of stainless steel of equivalent corrosion resistance and physical properties. Capacities of not over 15 gallons for straight side type without rolling hoops; 30, 55, and 110 gallons for straight side type with I-bar type rolling hoops; and 30 and 55 gallons for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5D, Steel Barrels or Drums—Rubber Lines (Removable Head Containers Authorized). Similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein), except lining, marking, leakage test, and additional test. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5G, Steel Barrels or Drums (Removable Head Containers Not Authorized). Capacities not over 5, 10, and 33 gal. for straight side type without rolling hoops; 33, 55, and 110 gal. for straight side type with U-type rolling hoops and with I-bar type rolling hoops; 33 and 55 gal. for straight side type with rolled or swedged in rolling hoops; and 33 and 55 gal. for

bilge type without rolling hoops. Covers general requirements, material (austenitic 18- and 8-chrome nickel alloy), construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5H, Steel Barrels or Drums—Lead Lined (Removable Head Containers Not Authorized). Similar to ICC Specification 6A, Steel Barrels or Drums (referred to herein), except lead lined. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 6K, Nickel Barrels or Drums (Removable Head Containers Not Authorized). Similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein), except material requirement of 99.0 percent pure nickel. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5L, Steel Barrels or Drums (Removable Head Containers Not Authorized). Similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein), except not over five gallon rectangular type. Published by American Trucking Assn., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5X, Steel Drums—Aluminum Lined (Removable Head Containers Not Authorized). Similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein), except aluminum lined. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 6A, Steel Barrels or Drums (Removable Head Containers Authorized). Capacities 5 to 10 gal. for straight side type without rolling hoops; 5 to 30 and 5 to 55 gal. for straight side type with I-bar type rolling hoops; and 5 to 33 and 5 to 55 gal. bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946.

Shipping Container Specifications. 6B, Steel Barrels or Drums (Removable Head Container Authorized). Capacities 5 to 10 gal. for straight side type without rolling hoops; 5 to 30 and 5 to 55 gal. for straight side type with U-type rolling hoops; 5 to 30, 5 to 55, and 5 to 110 gal. for straight side type with I-bar type rolling hoops; and 5 to 33 and 5 to 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 6C, Steel Barrels or Drums (Removable Head Containers Authorized). Capacities 5 and 5 to 10 gal. for straight side type without rolling hoops; 5 to 30, 5 to 55, and 5 to 110 gal. for straight side with U-type rolling hoops; 5 to 30, 5 to 55, and 5 to 110 gal. for straight side type with I-bar type rolling hoops; and 5 to 33 and 5 to 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 6J, Steel Barrels or Drums (Removable Head Containers Authorized). Capacities 5 to 30 and 5 to 55 gal. for straight side type with rolled or swedged in hoops; 5 to 55 gal. for straight side type with U-type rolling hoops; 5 to 55 gal. for straight side type with I-bar type rolling hoops; and 5 to 33 and 5 to 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 17X, Steel Barrels or Drums—Single Trip Container (Removable Head Containers Not Authorized). Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 42C, Aluminum Barrels or Drums. Similar to ICC Specification 42B, Aluminum Drums, except requirements for parts and dimensions and for marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

951.13 Wooden Barrels

Chicago Board of Trade. Rules and Regulations, 1942. Pork Barrels. Shall be made of well-seasoned white,

red or burr oak, white ash or birch. Gives requirements for coating, staves, head, galvanized iron hoops, and wood hoops.

- U. S. Gov., Federal Specification NN-B-109; 1946. Barrels; Wood, Slack. Covers three grades—commodity, No. 1, and No. 2. Gives requirements for material, workmanship, staves, heads, hoops, assembly, head cleats, head liners, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 10A, Wooden Barrels and Kegs (Tight). Covers general requirements, material, construction, closures, lining, tests, and marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 10B and 10C, Wooden Barrels and Kegs. Similar to ICC Specification 10A, Wooden Barrels and Kegs (Tight), except staves, heading, and hoops. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 11A and 11B, Wooden Barrels and Kegs (Slack). Covers general requirements, material, construction, marking, and closing. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Joint Army-Navy Specification JAN-P-109; 1946. Packaging and Packing for Overseas Shipment—Barrels, Tight.
- U. S. Gov., Joint Army-Navy Specification JAN-P-122A; 1946. Packaging and Packing for Overseas Shipment; Barrels, Slack (for barrels whose weight of contents does not exceed 1,000 pounds).

951.2 CASKS AND TIERCES

951.24 Wooden Tierces

- Chicago Board of Trade. Rules and Regulations, 1942. Lard Tierces. Shall be made of well-seasoned white, red or burr oak. Gives requirements for coating, staves, size, head, iron hoops, and wood hoops.
- Chicago Board of Trade. Rules and Regulations, 1942. Tierces for Pickled Meats. Shall be made of well-seasoned white, red or burr oak, white ash, or birch. Gives requirements for coating, staves, size, head, iron hoops, and wood hoops.

951.3 DRUMS

951.31 Fiber Drums

- Manufacturing Chemists' Assn. of the U. S. Manual Sheet D-60 (for Shippers and Consignees). Handling and Storing of Fiber Drums When Filled With Chemicals or Allied Products, adopted 1946. Includes

general requirements, receipt of empty containers, filling and sealing, handling of filled drums, loading and bracing filled drums in freight cars and auto trucks, unloading freight cars, auto trucks and vessels, disposition of filled drums at consignee's plant, and reuse of drums.

- U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No. 8; 1946. Contains requirements for fiber drums for shipment of lico-rice. Published by American Trucking Assns., Inc., Tariff Bureau.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 21A, Fibre Drums. Covers general requirements, construction, tests, registration of drum specification, and marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

951.32 Metal Drums

- U. S. Gov., Federal Specification RR-D-729a; 1946. Amend. 1; 1946. Drums; Steel, Type 5B (for Liquid Petroleum Products). Covers two types of straight side cylindrical drum with chime reinforcement—(I) double seam chime and (II) welded chime. Gives requirements for size, material, workmanship, ICC specifications, dimensions, properties of the drum, rivets, chime reinforcement, clearance, rolling hoops, bung, vent, flanges, plugs, seats, thread, engagement of threads, gaskets, coating (enamel), coating (zinc), cap seals, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5, Steel Barrels or Drums (Removable Head Containers Authorized). Capacities of not over 5, 10, and 33 gal. for straight side type without rolling hoops; 33, 55, and 110 gal. for straight side type with U-rolling hoops and with I-bar rolling hoops; 33 and 55 gal. for straight side type with rolled or swedged in rolling hoops; and 33 and 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5A, Steel Barrels or Drums (Removable Head Containers Not Authorized). Capacities of not over 10 gal. for straight side type without rolling hoops; 30, 55, and 110 gal. for straight side type with I-bar rolling hoops; and 30 and 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5B, Steel Barrels or Drums (Removable Head Containers Authorized). Capacities of not over 5 and 10 gal. for straight side type without rolling hoops; 33, 55, and 110 gal. for straight side type with rolled or swedged in hoops; and 33 and 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5C, Steel Barrels or Drums (Removable Head Containers Not Authorized). To be of 18 chrome 8 nickel alloy or other types of stainless steel of equivalent corrosion resistance and physical properties. Capacities of not over 15 gallons for straight side type without rolling hoops; 30, 55, and 110 gallons for straight side type with I-bar type rolling hoops; and 30 and 55 gallons for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5D, Steel Barrels or Drums—Rubber Lined (Removable Head Containers Authorized). Similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein), except lining, marking, leakage test, and additional test. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5F, Steel Drums (Removable Head Containers Not Authorized). Capacity not over 11 gal. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5G, Steel Barrels or Drums (Removable Head Containers Not Authorized). Capacities not over 5, 10, and 33 gal. for straight side type without rolling hoops; 33, 55, and 110 gal. for straight side type with U-type rolling hoops and with I-bar type rolling hoops; 33 and 55 gal. for straight side type with rolled or swedged in rolling hoops; and 33 and 55 gal. for bilge type without rolling hoops. Covers general requirements, material (austenitic 18- and 8-chrome nickel alloy), construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5H, Steel Barrels or Drums—Lead Lined (Removable Head Containers Not Authorized). Similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein), except lead lined. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5K, Nickel Barrels or Drums (Removable Head Containers Not Authorized). Similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein), except material requirement of 99.0 percent pure nickel. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 5L, Steel Barrels or Drums (Removable Head Containers Not Authorized). Similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein), except not over five gallon rectangular type. Published by American Trucking Assn., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping container Specifications. 5X, Steel Drums—Aluminum Lined (Removable Head Containers Not Authorized). Similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein), except aluminum lined. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 6A, Steel Barrels or Drums (Removable Head Containers Authorized). Capacities 5 to 10 gal. for straight side type without rolling hoops; 5 to 30 and 5 to 55 gal. for straight side type with I-bar type rolling hoops; and 5 to 33 and 5 to 55 gal. bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 6B, Steel Barrels or Drums (Removable Head Container Authorized). Capacities 5 to 10 gal. for straight side

- type without rolling hoops; 5 to 30 and 5 to 55 gal. for straight side type with U-type rolling hoops; 5 to 30, 5 to 55, and 5 to 110 gal. for straight side type with I-bar type rolling hoops; and 5 to 33 and 5 to 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 6C, Steel Barrels or Drums (Removable Head Containers Authorized). Capacities 5 and 5 to 10 gal. for straight side type without rolling hoops; 5 to 30, 5 to 55, and 5 to 110 gal. for straight side with U-type rolling hoops; 5 to 30, 5 to 55, and 5 to 110 gal. for straight side type with I-bar type rolling hoops; and 5 to 33 and 5 to 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 6J, Steel Barrels or Drums (Removable Head Containers Authorized). Capacities 5 to 30 and 5 to 55 gal. for straight side type with rolled or swedged in hoops; 5 to 55 gal. for straight side type with U-type rolling hoops; 5 to 55 gal. for straight side type with I-bar type rolling hoops; and 5 to 33 and 5 to 55 gal. for bilge type without rolling hoops. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 17C and 17E, Steel Drums—Single Trip Container (Removable Head Containers Authorized). Both similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein). Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 17F, Steel Drums—Single Trip Container (Removable Head Containers Not Authorized). Similar to ICC Specification 5A, Steel Barrels or Drums (referred to herein). Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 17X, Steel Barrels or Drums—Single Trip Container (Removable Head Containers Not Authorized). Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 37D, 37E, 37F, 37G, and 37H, Steel Drums—Single Trip Container (Removable Head Containers Authorized). Covers rated capacity, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 42B, Aluminum Drums. Covers capacity, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 42C, Aluminum Barrels or Drums. Similar to ICC Specification 42B, Aluminum Drums, except requirements for parts and dimensions and for marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 42D, Aluminum Drums. Similar to ICC Specification 42B, Aluminum Drums, except requirements for parts and dimensions, closures, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Joint Army-Navy Specification JAN-D-195; 1945. Drums, Steel, Calcium Carbide (100-Pound Capacity).
- U. S. Gov., Navy Dept. Specification 42D3; 1945. Drums, Steel, Fifty-Five-Gallon.
- U. S. Gov., Treasury Dept., Procurement Div., 630a; 1946. Plugs, and Cap Seals; for Steel Drums. Covers two types—(I) plugs for flat gaskets (class A, pressed steel and class B, cast iron) and (II) plugs for square-and-round-section gaskets (class C, pressed steel; class D, cast iron; and class E, die cast zinc alloy). Gives requirements for sizes, cap seals, material, workmanship, construction, gasket seats, thread, holes for wire seal, cap seals, finish, marking, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-103; 1945. Drum, Steel, 55-Gallon; Reclamation for Transport of Asphalt.

951.33 Wooden Drums

- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other

Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 22A and 22B, Wooden Drums—Glued Plywood. Covers general requirements, construction, tests, marking, and closing for shipment. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

951.34 RUBBER DRUMS

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 43A, Rubber Drums. Covers capacity, material, construction, marking and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

951.4 FIRKINS AND KEGS

951.43 Metal Kegs

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 13, Metal Kegs. Covers general requirements, material, construction, closures, marking, tests, filling with contents, and additional keg. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

951.44 Wooden Kegs

U. S. Gov., Federal Specification NN-K-231; 1945. Kegs; Wood, Slack. Covers one grade. Gives requirements for material, workmanship, staves, heads, hoops, assembly, and head cleats; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 1C, Carboys in Kegs. Covers general requirements, manufacture, marking outside container, and tests. Published by American Trucking Assn., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 10A, Wooden Barrels and Kegs (Tight). Covers general requirements, material, construction, closures, lining, tests, and marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 10B and 10C, Wooden Barrels and Kegs. Similar to ICC Specification 10A, Wooden Barrels and Kegs (Tight), except staves, heading, and hoops. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946.

Shipping Container Specifications. 11A and 11B, Wooden Barrels and Kegs (Slack). Covers general requirements, material, construction, marking, and closing. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Joint Army-Navy Specification JAN-P-134A; 1946. Packaging and Packing for Overseas Shipment—Kegs, Slack. For kegs whose weight of contents does not exceed 300lb.

951.46 Fiber Kegs

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 13A, Fibre Kegs. Covers general requirements, construction, closures, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

951.6 KITS AND PAILS

951.61 Metal Kits

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2A, Inside Containers—Metal Cans, Pails, and Kits. Covers capacity, thickness of metal, test, and closure. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.

951.62 Wooden Kits

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 18B, Wooden Kits. Covers general requirements, construction, tests, and marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

951.64 Metal Pails

U. S. Gov., Federal Specification RR-B-771a; 1939. Amend. 2; 1945. Buckets; Metal, Galvanized. Covers one grade and three types—(I) light weight, (II) heavy weight (class A—with bottom straps and B—without bottom straps), and (III) heavy weight formed from pregalvanized sheet steel. Gives requirements for material, workmanship, body, bottom, bail, ears, galvanizing, watertightness, marking, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2A, Inside Containers—Metal Cans, Pails, and Kits. Covers capacity, thickness of metal, test, and closure. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Joint Army-Navy Specification JAN-P-124A; 1946. Packaging and Packing for Overseas Shipment—Containers (Cans, Pails, and Drums), Metal. For other than subsistence items.

U. S. Gov., U. S. Army, Corps of Engineers Specification 42-100; 1946. Bucket, General Purpose, Corrosion-Resisting, Steel, 16-Quart.

U. S. Gov., U. S. Maritime Commission Specification 64-MC-8a; 1945. Buckets; Water, Galvanized. Covers two types—(I) light weight and (II) heavy weight; two grades—(A) galvanized after fabrication and (B) fabricated from pregalvanized sheet; and two classes—(1) with bottom braces and (2) without bottom braces. Gives requirements for materials, workmanship, body, bottom, bail, ears, watertightness, marking, and details; sampling, inspection, and method of tests; and packaging, packing, and marking for shipment.

951.7 TUBS

951.72 Wooden Tubs

U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No. 8; 1945. Contains requirements for wooden tubs for shipment of butter. Published by American Trucking Assns., Inc., Tariff Bureau.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 31, Jugs in Tubs. For jugs of acid-resisting material not over 2-gal. capacity. Covers size, material, construction, cushioning, marking, and closing for shipment. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

952. BASKETS AND HAMPERS

952.1 BASKETS

952.11 Fruit, Vegetable, and Berry Baskets

U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No. 8; 1945. Contains requirements for baskets for shipment of fresh fruits or vegetables, meats, and tobacco. Published by American Trucking Assns., Inc., Tariff Bureau.

952.14 Fiberboard Baskets

U. S. Gov., Treasury Dept., Procurement Div., 740; 1945. Baskets; Fiber. Covers one grade and two types—(I) nesting oblong baskets and (II) nesting round baskets. Gives requirements for materials, workmanship, finish, color, marking, tests, nesting irons, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

952.19 Miscellaneous Baskets

U. S. Gov., Navy Dept. Specification 64B8c; 1945. Baskets; Bread, Wire.

952.2 HAMPERS

U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No. 8; 1945. Contains

requirements for hampers for shipment of clothing. Published by American Trucking Assns., Inc., Tariff Bureau.

953. BOXES

953.1 METAL BOXES

U. S. Gov., U. S. Army, Medical Dept. Specification 1-34; 1945. Box, Cash and Box, Cash and Stamp.

U. S. Gov., U. S. Army, Ordnance Dept. Specification 89-4501B; 1944. Box, Selector, M4A1, for Submarine Mines.

953.2 PAPER AND FIBERBOARD BOXES

Assn. of American Railroads, Freight Loading and Container Section. Bulletin 104; 1946. Packing of Small Articles of Furniture in Corrugated and Solid Fibreboard Boxes. Covers introduction, the shipping container, the interior packing, good practice in the packing of furniture, magazine racks, end tables, drop-leaf tables, coffee tables with detachable trays, smoking cabinets, semi-elliptical or semi-circular tables, and occasional tables.

Technical Assn. of the Pulp and Paper Industry. Drum Test for Fiberboard Shipping Containers, Suggested Method T 800 sm-44; 1944. Measures the ability of the container to resist rough handling and to afford protection to its contents. Covers apparatus, definitions, test specimen, procedure A, procedure B, report, and additional information.

Technical Assn. of the Pulp and Paper Industry. Impact Resistance of Fiberboard Shipping Containers, Suggested Method T 801 sm-44; 1944. An arbitrary measurement of the energy required to rupture the box by impact when successive blows of increasing force are applied in the prescribed manner. Covers apparatus, calibration, test specimen, procedure, report, and additional information.

Technical Assn. of the Pulp and Paper Industry. Drop Test for Fiberboard Shipping Containers, Tentative Standard T 802 m-44; 1944. Measures the ability of the container to afford protection to its contents and the ability of the container itself to resist breaking open. Covers apparatus, definitions, test specimen, procedure, report, and additional information.

U. S. Gov., Army Air Forces Specification 40933; 1945. Box; Fiberboard Lined Wood.

U. S. Gov., Army-Navy Aeronautical Specification AN-P-86a; 1945. Packaging of Batteries, Storage, Aircraft (Charged and Dry—Uncharged and Moist).

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R192-45; 1945. Crayons, Chalks, and Related Art Materials for School Use (Types, Sizes, Packaging, and Colors). Covers types, sizes, containers, number to package, colors, shapes, and packaging. Gives tables showing data for drawing crayons, kindergarten or enlarged drawing crayons, pastels, dustless chalk, molded chalk, colored chalk, lecturers' chalk, modeling clay, pans for semimoist water colors, size for cake for dry-cake water colors, and colors for crayons, chalks, water colors, and tempera.

U. S. Gov., Federal Specification LLL-B-631b; 1945. Boxes; Fiber, Corrugated (for Domestic Shipment).

- Covers five styles—(RSC) regular slotted box, (OLC) overlap slotted box, (FTC) full telescope design box, (OPF) one-piece folder, and (TS) triple slide box. Gives requirements for corrugated fiberboard, gummed tape, metal fastenings, workmanship, dimensions, flaps, consolidated freight classification, conflict, body joints, box maker's certificate, and details for each style; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification LLL-B-636b; 1945. Boxes; Fiber, Solid (for Domestic Shipment). Covers four styles—(RSC) regular slotted box, (OLC) overlap slotted box, (FTC) full telescope design box, and (OPF) one piece folder. Gives requirements for solid fiberboard, metal fastenings, workmanship, dimensions, flaps, consolidated freight classification, conflict, body joints, box maker's certificate, and details for each style; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No.8; 1945. Contains requirements for fiberboard trays for shipping brick, fiberboard boxes for shipping wood doors, sash, pyroxylin or other plastic rods, sheets, or tubes, cigarettes, butter, fish, honey, vegetables, steel furniture, glassware, ink, and stall partitions. Published by American Trucking Assns., Inc., Tariff Bureau.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2G, Inside Containers—Fiber Cans and Boxes. Covers thicknesses and strengths. Published by American Trucking Assns., Inc., Tariff Bureau; and by American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 12B, Fiberboard Boxes. Covers general requirements, inside packing, materials, test of board, construction, closing for shipment, marking, and minimum strengths for fiberboard for boxes having 15, 30, 40, 55, and 65 lbs. gross weight when packed. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 12C, Fibreboard Boxes. Similar to ICC Specification 12B, Fibreboard Boxes (referred to herein), except minimum strengths for fibreboard and parts for boxes having 30, 40, and 65 lb. gross weight and double-faced corrugated fibreboard of at least 175 lb. test is authorized for triple slide boxes for 65 lb. gross weight. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 12D, Fiberboard Boxes. Similar to ICC Specification 12B, Fiberboard Boxes (referred to herein), except liquids or solids in glass or earthenware, types of boxes, inside packing and size limits, and gross weight. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 23F, Solid Fiberboard Boxes. Similar to ICC Specification 12B, Fibreboard Boxes. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 23G, Special Cylindrical Fibreboard Box for High Explosives. Covers general requirements, materials, test of board, construction, marking, and special tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Joint Army-Navy Specification JAN-P-108-3; 1946. Packaging and Packing for Overseas Shipment—Boxes, Fiberboard (V-Board and W-Board), Exterior and Interior.
- U. S. gov., U. S. Army, Quartermaster Corps Specification 100-13B; 1944. Containers, Miscellaneous, for Packaging and Packing Petroleum Products.

953.3 WOODEN BOXES

953.36 Special Shipping Boxes

- Assn. of American Railroads, Freight Loading and Container Section. Bulletin 102; 1946. A Guide to Good Construction of Nailed Wooden Boxes. Covers general information, comparison in cost, comparison in durability, balanced construction, factors affecting design, lumber, thickness, dimensions, lock-corner boxes, corrugated fasteners, joints, cleated ends, nails and nailing, strapping, shrinkage, panel end boxes, and inside packing.
- Chicago Board of Trade. Rules and Regulations, 1942. Boxes. Shall be made of good sound lumber, dressed on both sides to a thickness of not less than 13/16 of an inch. Gives requirements for cleats, iron or steel straps, and nailing.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-137a-1; 1946. Container; Reusable Collapsible Shipping (Radial Aircraft Engines).

U. S. Gov., Army-Navy Aeronautical Specification AN-P-77; 1945. Packaging and Packing of Self-Sealing Fuel and Oil Cells in Reusable, Collapsible Boxes.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 1A, Boxed Carboys (Glass, Earthenware, Clay, or Stoneware); 1B, Boxed Lead Carboys; 1D, Boxed Glass Carboys. Covers requirements for wooden box outside containers, manufacture, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 1X, Boxed Carboys, 5 to 6 Gallons, for Export Only (Glass, Earthenware, Clay, or Stoneware). Single-Trip Container. Covers requirements for wooden box outside containers, manufacture, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2G, Inside Containers—Fiber Cans and Boxes. Covers thicknesses and strengths. Published by American Trucking Assns., Inc., Tariff Bureau; and by American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 14, Wooden Boxes, Nailed. Covers general requirements, construction of parts, setting up box, and marking of box. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 15A, 15B, 15C, and 15D, Wooden Boxes—Nailed. Covers general requirements, materials, dimensions of materials, construction, marking of boxes, and closing for shipment. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 15X, Wooden Boxes for Two Five-Gallon Cans. Covers ends, sides, top, bottom, corrugated fasteners, lumber, assembly, marking, and inside can. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946.

Shipping Container Specifications. 16A and 16B, Wooden Boxes—Wirebound. Covers general requirements, materials, construction, marking of box, and setting up and closing. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 19A, Wooden Boxes—Glued, Plywood Cleated. Covers general requirements, material, construction, marking, and setting up and closing. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Joint Army-Navy Specification JAN-P-105A; 1945. Packaging and Packing for Overseas Shipment—Boxes, Wood, Cleated, Plywood. (For boxes whose weight of contents does not exceed 1,000 pounds.)

U. S. Gov., Joint Army-Navy Specification JAN-P-106A; 1946. Packaging and Packing for Overseas Shipment—Boxes; Wood, Nailed. (For weight of contents not in excess of 1,000 pounds.)

U. S. Gov., Joint Army-Navy Specification JAN-P-107-2; 1945. Packaging and Packing for Overseas Shipment—Boxes, Wood, Wire-Bound. (For boxes whose weight of contents does not exceed 500 pounds.)

U. S. Gov., Joint Army-Navy Specification JAN-P-138; 1946. Packaging and Packing for Overseas Shipment—Boxes; Wood, Fiberboard-Lined. (For weight of contents not exceeding 500 pounds.)

U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-13B; 1944. Containers, Miscellaneous, for Packaging and Packing Petroleum Products.

U. S. Gov., U. S. Army, Signal Corps Specification 72-96; 1945. Containers PG-102/CB and PG-104/CB.

953.39 Miscellaneous Wooden Boxes

U. S. Gov., Federal Specification NN-B-591; 1939. Amend. 2; 1945. Boxes; Wood—Cleated—Fiberboard. Covers eleven styles. Gives requirements for material and workmanship, edge cleats, fiberboard, nails fastening fiberboard to cleats, fabrication of panels, and fabrication of box; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification NN-B-621a; 1934. Amend. 2; 1945. Boxes; Wood, Nailed and Lock-Corner. Covers two forms of construction, nailed, styles 1, 2, 2 1/2, 3, 4, and 5, and lock-corner, style 6. Gives requirements for material, workmanship, thickness, number of pieces on any part, thickness of parts, uncleft ends, surfacing, nailing, cleats, strapping, and details for each style; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification NN-B-631b; 1944. Amend. 1; 1945. Boxes; Wood, Wirebound, for Domestic Shipment. Covers four styles. Gives requirements for wood, wire, workmanship, sawed, veneer and plywood boards, cleats, binding wires, staples, battens, end fastenings, additional fastening of battens, liners, and fastening of liners; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No.8; 1945. Contains requirements for wooden boxes for shipment of tobacco and alcoholic liquors. Published by American Trucking Assns., Inc., Tariff Bureau.

U. S. Gov., U. S. Army, Corps of Engineers Specification 23-1D; 1945. Boxes, Cabinets, Chests, and Crates, Engineer Equipment.

953.9 MISCELLANEOUS BOX SPECIFICATIONS

U. S. Gov., Joint Army-Navy Specification JAN-B-233; 1945. Boxes, Spare-Parts (Shipboard Use).

954. CARTONS, CASES, CRATES, AND TUBES

954.1 CARTONS

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2C, Inside Containers—Corrugated Fiberboard Cartons. Covers construction, strength, lining, and test. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Joint Army-Navy Specification JAN-P-120-1; 1945. Packaging and Packing for Overseas Shipment; Cartons, Folding, Paperboard.

U. S. Gov., U. S. Army, Signal Corps Specification 75-490; 1946. Cartons, Paperboard, Film Mailing.

954.2 CASES

954.21 Metal Cases

U. S. Gov., Army-Navy Aeronautical Specification AN-C-152-2; 1946. Container; Steel Shipping.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 32A, 32B, 32C, and 32D, Metal Cases and Trunk. Covers gauge standards, covers, edge protection, bottom protection, hinges, carrying handles, closing devices, rivets, rivet reinforcement, lining, metal partitions, protective coating, tests, and marking. 32A, metal cases—riveted or lock-seamed; 32B, metal cases—welded or riveted; 32C, trunks; and 32D, metal boxes for old and worn-out motion-picture film no longer exhibitable. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Navy Dept. Specification 42P16; 1946. Protectors, Edge, Packing-Case.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3153; 1945. Case CS-142.

U. S. Gov., U. S. Army, Signal Corps Specification 75-46A; 1944. Shipping Cases, Metal (for 35mm. Film).

954.22 Paper and Fiber Cases

U. S. Gov., Joint Army-Navy Specification JAN-C-307; 1946. Cases, Shipping, 16-Mm. Motion-Picture Safety Film.

U. S. Gov., Joint Army-Navy Specification JAN-C-308; 1946. Cases, Shipping, 35-Mm. Motion-Picture Safety Film.

U. S. Gov., U. S. Army, Chemical Warfare Service Specification 19-1A; 1944. Case, Carrying, Company Gas Mask Repair Kit.

954.23 Wooden Cases

U. S. Gov., Army Air Forces Specification 31417; 1945. Case, Motion Picture Camera Carrying, General Specification for.

U. S. Gov., Joint Army-Navy Specification JAN-P-132; 1945. Packaging and Packing for Overseas Shipment—Crates; Unsheathed, Wood; Nailed (for maximum net load of 2,500 pounds).

U. S. Gov., Navy Dept. Specification 57C34; 1944. Cases, Tablet, Empty.

U. S. Gov., U. S. Army, Army Air Forces Specification 75-288-A; 1945. Container, Storage (for Type A-6 Camera Magazine).

U. S. Gov., U. S. Army, Signal Corps Specification 71-992; 1945. Case CS-70.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1023-A; 1945. Case CS-60 (for Panel BD-90).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1024-A; 1945. Case CS-61 (for Cable Racks).

U. S. Gov., U. S. Army, Signal Corps. Specification 71-1044-A; 1945. Case CS-74.

U. S. Gov., U. S. Army, Signal Corps. Specification 71-1608-B; 1945. Case CS-124 and Case CS-126.

U. S. Gov., U. S. Army, Signal Corps. Specification 71-1635-A; 1945. Case PH-410.

U. S. Gov., U. S. Army, Signal Corps Specification 71-1758; 1945. Case CS-130-A.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3042; 1945. Case CY-56/TX.

U. S. Gov., U. S. Army, Signal Corps Specification 71-3125; 1945. Case CY-38/TIQ-2.

U. S. Gov., U. S. Army, Signal Corps Specification 74-78; 1945. Cases CY-178/TMQ-1, CY-179/TMQ-1, CY-180/TMQ-1, CY-181/TMQ-1, CY-97/TMQ-2, and CY-208/TMQ-2.

U. S. Gov., U. S. Army, Signal Corps Specification 74-84; 1945. Case CY-219/TMQ-3.

954.29 Miscellaneous Cases

U. S. Gov., U. S. Army, Signal Corps Specification 71-1041-A; 1945. Case CS-78 (for Telegraph Printer Tools).

U. S. Gov., U. S. Army, Signal Corps Specification 71-1691; 1945. Case, Fabric Belting (for Telephone EE-8-A, EE-8-B, EE-8-D, and TP-3).

954.3 CRATES

954.36 Shipping Crates

Assn. of American Railroads, Freight Loading and Container Section. Bulletin 47; 1945. Assembly and Loading of Cauliflower Crates F.C.B. Nos. 401 and 405 When Packed With Cauliflower. Covers cauliflower crate, nailing schedule, loading, and drawings.

Assn. of American Railroads, Freight Loading and Container Section. Bulletin 101; 1946. The A B C of Good Crating. To acquaint the employees of the railroads and the shipping public with the fundamental principles of proper and economical crating. Covers lumber, nails and nailing, 3-way corners, sheathing, diagonal braces, illustrations, preparation of the article, inside packing, suspension of

furniture in crates, and packing furniture in plywood crates.

- U. S. Gov., Army Air Forces Specification 40887A-2; 1945. Preservation and Packaging of Aircraft Turbines.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-118a; 1945. Crates and Boxes; Aircraft and Airframe Component Parts (General Specification for).
- U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No. 8; 1945. Contains requirements for crates for shipment of glazed doors, sash, furniture, glass, lamp globes, shades or reflectors, crucibles, and mercury vapor lamps. Published by American Trucking Assns., Inc., Tariff Bureau.
- U. S. Gov., Joint Army-Navy Specification JAN-P-104; 1945. Packaging and Packing for Overseas Shipment; Crates, Sheathed, Wood, Nailed.
- U. S. Gov., U. S. Army, Signal Corps Specification 72-37-A; 1945. Crate PG-49 (Pigeon, 20-Bird, Transportation).
- U. S. Gov., U. S. Army, Signal Corps Specification 82-105; 1945. Container PG-107/PB (Pigeon, Two-Bird, Transportation).

954.39 Miscellaneous Crate Specifications

- U. S. Gov., U. S. Army, Corps of Engineers Specification 23-1D; 1945. Boxes, Cabinets, Chests, and Crates, Engineer Equipment.

954.4 TUBES AS CONTAINERS

- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 29, Mailing Tubes. Covers cushioning, construction, and marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

955. BOTTLES, CARBOYS, FLASKS, JARS, AND DEMIJOHNS

955.2 CARBOYS

Manufacturing Chemists' Assn. of the U. S. Manual Sheet C-2 (For Consignees). Carboys, Glass, Boxed, I.C.C. 1A—Direction for Handling and Storing. Recommended Practice, adopted 1935, revised 1945. Carboys are safe and adequate containers when properly handled and maintained. Includes failures, plant conditions, handling, equipment for handling boxed carboys, storage of fixed boxed carboys, opening, emptying, storage of empty boxed carboys, correct method of loading a carload of empty boxed carboys in box car, accident prevention and first aid, handling spilled chemicals, and figures giving illustrations.

- U. S. Gov., Army Air Forces Specification 40768A; 1945. Carboy; Five-Gallon Non-Vented for Shipment and Storage of Acids.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 1A, Boxed Carboys (Glass, Earthenware, Clay, or Stoneware); 1B,

Boxed Lead Carboys; 1C, Carboys in Kegs (Glass, Earthenware, Clay, or Stoneware); 1D, Boxed Glass Carboys. Covers general requirements, manufacture, marking of outside container, and tests. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.

- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specification 1D. Boxed Glass Carboys. Similar to ICC Specification 1A, Boxed Carboys (Glass, Earthenware, Clay, or Stoneware), except general, manufacture, marking of outside container, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 1X, Boxed Carboys, 5 to 8 Gallons, for Export Only (Glass, Earthenware, Clay, or Stoneware). Single-Trip Container. Covers general requirement, manufacture, marking of outside container, and tests. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 28 and 28A, Metal-Jacketed Lead Carboys. Covers general requirements, construction, and marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 34B, Aluminum Carboys. Covers general requirements, material, construction, marking, and tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., U. S. Army, Medical Dept. Specification 10-2280B; 1945. Bottle, Narrow Mouth, 5-Gallon Carboy-Type.

955.4 JARS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R209-45; 1945. Peanut Butter Packages and Containers. To simplify and standardize the retail package units and container sizes. Gives tables showing the standard package units and sizes for retail packages in glass jars and retail packages in glass tumblers. Initiated by Peanut Butter Manufacturers Assn.

- U. S. Gov., Federal Specification DD-J-123; 1946. Jars, Ointment; Glass. Covers one type, six sizes—(1) 1/2 ounce, (2) 1 ounce, (3) 2 ounces, (4) 4 ounces, (5) 8 ounces, and (6) 16 ounces; and four colors—white opaque, blue, green, and amber. Gives requirements for material, workmanship, jars,

covers, and details for each size; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

955.6 WATER COOLERS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Commercial Standard CS127-45; 1945. Self-Contained Mechanically Refrigerated Drinking Water Coolers. To establish uniform methods of testing, rating, and designating capacity of self-contained mechanically refrigerated drinking water coolers. Gives definitions, general requirements, methods of testing, method of rating, standard rating conditions, recommended normal standard sizes and minimum capacities, and uniform guarantees of ratings of self-contained mechanically refrigerated drinking water coolers of the insulated storage and instantaneous types, air-cooled or water-cooled. Initiated by the Water Cooler and Drinking Fountain Manufacturers Assn.

U. S. Gov., Navy Dept. Specification 66R2; 1946. Refrigeration-Equipment: Cabinets, Frozen-Food; Coolers, Drinking-Water, Electric, Self-Contained; Refrigerators, Electric, Self-Contained (Shipboard Use).

U. S. Gov., Treasury Dept., Procurement Div., 760; 1946. Coolers, Drinking-Water; Electric. Gives requirements for sizes, types, material, workmanship, operating requirements, construction, cabinet, finish, top, bubble's, glass fillers, valves, cooling unit, condensing unit, motor and control, refrigerant, piping, instructions for care and operation, nameplate and other data, and details for each type; methods of sampling, inspection, and tests; and packaging and marking for shipment.

955.7 JUGS

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 31, Jugs in Tubs. For jugs of acid-resisting material not over 2-gal. capacity. Covers size, material, construction, cushioning, marking, and closing for shipment. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

955.9 MISCELLANEOUS GLASS CONTAINERS

U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R209-45; 1945. Peanut Butter Packages and Containers. To simplify and standardize the retail package units and container sizes. Gives tables showing the standard package units and sizes for retail packages in glass jars and retail packages in glass tumblers. Initiated by Peanut Butter Manufacturers Assn.

956. CYLINDERS AND TANKS

956.1 CYLINDERS AS CONTAINERS

U. S. Gov., Army Air Forces Specification 40950; 1945. Cylinder, Methyl Bromide, General Specification for.

U. S. Gov., Army Air Forces Specification 41057; 1945. Cylinder and Regulator; Portable Oxygen, General Specification for.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-73b-1; 1946. Cylinders; Nonshatterable CO₂ and Oxygen.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 3A, Seamless Steel Cylinders (not over 1,000 lb. water capacity, at least 150 lb. per square inch service pressure); 3B, Seamless Steel Cylinders (service pressure at least 150 to not over 500 lb. per square inch); 3C, Seamless Steel Cylinders (service pressure at least 90 to not over 300 lb. per square inch); 3D, Seamless Steel Cylinders (not over 125 lb. water capacity, service pressure must be 480 lb. per square inch); 3E, Seamless Steel Cylinders (service pressure must be 1,800 lb. per square inch). Covers type and size, service pressure, inspection, material, construction, tests, rejected cylinders, and marking. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 3BN, Seamless Nickel Cylinders (not over 125 lb. water capacity, at least 150 to not over 500 lb. per square inch service pressure). Covers type and size, service pressure, inspection, material, construction, tests, rejection, and marking. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 4, Forge Welded Steel Cylinders (not over 1,000 lb. water capacity, service pressure must be 300 lb. per square inch); 4A, Forge Welded Steel Cylinders (not over 1,000 lb. water capacity, service pressure at least 150 to not over 500 lb. per square inch). Covers type and size, service pressure, steel, wall thickness, heat treatment, physical test, and acceptable results for tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 4B, Welded and Brazed Steel Cylinders (not over 1,000 lb. water capacity, at least 150 to not over 500 lb. per square inch service pressure); 4C, Welded and Brazed Steel Cylinders (not over 1,000 lb. water capacity, at least 90 to not over 300 lb. per square inch service pressure). Covers type and size, service pressure, inspection, steel, manufacture, wall thickness, heat treatment, physical test, and acceptable results for tests. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Containers Specifications. 8, Steel Cylinders With Approved Porous Filling for Acetylene. Service pressure limits the use of the cylinder to 250 lb. per square inch at 70° F. Covers general requirements, inspection and report, material, construction, cylinder tests, porous filling, rejected cylinders, tare weight, marking, and report. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. 9, Inside Containers—Seamless or Welded or Brazed Steel Cylinders. Covers general requirements, inspection, material, construction, cylinder tests, and marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 40, Inside Containers—Non-Refillable, Seamless or Welded or Brazed Steel Cylinders. Covers general requirements, inspection, material, construction, cylinder tests, and marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Navy Dept. Specification 51C27; 1945. Cylinders, Oxygen, and Acetylene (for Portable Ox-yacetylene Emergency Cutting Outfits).
- U. S. Gov., Navy Dept. Specification 51F5b; 1945. Flasks, Steel, Seamless, Nonshatterable (for Storing Compressed Air).
- U. S. Gov., Navy Dept. Specification 51F10; 1945. Flasks, Steel, Seamless, Swaged (for Storing Compressed Air).
- U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-13B; 1944. Containers, Miscellaneous, for Packaging and Packing Petroleum Products.
- 956.2 TANKS**
- Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 13.23; 1944. Storage Tanks for Flammable Liquids. Includes construction, connections, and gaging devices. Covers buried tanks, aboveground tanks, indoor storage tanks, tank construction, manholes, connections, other fittings, gaging and metering, protection, and conditioning and use of old tanks.
- U. S. Gov., Army Air Forces Specification 28495B, 1945. Tank; Jettison Fuel, General Specification for.
- U. S. Gov., Army-Navy Aeronautical Specification AN-C-151; 1945. Caps; 3-Inch Diameter, Tank Filler (Fuel, Oil, Water, and Alcohol).
- U. S. Gov., Army-Navy Aeronautical Specification AN-T-79; 1945. Tanks; Self-Sealing Oil.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Cargo Tanks To Be Mounted on and To Form Part of Tank Motor Vehicles for Transportation of Inflammable Liquids and Poisonous Liquids, Class B. NC300, Cargo Tanks Constructed of Mild (Open Hearth or Blue Annealed) Steel; MC301, Cargo Tanks Constructed of Welded Aluminum Alloy (Grade 3S); MC302, Cargo Tanks Constructed of Welded Aluminum Alloy (Grade 52S); and MC303, Cargo Tanks Constructed of Welded Ferrous Alloy (High-Tensile Steel). Covers scope, design and construction, marking of cargo tanks, inspection and maintenance, method of testing cargo tanks, and details for each type of tank listed above. Published by American Trucking Assns., Inc., Tariff Bureau.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. MC310, Cargo Tanks To Be Mounted On or To Form Part of Tank Motor Vehicles for the Transportation of Corrosive Liquids. Covers design and construction, marking of cargo tanks, inspection and maintenance, method of testing, general requirements, pressure test, and tank outlets. Published by American Trucking Assns., Inc., Tariff Bureau.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. MC320, Cargo Tanks (Unlagged) To Be Mounted On and To Form Part of Tank Motor Vehicles for the Transportation of Liquefied Petroleum Gases. Covers design and construction, marking of cargo tanks, inspection and maintenance, general requirements, testing, marking, and loading and unloading accessories. Published by American Trucking Assns., Inc., Tariff Bureau.
- U. S. Gov., Joint Army-Navy Specification JAN-T-346; 1946. Tanks, Asphalt-Storage, Steel, Bolted, 4,000-Gallon.
- U. S. Gov., U. S. Army, Army Air Forces Specification 94-40795; 1945. Tank, Aircraft Engine Precoiler, Type B-1.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 6-34D; 1945. Tank, Storage, Canvas, Water, 3,000-Gallon.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-44; 1944. Tank, Asphalt, Steel, Trailer Mounted, W-Steam Coils, 1,500-Gallon.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-69; 1944. Tank, Asphalt, Steel, Truck Mounted, With Heating Flues, 800-Gallon.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 83-20; 1945. Tanks, Steel, Hot-Water Storage.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-11; 1944. Tank, Water, Steel, Semi-Trailer Mounted, 1,500-Gallon.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-16; 1945. Tanks; Aluminum, Water Storage, Vertical, Open Top, With Dunnage, Bolted, Low.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 87-17; 1945. Tanks; Wood, Water, Erection Type, Open Top, With Dunnage.
- 957. BAGS AND SACKS**
- 957.0 GENERAL ITEMS**
- Assn. of American Railroads, Freight Loading and Container Section. Bulletin 38-A; 1945. Bridged-Aisle

Method of Loading 50-lb. Fabric Bags of Early Crop Summer Potatoes in Standard Cars 30,000-Lb. Load. Covers bedding material, load count—30,000-lb. minimum, and gives drawings.

Assn. of American Railroads, Freight Loading and Container Section. Bulletin 43; 1943. Recommended Arrangement for Loading 45,000 Pounds of Potatoes in 100 Pound Bags by the "Pyramid Through Load" Method. Covers instructions for bedding material, careful loading, and load count of 100-lb. bags in 45,000 pound load; and diagrams.

957.1 CLOTH BAGS AND SACKS

957.13 Sand Bags

U. S. Gov., U. S. Army, Corps of Engineers Specification 14-7C; 1945. Bag, Sand.

957.14 Tool Bags

U. S. Gov., U. S. Army, Corps of Engineers Specification 6-330; 1944. Roll, Canvas, Canvas Workers' Tools.

957.15 Clothes Bags

U. S. Gov., Marine Corps Specification, revised 1945. Bag, Clothing.

957.19 Miscellaneous Cloth Bags

U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No. 8; 1945. Contains requirements for bags for shipment of calcium chloride, magnesium chloride, deodorants and disinfectants (other than medicinal), dust-laying compound, flour, corn meal, rice, sugar, beans, grain flour, and insecticides. Published by American Trucking Assns., Inc., Tariff Bureau.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 36A, Lined Cloth Bags (Triplex). Covers general requirements, capacity, material, construction, marking, and closing for shipment. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 36B, Burlap Bags—Lined. Covers general requirements, capacity, construction, marking, and closing for shipment. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 45B, Bags, Cloth and Paper, Lined. Covers capacity (not over 100 pounds net), materials and construction, marking, and closing for shipment. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Joint Army-Navy Specification JAN-P-113-1; 1946. Packaging and Packing for Overseas Shipment; Bags, Shipping, Textile-and-Paper-Laminated.

U. S. Gov., Joint Army-Navy Specification JAN-B-273; 1945. Bags, Canvas, Water-Sterilizing, Porous, Complete (With Suspension Ropes and Cover).

U. S. Gov., Marine Corps Specification, revised 1945. Bag, Water, Sterilizing, Complete With Cover and Hanger.

U. S. Gov., Navy Dept. Specification 24B9c; 1946. Bags, Canvas, 800-Pound-Capacity.

U. S. Gov., Navy Dept. Specification 24B21; 1946. Bags, Laundry.

U. S. Gov., Navy Dept. Specification 56B30d; 1946. Bags, Coffee.

U. S. Gov., U. S. Maritime Commission. Specification 24-MC-2A; 1946. Bags; Laundry. Covers one type and grade. Gives requirements for materials, workmanship, construction, size and identification; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Maritime Commission Specification 27-MC-48; 1945. Bags, Waterproof; (for) Lifeboat and Liferaft Blankets. Covers one type and grade. Gives requirements for materials, workmanship, construction, waterproofness, and marking; sampling, inspection, and methods of test; and packaging, packing, and marking for shipment.

957.2 PAPER BAGS AND PAPER LINING FOR BOXES

U. S. Gov., Federal Specification UU-B-43; 1945. Bags; Paper, Waste-Receiptable, Dental. Covers one type. Gives requirements for material, workmanship, general description, dimensions, seams and overlaps, folds, and paper; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification UU-S-48a; 1945. Sacks; Paper, Shipping. Covers five types—(I) pasted open mouth, (II) sewn open mouth, (III) pasted valve, (IV) sewn valve, and (V) sewn open corner; and four classes—(A) unbleached heavy-duty shipping sack kraft paper, (B) asphalted kraft paper, (C) paraffined kraft paper, and (D) other papers as specified by the procuring agency. Gives requirements for material, workmanship, paper, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No. 8; 1945. Contains requirements for bags for shipment of calcium chloride, magnesium chloride, deodorants and disinfectants (other than medicinal), dust-laying compound, flour, corn meal, rice, sugar, beans, grain flour, and insecticides. Published by American Trucking Assns., Inc., Tariff Bureau.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2D, Inside Containers—Duplex Paper Bags. Covers material, construction, and test. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.

- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2J, Inside Containers—Waterproof Paper Bags for Linings; 2K, Inside Containers—Paper Bags for Linings; 2L, Lining for Boxes; 2M, Waterproofed Paper Lining. Cover material, test, and construction. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 44B, Paper Bags. Covers construction, closure, tests, and marking. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 45B, Bags, Cloth and Paper, Lined. Covers capacity (not over 100 pounds net), materials and construction, marking, and closing for shipment. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Joint Army-Navy Specification JAN-P-113-1; 1946. Packaging and Packing for Overseas Shipment; Bags, Shipping, Textile-and-Paper-Laminated.
- U. S. Gov., Joint Army-Navy Specification JAN-P-117; 1945. Packaging and Packing for Overseas Shipment; Bags, Interior Packaging.
- U. S. Gov., Joint Army-Navy Specification JAN-P-118A; 1946. Packaging and Packing for Overseas Shipment; Sacks, Paper, Shipping, Multiwall.
- U. S. Gov., Navy Dept. Specification 53B9f; 1945. Bags, Paper, Shipping, Multiwall (for Portland Cement).
- U. S. Gov., U. S. Army, Chemical Warfare Service Specification 19-8B; 1945. Liner, Shipping Container, Waterproof Barrier.

957.3 CARRYING BAGS

- U. S. Gov., Army Air Forces Specification 3254; 1945. Bag; Nurse's Flying, Clothing, Type B-5.

958. CHESTS, TRUNKS, AND SUITCASES

958.1 ENGINEERS' CHESTS AND KITS

- U. S. Gov., U. S. Army, Corps of Engineers Specification 23-1D; 1945. Boxes, Cabinets, Chests, and Crates, Engineer Equipment.

958.2 TOOL CHESTS AND KITS

- U. S. Gov., Army Air Forces Specification 40715-4; 1946. Case; Mechanics Tool Type G-5.
- U. S. Gov., Army Air Forces Specification 40832; 1946. Kit, Tire Removing and Mounting, Type S-2.
- U. S. Gov., Navy Dept. Specification 23K2; 1946. Kits, Repair (for Preservers, Life, Vest-Type, Self-Inflating).
- U. S. Gov., U. S. Army, Corps of Engineers Specification 44-136; 1945. Kit, Filing, Cross-Cut Saw.

- U. S. Gov., U. S. Army, Signal Corps Specification 71-1002; 1945. Chests CH-58 and CH-59.

- U. S. Gov., U. S. Army, Signal Corps Specification 72-106; 1945. Chest CH-296.

958.3 TRUNKS AND SUITCASES

- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R215-46; 1946. Luggage. This recommendation establishes a simplified list of types and sizes of trunks and hand luggage for regular stock purposes. Gives nomenclature and tables showing types and measurements for wardrobe trunks, taxi wardrobe trunks, dress trunks, camp and steamer trunks, hand trunks, and hand luggage. Sponsored by the Luggage and Leather Goods Manufacturers of America, Inc.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 32A, 32B, 32C, and 32D, Metal Cases and Trunk. Covers gauge standards, covers, edge protection, bottom protection, hinges, carrying handles, closing devices, rivets, rivet reinforcement, lining, metal partitions, protective coating, tests, and marking. 32A, metal cases—riveted or lock-seamed; 32B, metal cases—welded or riveted; 32C, trunks; and 32D, metal boxes for old and worn-out motion-picture film no longer exhibitable. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

958.9 MISCELLANEOUS CHESTS AND KITS

- U. S. Gov., Army Air Forces Specification 40681A; 1945. Kit; Emergency Sustenance, Type E-14 (Desert and Tropic Aerial Delivery).
- U. S. Gov., Army Air Forces Specification 40753-2; 1945. Kit; Emergency Sustenance, Type E-16 (Aerial Delivery, Northern Ration Replenishing).
- U. S. Gov., Army Air Forces Specification 40791A; 1946. Tester; Regulator Turbosupercharger, Type E-1.
- U. S. Gov., Army Air Forces Specification 40840A; 1945. Kit; Emergency Sustenance Type E-17, Personal Aids.
- U. S. Gov., Army Air Forces Specification 40889A; 1945. Kit; Sea Rescue, Type PP-1.
- U. S. Gov., Army Air Forces Specification 40957A-1; 1946. Kit; Sea Water Distillation Type LL-2.
- U. S. Gov., Army Air Forces Specification 41003-1; 1945. Kit, Flying Sun Glasses Repair, Type QQ-1.
- U. S. Gov., Army Air Forces Specification 41040; 1945. Kit; Airplane Emergency Sustenance, Type E-19 (Rations).
- U. S. Gov., Army Air Forces Specification 41047; 1945. Kit; Personnel Pick-Up Rescue, Type VV-1.
- U. S. Gov., Joint Army-Navy Specification JAN-K-327; 1946. Kits, Testing, Impregnate-in-Clothing, M1.
- U. S. Gov., Navy Dept. Specification 27S13a; 1945. Sewing-Outfits.
- U. S. Gov., U. S. Army, Ordnance Dept. Specification 56-100-10; 1945. Chest, Spare Parts (Tank and Automotive).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-104-B; 1946. Chests BC-5 and CH-75-C.

- U. S. Gov., U. S. Army, Signal Corps Specification 71-908-A; 1945. Chest CH-27-A (Carrying, Radio Transmitter).
- U. S. Gov., U. S. Army, Signal Corps. Specification 71-980-A; 1945. Chest CH-56.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1028-A; 1945. Chest CH-64 (Maintenance Equipment).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1045-A; 1945. Chest CH-65 (Maintenance Equipment).
- U. S. Gov., U. S. Army, Signal Corps. Specification 71-1638-B; 1945. Chests CH-116 and CH-117, for Facsimile Equipment RC-120-().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1886; 1945. Chest CH-182-().
- U. S. Gov., U. S. Army, Signal Corps Specification 71-1699-A; 1945. Chest CB-219.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3115; 1945. Connecting and Switchboard Kit MX-155/GT.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3146; 1945. Chest CH-203.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3155; 1946. Modification Kit MC-579 (Components for).
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3165; 1945. Modification Kit MC-615.
- U. S. Gov., U. S. Army, Signal Corps Specification 71-3176; 1945. Chest CH-299-().

959. MISCELLANEOUS CONTAINERS

959.1 CANS

- U. S. Gov., Army-Navy Aeronautical Specification AN-W-5B-2; 1946. Water; Emergency Drinking (in Sealed Cans).
- U. S. Gov., Dept. of Commerce, National Bureau of Standards. Simplified Practice Recommendation R208-46; 1946. Fluid Milk Cans. To simplify the number of sizes and varieties of cans used for shipping and delivery of fluid milk. Gives tables showing recommended capacities, dimensions, and weights of large milk shipping cans and small milk delivery cans.
- U. S. Gov., Federal Specification RR-C-82; 1945. Cans, Corrugated; Ash and Garbage, Taper-Side, Zinc-Coated, with Covers. Covers cans of the fabricated corrugated type with tapered sides. Gives requirements for sizes, material, workmanship, bodies, bottoms, covers, bands, clips for cover handles, cover handles, embossing, coating, partial nesting, samples for approval, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification RR-C-83; 1941. Amend. 1; 1946. Cans, Milk; Steel, Tinned. Covers one type and grade in 5 and 10 gal. capacities. Gives requirements for black sheet steel, tin, workmanship, construction, tinning, cover, finish, handles, stability, and details for each size; method of sampling, inspection, and test; and packaging, packing, and marking for shipment.
- U. S. Gov., Federal Specification RR-C-92; 1941. Amend. 2; 1945. Cans; Safety (for Gasoline, Naphtha, etc.). Covers one type, two styles—(I) with short pouring nozzle and (II) with metal hose spout, and several sizes—ranging from 1 pt. to 10 gal. Gives requirements for material, workmanship, design, stability, pressure relief, valve operating ability, tightness of valve, joints and seams, tightness of joints and seams, gaskets, castings, finish, marking, steel springs—zinc coating, and details for each type; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.
- U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No. 8; 1945. Contains requirements for fiber cans for shipment of lubricating oil. Published by American Trucking Assns., Inc., Tariff Bureau.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2A, Inside Containers—Metal Cans, Pails, and Kits. Covers capacity, thickness of metal, test, and closure. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2G, Inside Containers—Fiber Cans and Boxes. Covers thicknesses and strengths. Published by American Trucking Assns., Inc., Tariff Bureau; and by American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2N, Inside Containers—Metal Cans. Covers size, material, manufacture, and test. Published by American Trucking Assns., Inc., Tariff Bureau; and by Assn. of American Railroads, Bureau of Explosives.
- U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Specifications for Containers for Motor Vehicle Transportation. MC200, Containers for Liquid Nitroglycerin or Diethylene Glycol dinitrate. Covers motor vehicle body and inside containers and boots. Published by American Trucking Assns., Inc., Tariff Bureau.
- U. S. Gov., Joint Army-Navy Specification JAN-C-89; 1944. Cans, Meat, Corrosion-Resisting Steel.
- U. S. Gov., Joint Army-Navy Specification JAN-P-124A; 1946. Packaging and Packing for Overseas Shipment—Containers (Cans, Pails, and Drums), Metal. For other than subsistence items.
- U. S. Gov., Navy Dept. Specification 42C23; 1945. Cans, Garbage and Refuse.
- U. S. Gov., U. S. Army, Chemical Warfare Service Specification 97-54-366; 1944. Set, Anti-Dim, M1.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 29-99; 1944. Oiler, Steel, Rectangular, 3/4 Pt. Capacity, 5 3/4-In. Reversible Spout.
- U. S. Gov., U. S. Army, Corps of Engineers Specification 29-100; 1944. Can, Oil, five-Pint.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 28-138; 1946. Can, Water, 5-Gallon.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 100-13B; 1944. Containers, Miscellaneous, for Packaging and Packing Petroleum Products.

959.4 REFRIGERATORS

National Assn. of Ice Refrigerator Manufacturers. Sized Ice Refrigerators (Proposed), undated. Covers removability of ice, cooling surface, temperature in milk compartment, temperature in general food compartment, meltage rate, insulation, ice compartment, cabinet dimensions, ice tank, drain and connections, screen or perforated guard, assembly, ice door, production, cost, and advantages.

National Electrical Manufacturers Assn. Home Freezer Standards, 45-106; 1945. These standards provide practical information concerning rating and testing of home freezers. Gives introduction; standards for rating home freezers; and standards for testing home freezers including scope and purpose, test conditions, ambient temperature, internal cabinet temperature, instruments, conditions of test, stabilization of temperature, standard test, complete home freezer data to be reported, procedure, accuracy, sample report sheet for test results, and figures showing thermometer locations for chest types and vertical types.

U. S. Gov., Navy Dept. Specification 66R2; 1946. Refrigeration-Equipment: Cabinets, Frozen-Food; Coolers, Drinking-Water, Electric, Self-Contained; Refrigerators, Electric, Self-Contained (Shipboard Use).

959.5 SPECIAL CONTAINERS

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946. Shipping Container Specifications. 2F, Inside Metal Containers and Liners. Covers gauge and sealing. Published by American Trucking Assns., Inc., Tariff Bureau, and by Assn. of American Railroads, Bureau of Explosives.

U. S. Gov., Interstate Commerce Commission. Regulations for Transportation of Explosives and Other Dangerous Articles by Motor, Rail, and Water, 1946.

Specifications for Containers for Motor Vehicle Transportation. MC201, Container for Blasting Caps, Electric Blasting Caps, and Percussion Caps. Covers scope, container, and drawings. Published by American Trucking Assns., Inc., Tariff Bureau.

U. S. Gov., Navy Dept. Specification 66C10; 1945. Containers, Desiccant; and Storage-Cases (for Static Dehumidification) (Shipboard Use).

959.6 WRAPPINGS AND COVERINGS

U. S. Gov., Army-Navy Aeronautical Specification AN-B-20-1; 1945. Barrier; Flexible Sheet Moisture Vapor.

U. S. Gov., Army-Navy Aeronautical Specification AN-E-1b-2; 1945. Envelopes; Moisture-Impervious (for Aircraft Engines).

U. S. Gov., Interstate Commerce Commission. National Motor Freight Classification No.8; 1945. Contains requirements for wrapping for shipment of automobile and tractor fenders, canoes, wooden telephone booths, glass blocks, glass bricks, built-up wood covered with iron or steel, rods, sheets, or tubes of pyroxylin or other plastic, aluminum or tin foil, rugs, honey, furniture, lawn mowers, shafting and shafts, carbonized print paper, and paper cards. Published by American Trucking Assns., Inc., Tariff Bureau.

959.7 DUMP AND STORAGE BINS AND HOPPERS

U. S. Gov., Joint Army-Navy Specification JAN-B-203; 1945. Bins, Rotary (for Storage Purposes Aboard Ship).

959.9 CONTAINERS NOT ELSEWHERE CLASSIFIED

U. S. Gov., Army Air Forces Specification 40483-1; 1944. Container; Aerial Delivery Type A-10.

U. S. Gov., Army Air Forces Specification 40919-1; 1945. Sphere; Air.

U. S. Gov., Army-Navy Aeronautical Specification AN-C-67b-1; 1945. Containers; Moisture Impervious.

U. S. Gov., Navy Dept. Specification 17E11; 1946. Enclosures (for Nonrotating Electrical Equipment) (Shipboard Use).

U. S. Gov., U. S. Army, Medical Dept. Specification 10-2484B; 1945. Containers, Plastic.

970-979 FIRE EXTINGUISHING APPARATUS AND SUPPLIES

970. GENERAL ITEMS

Underwriters' Laboratories, Inc., 1946. List of Inspected Fire Protection Equipment and Materials. This catalog lists appliances and materials which have been inspected by the Underwriters' primarily with reference to fire preventive and fire protective capabilities and to such fire hazards and accident hazards as are involved in the groups in which they are listed. There is an index and the items are arranged alphabetically as to the subject and alphabetically by name of manufacturer under each subject.

973. CHEMICAL FIRE EXTINGUISHERS

973.2 HAND CHEMICAL FIRE EXTINGUISHERS

Underwriters' Laboratories, Inc. Standard for Hand Fire Extinguishers, Vaporizing Liquid Type (Sizes Under 1 Gal.), 1932. Covers design, operation, seal, marking, fire control, and liquid.

U. S. Gov., Treasury Dept., Procurement Div., 212e; 1946. Fire-Extinguishers, Hand, Portable, Gas-Expelled Liquid Type (Commonly Known as "Water-Unit," "Anti-Freeze Unit," Etc.). Covers one type. Gives material and workmanship, operation, non-ferrous metallic parts, hose and nozzle, capacity, labelling and marking, leakage, finish, bracket, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Corps of Engineers Specification 85-17; 1945. Extinguishers, Fire, Carbon Tetrachloride, Stored-Pressure Type, Hand, 1-Gallon, and Wheeled, 3-1/2-Gallon.

973.3 CHEMICAL CHARGES FOR FIRE EXTINGUISHERS

U. S. Gov., Army Air Forces Specification 14142; 1945. Methyl Bromide.

U. S. Gov., Federal Specification O-F-380a; 1944. Amend. 1; 1945. Fire-Extinguishing-Liquid; Carbon-Tetrachloride Base. Covers one grade and two types—(I) regular and (II) colored. Gives material and workmanship, general requirements, stain test, color, appearance, specific gravity, cold test, distillation range, and impurities; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Joint Army-Navy Specification JAN-C-266; 1945. Charges, Fire-Extinguisher (Foam, Mechanical), Type 5.

U. S. Gov., Joint Army-Navy Specification JAN-C-267; 1945. Charges, Fire-Extinguisher (Foam, Chemical).

U. S. Gov., Joint Army-Navy Specification JAN-C-344; 1946. Charges, Fire-Extinguisher (Water).

U. S. Gov., Treasury Dept., Procurement Div., 470A; 1946. Charges, Antifreeze, Fire Extinguisher (2 1/2-Gallon, Pump-Tank or Gas-Expelled-Liquid Types). Shall be furnished in one type and grade composed essentially of technical grade hydrated calcium chloride, with added corrosion inhibitor, in flake or granular form. Gives requirements for particle size and chemical composition; methods of sampling, inspection, and test; and packaging, packing, and marking for shipment.

U. S. Gov., Treasury Dept., Procurement Div., 637a; 1946. Charges, Fire-Extinguisher (Foam-Type) (for 2 1/2-Gallon Capacity). Covers one type and one grade. Charges shall be aluminum sulfate, sodium bicarbonate and foam forming ingredients in dry form and shall consist of two separate units. Gives chemical requirements for each unit and performance; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

973.4 CARBON DIOXIDE FIRE EXTINGUISHING SYSTEMS

U. S. Gov., Navy Dept. Specification 58E1; 1945. Extinguishers, Fire, Carbon-Dioxide, Fifteen-Pound-Capacity, Portable (Squeeze-Grip-Type Valve).

U. S. Gov., Treasury Dept., Procurement Div., 207d; 1946. Fire-Extinguishers; Portable, Carbon-Dioxide (Hand and Wheeled Types). Covers two types—(I) hand (6 classes) and (II) wheeled (3 classes). Gives requirements for material, workmanship, cylinder, discharge valve, discharge hose, discharge fitting, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

973.5 FOAM EXTINGUISHER SYSTEMS

National Fire Protection Assn. National Fire Codes for Extinguishing and Alarm Equipment, 1946. Foam Extinguishing Systems. Gives rules covering all systems, outdoor foam extinguishing systems, systems for rooms and buildings with hazards not susceptible to ordinary automatic sprinkler protection, and systems for local inside hazards in rooms or buildings having other standard fire protection.

974. FIRE HOSE AND FITTINGS

974.0 GENERAL ITEMS

U. S. Gov., Army Air Forces Specification 41050; 1945. Screw-Threads; Standard Fire Hose Equipment Fittings (American National Form Symbol NH).

975. FIRE PUMPS AND FITTINGS

U. S. Gov., Joint Army-Navy Specification JAN-E-212; 1945. Extinguisher, Fire; Water, Five-Gallon, Backpack.

976. AUTOMATIC SPRINKLER SYSTEMS

Associated Factory Mutual Fire Insurance Companies. Pamphlet 7; 1937. Rules for Installing Sprinkler Equipment—Automatic and Open Systems. Covers general information; automatic sprinkler systems including connections to sprinklers and controlling valves, risers and horizontal feed lines, drains, spacing of sprinklers, position of sprinklers, pipe sizes, distributing pipes, test pipes, flushing connections, pipe and fittings, pipe cutting and threading, hangers, temperature rating of sprinklers, protection against corrosion, small hose, water flow alarms, dry pipe systems, non-freezing sprinkler systems, sidewall sprinklers, and tests after installation; and window and cornice sprinkler systems including general, window sprinklers, cornice sprinklers, and window and cornice sprinklers.

980-989

BRUSHES AND BROOMS

981. BROOMS

981.5 HOUSEHOLD AND WHISK BROOMS

U. S. Gov., Treasury Dept., Procurement Div., 759; 1946. Brushes; Whisk, Tampico Fiber. Covers one type, grade, and size. Gives requirements for material, workmanship, component parts, stock, wood, tolerances, setting, bolts screws and nuts, finish, and bid samples; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

981.7 STEEL BROOMS

U. S. Gov., U. S. Army, Corps of Engineers Specification 85-28; 1946. Broom, Steel, Forest Fire.

982. BRUSHES

982.1 TOILET BRUSHES

U. S. Gov., Federal Specification H-B-671a; 1941. Amendment 2; 1945. Brushes; Shaving. Covers one type and two grades—(I) hog bristles in natural colors and (II) hog bristles, solid white, bleached

or unbleached or yellow. Gives requirements for materials, workmanship, handle, handle measurements, finish, ferrule and ring, ferrule, and bristles; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification H-B-671a; 1942. Amendment 1; 1945. Brushes; Tooth. Covers one grade, and five types—(I) tufted end or sloping, (II) tufted end, (III) oval, (IV) sloping, and (V) straight trim; and two classes—(A) animal bristle stock and (B) synthetic (plastic) bristles. Gives requirements for stock, handles, holes, and bristle length out of handle; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

982.2 PAINT BRUSHES

- U. S. Gov., Federal Specification H-B-241a; 1945. Brushes; Fitch, Flat. Covers one type and grade in three sizes. Gives requirements for bristle, handle, ferrule, setting, comparison sample, diameter of oval at bristle, diameter of ferrule at handle, depth of ferrule, minimum weight of bristle in finished brush, minimum hold of bristle in ferrule, minimum length of bristle outside of ferrule, and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification H-B-351; 1930. Amendment 1; 1945. Brushes; Lacquering, Flat. Covers one type, one grade, and three sizes—Nos. 1, 2, and 3. Gives requirements for hair, handle, ferrule, setting, comparison sample, outside diameter of ferrule at handle, outside width and thickness of ferrule at hair, depth of ferrule, length of handle above ferrule, and length of hair outside of ferrule; methods of sampling, inspection, and tests; and packaging, packing, and marking.

- U. S. Gov., Federal Specification H-B-391; 1930. Amendment 2; 1945. Brushes; Mottling. Covers one type, one grade, and five sizes—Nos. 1, 2, 3, 4, and 5. Gives requirements for hair, handle, ferrule, setting, comparison sample, inside width and thickness of ferrule, depth of ferrule, minimum weight of hair in finished brush, minimum hold of hair in ferrule, and length of hair outside ferrule; methods of sampling, inspection, and tests; and packaging, packing, and marking.

- U. S. Gov., Federal Specification H-B-436; 1941. Amendment 3; 1945. Brushes, Paint; Metal-Bound, Flat (Utility-Wall). Covers one type, one grade, and three sizes—3-in., 3 1/2-in., and 4-in. (width of brush inside of ferrule). Gives requirements for bristle, handle, ferrule, setting, comparison sample, dimensions, width and thickness of brush inside ferrule, weight of bristle in finished brush, bristle hold in ferrule, length of bristle outside ferrule, and depth of ferrule; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification H-B-471; 1933. Amendment 4; 1945. Brushes, Roof; Knotted-Style, Three Knots. Covers one type, one size, and one grade. Gives requirements for brush stock, knots, ferrule, block, handle, setting, comparison sample,

number of knots, greatest and shortest diameter of oval inside of knots, depth of ferrule, depth of plug, width of handle at widest point in knot, bristle hold in ferrule, minimum weight of bristle and fiber in finished brush, and minimum length of bristle clear of ferrule; methods of sampling, inspection, and tests; and packaging, packing, and marking.

- U. S. Gov., Federal Specification H-B-491b; 1945. Brushes; Sash-Tool. Covers one type, one grade, and five sizes—Nos. 1, 2, 3, 4, and 5. Gives requirements for bristles, handle, ferrule, setting, comparison sample, dimension of oval at bristle, diameter of ferrule at handle, depth of ferrule, minimum weight of bristle in finished brush, minimum hold of bristle in ferrule, minimum length of bristle out of ferrule, length of handle, and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification H-B-621b; 1945. Brushes; Stencil (Flag Ends Cut). Covers two types—(I) round sash tool handle (sizes No.1 and No.2) and (II) regular stencil handle (sizes Nos.3, 4, and 5). Gives requirements for bristles, setting, comparison sample, handles, ferrules, diameter and depth of ferrule, minimum weight of bristle in brush, minimum hold of bristle in ferrule, minimum length of bristle outside of ferrule, and minimum over-all length; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification H-B-636; 1930. Amendment 1; 1945. Brushes; Stippling, Wall. Covers one type and grade. Gives requirements for bristle and horsetail hair mixture, block, setting, comparison sample, diameter of holes, number of holes, number of rows, size of blocks, minimum length of stock clear of block, and minimum weight of stock in finished brush; methods of sampling, inspection, and tests; and packaging, packing, and marking.

- U. S. Gov., Federal Specification H-B-696a; 1945. Brushes; Varnish, Flat. Covers one type, one grade, and three sizes—1 in., 1 1/2 in., and 2 in. wide. Gives requirements for bristle, handle, setting, ferrule, comparison sample, minimum width and thickness of brush inside ferrule, minimum hold of bristle in ferrule, minimum length of bristle outside ferrule, minimum depth of ferrule, and minimum weight of bristle in finished brush; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification H-B-701a; 1945. Brushes; Varnish, Flat (Double X Thickness). Covers one type, one grade, and five sizes—1 in., 1 1/2 in., 2 in., 2 1/2 in., and 3 in. wide. Gives requirements for bristle, handle, ferrule, setting, comparison sample, width and thickness of brush inside ferrule, minimum depth of ferrule, minimum weight of bristle in finished brush, minimum hold of bristle in ferrule, and minimum length of bristle out of ferrule; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

- U. S. Gov., Federal Specification H-B-706a; 1945. Brushes; Varnish, Flat (Triple X Thickness). Covers

one type; two grades, A and B; and four sizes—1 1/2 in., 2 in., 2 1/2 in., and 3 in. wide. Gives requirements for bristle, handle, ferrule, setting, comparison sample, width and thickness of brush inside ferrule, minimum depth of ferrule, minimum weight of stock in finished brush, minimum hold of stock in ferrule, minimum length of stock outside of ferrule; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification H-B-731; 1930. Amendment 2; 1945. Brushes; Whitewash. Covers one type and grade. Gives requirements for stock, ferrule, block, setting, comparison sample, width and thickness of brush inside ferrule, depth of ferrule, minimum weight of stock in finished brush, width of strip in brush, stock hold in ferrule, minimum length of stock outside of ferrule, and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., U. S. Army, Corps of Engineers Specification 30-88; 1945. Brush, Sign Writing.

U. S. Gov., U. S. Army, Corps of Engineers Specification 42-57; 1944. Brush, Artist, Round, Camel Hair (Squirrel Hair).

982.3 CLEANING BRUSHES

U. S. Gov., Federal Specification H-B-126; 1938. Amendment 1; 1945. Brushes; Beaker, Burette, Cylinder, and Test-Tube. Covers one grade in five types—(I) beaker, with bristles on wooden or wire handle; (II) burette, with bristles on wire handle; (III) cylinder, with bristles on wire handle; (IV) cylinder, with bristles on wooden handle; and (V) test tube, with bristles on wire handle. Gives requirements for brush stock, wood handles, wire handles, bristles, finish, and details for each type; methods of inspection, sampling, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification H-B-201a; 1940. Amendment 3; 1945. Brushes, Dust; Counter. Covers one type and size and of two grades—(A) with Chinese or Russian bristles and (B) with live horse-tail hair. Gives requirements for bristles, block, setting, holes, minimum length of bristles clear of block, minimum weight of bristles, and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification H-B-211; 1930. Amendment 3; 1945. Brushes, Dust; Painters', Flat. Covers one type and grade. Gives requirements for handle, bristle, setting, standard sample, width of block, thickness of block at bristle, diameter of outside and middle holes, number of outside and middle knots, minimum length of bristle clear of block, and minimum weight of bristle in finished brush; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification H-B-216; 1930. Amendment 1; 1945. Brushes, Dust; Painters', Round. Covers one type and grade. Gives requirements for bristle, handle, setting, standard sample, diameter of outside and middle holes, number of outside and middle knots, outside diameter of block, minimum length of bristle clear of block, and minimum weight

of bristle in finished brush; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification H-B-221; 1933. Amendment 2; 1945. Brushes, Dust; Radiator. Covers one size and grade and two types—(I) wooden handle and (II) twisted wire. Gives requirements for stock, block and handle, holes, setting, body, brush head, and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification H-B-531; 1930. Amendment 4; 1945. Brushes, Scrubbing; Deck. Covers one type, grade, and size. Gives requirements for block, handle, brush stock, dimensions, holes, tolerances, finish, stock, and staples; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification H-B-541; 1930. Amendment 3; 1945. Brushes, Scrubbing; Floor, Hand. Covers one type, grade, and size. Gives requirements for block, holes, and brush stock; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Federal Specification H-B-551; 1933. Amendment 4; 1945. Brushes, Scrubbing; Hand, White-Tampico. Covers one type, grade, and size. Gives requirements for block, holes, brush stock, finish, and tolerances; methods of sampling, inspection, and tests; and packaging, packing, and marking.

U. S. Gov., Navy Dept. Specification 13B14f; 1946. Brushes, Boiler-Tube, Wire-Bristle, Expanding-Type.

U. S. Gov., Navy Dept. Specification 13C8e; 1945. Cleaning-Outfits, Boiler-Tube, Motor-Driven.

U. S. Gov., Navy Dept. Specification 40B5b; 1946. Brushes, Wire, Rotary, Cup, and Radial (Disk).

982.4 POLISHING BRUSHES

U. S. Gov., Navy Dept. Specification 38B27c; 1945. Brushes, Platers'.

982.9 MISCELLANEOUS BRUSHES

U. S. Gov., Federal Specification H-B-248; 1946. Brushes; Flexible-Wire, Dental. Covers one type. Gives requirements for material, workmanship, description, dimensions, and tubing; methods of sampling and inspection; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification H-B-291a; 1945. Amendment 1; 1945. Brushes; Glue, Flat. Covers one type, one grade, and three sizes—Nos. 1, 2, and 3. Gives requirements for bristle, handle, ferrule, setting, comparison sample, width inside ferrule, depth and thickness of ferrule, thickness of brush inside ferrule, minimum weight of bristle in finished brush, minimum hold of bristle in ferrule, and length of bristle outside of ferrule; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Federal Specification H-B-301a; 1945. Amendment 1; 1945. Brushes; Glue, Round. Covers one type, one grade, and three sizes—Nos. 1, 2, and 3. Gives requirements for bristle, handle, ferrule, setting, comparison sample, diameter and depth of ferrule inside, minimum weight of bristle

in finished brush, diameter of handle widest point in brush, bristle hold in ferrule, and minimum length of bristle outside of ferrule; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., U. S. Army, Corps of Engineers Specification 42-51; 1944. Brush, Spotting, 1/8-Inch.

983. MOPS

U. S. Gov., Treasury Dept., Procurement Div., 782; 1946. Mops, Dust; Rectangular, Floor. Covers one

type and one grade. Gives requirements for sizes, material, workmanship, component parts, handle, block, mop head, bid sample, and details; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

983.2 MOPPING OUTFITS

U. S. Gov., Navy Dept. Specification 3881e; 1945. Swabs, Deck.

U. S. Gov., Navy Dept. Specification 3883; 1945. Swabs, Cotton, Sanitary.

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MISCELLANEOUS ARTICLES

992. BUTTONS

U. S. Gov., Federal Specification V-B-871a; 1945. Buttons. Covers three types—(I) collar, in two classes—(A) hard fiber and (B) plain wood; (II) sewing hole, in nine classes—(A) aluminum, (B) bone, (C) brass, (D) composition (nonmetallic), (E) iron (enameled), (F) ivory (vegetable), (G) pearl (salt water), (H) pearl (fresh water), (I) zinc, and (J) horn; and (III) staple, in four classes—(A) composition (nonmetallic), (B) ivory (vegetable), (C) pearl (salt water), and (D) pearl (fresh water). Gives requirements for material and workmanship, design, size, tolerance, color, and details for each type and class; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

U. S. Gov., Joint Army-Navy Specification JAN-B-286-1; 1946. Buttons, Tack and Staple.

U. S. Gov., Marine Corps Specification, revised 1945. Button, Honorable Discharge.

U. S. Gov., U. S. Army, Quartermaster Corps Specification 34-7D; 1945. Buttons, Metal, Uniform and Cap.

993. BREATHING AND DIVING APPARATUS

U. S. Gov., Army Air Forces Specification 3165B-1; 1945. Mask; Oxygen Type A-13A.

U. S. Gov., Army Air Forces Specification 3166A; 1945. Mask; Oxygen Type A-7B.

U. S. Gov., Army Air Forces Specification 40370A; 1945. Regulator; Diluter-Demand Oxygen, Type A-12A.

U. S. Gov., Army Air Forces Specification 40705-3; 1946. Valve; Mask Exhalation, Pressure Compensation.

U. S. Gov., Army Air Forces Specification 40926-1; 1945. Test; Aircraft Oxygen Equipment Functional (Low Pressure).

U. S. Gov., Army-Navy Aeronautical Specification AN-C-134-3; 1945. Connection Assemblies; Demand Mask to Regulator Tube.

U. S. Gov., Army-Navy Aeronautical Specification AN-R-5a; 1945. Regulators; Diluter Demand Oxygen.

U. S. Gov., Army-Navy Aeronautical Specification AN-R-15a; 1945. Regulators; Automatic Continuous Flow Oxygen.

U. S. Gov., Army-Navy Aeronautical Specification AN-T-23b-1; 1946. Tube Assemblies; Oxygen Mask to Regulator.

U. S. Gov., Navy Dept. Specification 37D1; 1945. Dresses, Diving, Standard.

U. S. Gov., Treasury Dept., Procurement Div., 823a; 1945. Masks, Gas Universal (Not for Purposes of Warfare). Covers one grade and two types. Intended for respiratory protection against acid gases, organic vapors, ammonia, carbon monoxide, toxic dusts, fumes, mists, fogs, and smokes. Gives requirements for material, workmanship, rubber parts, metal parts, face piece, exhalation valve, check valve, breathing hose, canister, automatic timer, canister carrier and harness, and carrying case; methods of sampling, inspection, and tests; and packaging, packing, and marking for shipment.

997. LAMPS AND ILLUMINATING DEVICES (EXCEPT ELECTRIC LAMPS)

997.1 OIL LAMPS, LANTERNS, TORCHES

American Society for Testing Materials, D187-39; 1939. American Petroleum Institute Standard, 502-39. American Standards Assn., Z11.17-1939. Standard Method of Test for Burning Quality of Kerosene Oils. Intended for the determination of the burning quality of ordinary kerosene used for illuminating purposes. Gives apparatus, test room, procedure, and reproducibility of results. A.S.T.M. Emergency Alternate Provision, EA-D 187; 1945, affected section 2, apparatus; and section 4, procedure.

997.2 GAS AND GAS APPLIANCES

American Gas Assn. American Standards Assn., Z21.35-1945. Listing Requirements for Gum Protective Devices. Includes—part I, construction requirements covering general requirements, connections, adjustments, and marking; part II, performance requirements covering test gas and test pressure, leakage, capacity, and continued operation; and appendix, giving exhibit A showing a drawing of a needle valve for use in continued operation test.

997.5 ACETYLENE EQUIPMENT AND LAMPS

Associated Factory Mutual Fire Insurance Companies. Factory Mutual Bulletin of Loss Prevention, 11.82; 1942. Acetylene Piping Systems. Standards for Safe Industrial Distribution. Includes recommendations for materials, inside and outside piping, drainage, joints, valves, meters, protection from corrosion, and testing.

U. S. Gov., U. S. Army, Corps of Engineers Specification 44-56; 1945. Lamp; Acetylene, Portable (14 ND Carbide).

998. SIGNS AND SIGNBOARDS

American Railway Engineering Assn. Construction and Maintenance Section, Assn. of American Railroads. Manual for Railway Engineering, 1946. Roadway. Specifications for One- and Two-Track Overhead Wood Warning and Wood Side Warning. Gives scope, materials, erection, and drawings.

U. S. Gov., U. S. Maritime Commission Specification 31-MC-2; 1945. Signs; Emergency Marking, Phosphorescent. Covers one grade and twelve types. Gives requirements for materials, workmanship, construction, performance, marking color, package stability, and details; inspection, sampling, and methods of test; and packaging, packing, and marking for shipment.

DIRECTIONS FOR OBTAINING COPIES OF SPECIFICATIONS

Copies of specifications issued by technical and trade associations may be obtained directly from the association. A list of these associations, with their addresses, is given below.

Specifications of the Federal Specifications Board listed as Federal Specifications, may be obtained by purchase from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. For those specifications of the Federal Specifications Board listed as Treasury Dept., Procurement Div., inquiry should be made of the Federal Specifications Board, Treasury Department, Bureau of Federal Supply, Washington 25, D. C.

Information on method of procurement of other specifications issued by the various bureaus and agencies of the several departments or establishments of the Federal Government can best be obtained directly from the Washington 25, D. C. headquarters of the bureaus and agencies concerned.

In making inquiries concerning specifications, care should be taken to give both the title and designating number of the specification. In some cases the specification may be a part of some "manual" and not have any identifying number. In these cases the title of the manual or other publication is usually stated in the Supplement immediately following the name of the organization which issues the specification.

Some of the specifications listed in the Supplement will become obsolete in a relatively short time because revised specifications will supersede them. However, the information that will be obtained from the Supplement concerning specifications which are not current is entirely workable, since it is understood that when an issuing agency receives an order for a specification it will supply its latest specification unless specifically requested to deliver the one that has been superseded.

NAMES AND ADDRESSES OF STANDARDIZING AGENCIES

Below are listed the trade associations, technical societies, and other standardizing agencies whose specifications and standards are listed in this Supplement to the National Directory of Commodity Specifications. The numbers appearing after each organization refer to the group classifications in the body of the Supplement under which that individual organization's specifications have been listed.

Abrasive Grain Assn., Harry B. Lindsay, Secretary-Treasurer, 27 Elm Street, Worcester 8, Mass. 541.0.

Air Conditioning and Refrigerating Machinery Assn., William B. Henderson, Executive Vice President, Southern Building, Washington 5, D. C. 425.2; 472.93; 473.3; 518.59; 607.3; 607.4; 785.1; 791.2; 792.3; 831.1; 839.9.

Aircraft Industries Assn. of America, Inc., John E. P. Morgan, Executive Director, 610 Shoreham Building, Washington 5, D. C. 296.2; 478.32; 608.2; 608.31; 608.4; 608.8; 822.1; 831.22; 831.34; 831.8; 848.59; 892.3; 714.41; 715.35; 715.41; 724.20; 724.22; 724.25; 724.29; 767.; 893.9.

American Assn. of Motor Vehicle Administrators, A. W. Bohlen, Executive Director, Woodward Building, Washington, D. C. 722.0.

American Assn. of State Highway Officials, Hal H. Hale, Executive Secretary, 1220 National Press Building, Washington 4, D. C. 400.42; 401.40; 412.0; 412.1; 412.2; 412.9; 502.2; 503.0; 503.2; 504.0; 505.0; 505.16; 505.36; 511.72; 518.11; 518.3; 518.30; 518.34; 518.37; 518.41; 518.42; 518.43; 518.48; 518.81; 518.82; 518.83; 518.89; 518.9; 534.11; 603.41; 605.21; 605.25; 643.7; 648.41; 692.2; 840.1; 919.82.

American Assn. of Textile Chemists and Colorists, Harold C. Chapin, Secretary, c/o Lowell Textile Institute, Lowell, Mass. 300.4; 392.4; 770.; 803.10; 830.

American Bowling Congress, Inc., 2200 North Third Street, Milwaukee 12, Wis. 429.9; 943.1.

American Butter Institute, Inc., Russell Fifer, Executive Secretary, Room 1404, 110 North Franklin Street, Chicago 6, Ill. 021.0.

American Concrete Institute, Harvey Whipple, Secretary-Treasurer, New Center Building, 7400 Second Boulevard, Detroit 2, Mich. 516.0; 516.3; 516.4; 518.31; 805.25.

American Dental Assn., Dr. Donald A. Wallace, Secretary, Council on Dental Therapeutics, 222 East Superior Street, Chicago 11, Ill. 915.10.

American Dry Milk Institute, Inc., Attn: Mr. B. W. Fairbanks, 221 North LaSalle Street, Chicago 1, Ill. 021.7.

American Electroplaters' Society, A. K. Graham, Executive Secretary, Box 188, Jenkintown, Pa. 800.3.

American Foundrymen's Assn., Inc., R. E. Kennedy, Secretary, 222 West Adams Street, Chicago 6, Ill. 643.0; 643.4; 644.11; 645.21; 646.0; 646.11; 648.41; 647.11; 854.1; 692.2; 695.5.

American Gas Association, Kurwin R. Boyes, Secretary, 420 Lexington Avenue, New York 17, N. Y. 807.0; 814.0; 814.2; 814.4; 814.9; 997.2.

American Gear Manufacturers Assn., Newbold C. Goin, Executive Secretary, Empire Bldg., Pittsburgh 22, Pa. 504.0; 608.50; 611.55; 766.2; 844.1.

American Gem Society, Dorothy L. Phebus, Asst. Executive Director, 541 South Alexandria Ave., Los Angeles 5, Calif. 560.; 661.; 862.; 863.

Names and Addresses of Standardizing Agencies

American Home Lighting Institute, Inc., J. W. Milford, Secretary-Treasurer, 55 West 42nd Street, New York 16, N. Y. 715.30.

American Institute of Architects, Dept. of Technical Services, Theodore Irving Coe, Secretary, 1741 New York Avenue NW., Washington 6, D. C. 516.4; 516.50; 516.60; 534.0; 745.3.

American Institute of Bolt, Nut, and Rivet Manufacturers, W. C. Stewart, Technical Adviser, 1550 Hanna Building, Cleveland 15, Ohio. 606.31; 606.32; 606.4.

American Institute of Electrical Engineers, H. E. Farrer, Secretary Standards Committee, 29 West 39th Street, New York 16, N. Y. 532.22; 701.2; 710.; 711.41; 711.12; 711.21; 711.22; 712.2; 713.5; 714.11; 714.13; 714.21; 714.42; 715.30; 715.40; 715.41; 715.50; 715.51; 716.2; 716.39; 717.1; 716.32; 718.39; 718.63; 716.64; 716.66; 716.69; 719.94; 725.42; 919.3.

American Institute of Laundering, George H. Isaacson, Director Technical and Laundry Dept., South Chicago St., Joliet, Ill. 310.0; 330.; 360.; 370.; 397.0; 767.

American Institute of Steel Construction, Inc., T. R. Higgins, Director of Engineering, 101 Park Avenue, New York 17, N. Y. 605.20.

American Iron and Steel Institute, Charles M. Parker, Secretary Committee on Manufacturing Problems, 350 Fifth Ave., New York 1, N. Y. 516.50; 601.20; 603.23; 603.24; 603.32; 603.41; 604.20; 604.22; 604.31; 605.0; 605.20; 611.53; 621.21; 621.22; 621.23; 621.24; 621.25; 621.26; 621.27; 621.29; 621.31.

American Medical Association, Howard A. Carter, Secretary, Council on Physical Medicine, 535 North Dearborn Street, Chicago 10, Ill. 716.10; 716.7; 915.29; 915.31; 915.39.

American Mining Congress, G. B. Southward, Mechanization Engineer, Munsey Building, Washington 4, D. C. 606.0; 751.

American Petroleum Institute, Div. of Production, C. A. Young, Director. 1205 Continental Building, Dallas 1, Tex. 040.; 142.0; 502.2; 503.0; 503.2; 503.5; 504.0; 504.54; 504.6; 504.8; 505.0; 516.9; 603.42; 605.23; 607.0; 607.3; 607.4; 607.6; 615.82; 703.0; 703.1; 705.3; 754.; 766.1; 997.1.

American Public Works Assn., Norman Hebden, Executive Director, 1313 East 60th Street, Chicago 37, Ill. 208.93; 425.2; 429.9; 505.15; 512.14; 516.31; 518.34; 518.37; 605.25.

American Railway Engineering Assn., 59 East Van Buren Street, Chicago 5, Ill. 392.4; 400.42; 400.43; 401.10; 401.40; 401.41; 401.42; 401.43; 401.44; 401.45; 401.46; 412.9; 426.29; 469.; 505.13; 505.16; 505.17; 505.19; 505.35; 505.36; 505.39; 516.11; 516.3; 516.39; 516.41; 603.21; 605.11; 605.12; 605.21; 606.1; 606.2; 606.3; 606.4; 607.5; 611.41; 611.51; 616.6; 621.30; 621.33; 601.3; 996.

American Society of Agricultural Engineers, Raymond Olney, Secretary, Box 229, St. Joseph, Mich. 715.30.

American Society of Mechanical Engineers, C. B. LePage, Asst. Secretary, 29 West 39th Street, New York 18, N. Y. 605.23; 607.0; 607.3; 607.4; 607.6; 608.0; 608.6; 611.41; 611.55; 622.3; 622.5; 642.11; 642.22; 642.23; 642.24; 643.3; 643.9; 645.22; 645.23; 645.24; 646.12; 646.22; 646.31; 647.16; 654.59; 700.; 701.2; 701.3; 703.0; 703.9; 704.0; 710.; 711.11; 745.3; 761.0; 767.; 791.1; 917.2; 919.60.

American Society of Refrigerating Engineers, M. C. Turpin, Asst. Secretary, 40 West 40th Street, New York 16, N. Y. 839.9.

American Society for Testing Materials, R. E. Hess, Technical Secretary, 1916 Race Street, Philadelphia 3, Pa. 040.; 142.0; 200.; 209.99; 211.0; 211.2; 211.4; 216.; 296.0; 296.2; 300.0; 300.4; 300.5; 300.6; 330.; 331.10; 360.; 365.0; 365.98; 413.52; 470.3; 473.2; 501.0; 502.2; 503.0; 503.2; 503.3; 503.5; 504.0; 504.54; 504.6; 504.6; 505.0; 505.16; 516.3; 517.0; 516.10; 516.50; 520.; 531.0; 531.3; 534.10; 534.12; 534.29; 593.; 594.; 600.0; 600.1; 600.3; 600.5; 601.23; 603.26; 603.41; 607.3; 607.4; 607.6; 608.11; 611.41; 619.9; 621.11; 621.20; 622.1; 622.3; 622.5; 631.0; 641.0; 641.11; 641.12; 641.21; 641.22; 641.23; 642.11; 642.12; 642.22; 642.23; 642.24; 643.0; 643.3; 643.4; 643.6; 643.9; 644.0; 644.11; 644.12; 644.22; 645.11; 645.12; 645.21; 645.22; 645.23; 645.24; 646.0; 646.11; 646.31; 646.41; 647.0; 647.11; 647.12; 647.13; 647.15; 647.16; 647.18; 647.22; 647.23; 647.25; 647.32; 647.35; 647.36; 651.0; 653.0; 653.32; 654.1; 654.3; 654.52; 654.59; 655.1; 655.2; 655.4; 655.5; 656.5; 661.0; 663.0; 663.40; 692.0; 692.2; 692.3; 693.0; 695.0; 695.1; 695.2; 695.4; 695.5; 695.6; 707.47; 710.; 714.50; 715.41; 715.43; 715.44; 719.50; 719.51; 719.52; 719.55; 719.56; 719.58; 770.; 800.0; 801.0; 801.1; 801.2; 801.6; 822.2; 834.9; 837.0; 840.5; 842.7; 846.63; 848.9; 871.0; 871.12; 871.9; 882.0; 882.6; 893.0; 893.4; 893.5; 893.6; 893.9; 918.9; 919.82; 950.; 997.1.

American Standards Association, P. G. Agnew, Secretary, 70 East 45th Street, New York 17, N. Y. 040.; 066.2; 066.6; 069.4; 142.0; 200.; 202.9; 203.2; 203.9; 208.4; 311.3; 311.92; 311.94; 319.98; 360.; 365.96; 401.30; 412.3; 502.2; 503.0; 503.2; 503.5; 504.0; 504.54; 504.6; 504.8; 505.0; 516.3; 516.4; 516.50; 516.54; 516.59; 516.80; 532.22; 534.0; 545.6; 603.41; 605.27; 607.0; 607.4; 607.6; 608.0; 608.6; 611.55; 614.0; 614.2; 614.4; 614.9; 622.3; 622.5; 642.11; 642.24; 643.4; 644.12; 644.22; 645.11; 703.9; 710.; 714.13; 714.50; 714.51; 715.40; 715.44; 715.50; 716.30; 717.0; 719.52; 745.3; 751.; 761.0; 767.; 767.; 769.; 792.0; 797.0; 839.0; 840.5; 893.0; 910.; 911.0; 911.1; 911.2; 911.3; 911.4; 911.6; 912.; 997.1; 997.2.

American Trucking Assn., Inc., C. F. Jackson, Agent, 1424 Sixteenth St. NW., Washington 6, D. C. 209.99; 489.; 722.37; 660.; 950.; 951.12; 951.13; 951.31; 951.32; 951.33; 951.34; 951.43; 951.44; 951.46; 951.61; 951.62; 951.64; 951.72; 952.11; 952.2; 953.2; 953.36; 953.39; 954.1; 954.21; 954.36; 954.4; 955.2; 955.7; 956.1; 956.2; 957.19; 957.2; 958.3; 959.1; 959.5; 959.6.

American Trudeau Society, c/o Medical Section of National Tuberculosis Assn., Cameron St. C. Guild, M. D., Executive Secretary, 1790 Broadway, New York 19, N. Y. 915.0.

American Water Works Assn., Harry E. Jordan, Secretary, 500 Fifth Ave., New York 18, N. Y. 741.0; 767.; 793.4.

Directory of Commodity Specifications

American Welding Society, L. M. Dalcher, Technical Secretary, 29 West 39th Street, New York 18, N. Y. 805.22; 787.

Anthracite Institute, J. D. Jillson, Secretary, 101 Park Avenue, New York 17, N. Y. 501.1.

Anti-Friction Bearing Manufacturers Assn., Inc., H. O. Smith, Secretary-Manager, 80 East 42d Street, New York 17, N. Y. 788.2.

Appalachian Hardwood Manufacturers, Inc., H. E. Everley, Manager, Trade Extension Dept., 414 Walnut Street, Cincinnati 2, Ohio. 411.25; 411.26; 411.29; 411.43.

Asphalt Institute, Ernest M. Bristol, Director of Public Relations, Mr. Hubbard, Chemical Engineer, 801 Second Avenue, New York 17, N. Y. 505.14; 505.19; 518.37.

Associated Factory Mutual Fire Insurance Companies. Inspection Dept., H. E. Magnuson, Director of Publications, 184 High Street, Boston 10, Mass. 503.0; 505.17; 515.; 518.50; 518.55; 518.56; 518.57; 710.; 711.10; 713.0; 714.50; 715.40; 715.51; 718.10; 755.0; 755.1; 793.2; 795.; 958.2; 976.; 997.5.

Associated General Contractors of America, Inc., Herbert F. Foreman, Managing Director, Munsey Building, Washington 4, D. C. 518.0; 742.; 755.1.

Assn. of American Feed Control Officials, Inc., Leslie E. Bopst, Secretary-Treasurer, College Park, Md. 021.3; 021.9; 039.4; 042.2; 042.3; 042.4; 042.5; 042.6; 042.9; 045.; 098.1; 103.4; 111.94; 112.1; 112.2; 112.3; 112.4; 112.5; 112.6; 112.9; 117.2; 118.1; 118.2; 118.3; 118.9; 119.1; 119.2; 119.4; 119.5; 119.6; 119.9; 133.21; 155.5; 183.9.

Assn. of American Railroads, Bureau of Explosives, H. A. Campbell, Chief Inspector, 30 Vesey Street, New York 7, N. Y. 489.; 880.; 950.; 951.12; 951.13; 951.31; 951.32; 951.33; 951.34; 951.43; 951.44; 951.46; 951.61; 951.62; 951.64; 951.72; 953.2; 953.38; 953.39; 954.1; 954.21; 954.4; 955.2; 955.7; 956.1; 957.19; 957.2; 958.3; 959.1; 959.5.

Assn. of American Railroads, Freight Loading and Container Section, A. H. Grothmann, Secretary, 59 East Van Buren St., Chicago 5, Ill. 950.; 953.2; 953.38; 954.38; 957.0.

Assn. of American Railroads, Operations and Maintenance Department, Engineering Division, Signal Section, R. H. C. Balliet, Secretary, 30 Vesey Street, New York 7, N. Y. 807.3; 807.4; 808.31; 808.32; 713.5; 714.42; 718.40; 718.41; 718.42; 718.43; 718.49; 718.5; 719.57; 719.59; 840.1.

Assn. of American Railroads, Operations and Maintenance Department, Mechanical Division, A. C. Browning, Secretary, 59 East Van Buren St., Chicago 5, Ill. 202.11; 202.44; 473.3; 803.21; 803.33; 804.11; 804.25; 805.13; 807.6; 808.0; 808.31; 808.32; 811.18; 811.21; 811.22; 811.41; 811.44; 811.51; 811.52; 811.53; 811.59; 822.6; 892.3; 702.9; 721.1; 728.1; 728.2; 787.

Assn. of American Railroads, Telegraph and Telephone Section, W. A. Fairbanks, Secretary, 30 Vesey Street, New York 7, N. Y. 718.20.

Assn. of Iron and Steel Engineers, Attn: Mr. I. E. Madsen, Empire Building, Pittsburgh 22, Pa. 611.53.

Assn. of Manufacturers of Chilled Car Wheels, F. H. Hardin, President, 445 North Sacramento Boulevard, Chicago 12, Ill. 611.18.

Building Officials Conference of America, Inc., Arthur N. Rutherford, Secretary-Treasurer, West Hartford, Conn. 516.3.

California Fruit Growers Exchange, F. R. Wilcox, Asst. General Manager, 707 West Fifth Avenue, Los Angeles 55, Calif. 131.22; 131.23; 131.25.

Cast Stone Institute, Herman Frauenfelder, Managing Director, Blatchley Avenue and Chapel Street, P.O. Box 606, New Haven 3, Conn. 516.4.

Chicago Board of Trade, H. A. Boyle, Registrar of Provisions, 141 West Jackson Street, Chicago, Ill. 010.; 011.1; 011.99; 043.2; 951.13; 951.24; 953.38.

Clay Products Association, Robert G. Scott, Chief Engineer, 111 West Washington St., Chicago 2, Ill. 531.5.

Clay Sewer Pipe Assn., Inc., Benj. Eisner, Chief Engineer, 1105 Huntington Bank Bldg., Columbus 15, Ohio. 518.67; 531.5.

Collapsible Tube Manufacturers Assn., Lester B. Platt, Secretary, 19 West 44th Street, New York, N. Y. 651.8; 681.49.

Compressed Gas Manufacturers' Assn., Inc., F. R. Fetherston, Secretary-Treasurer, 11 West 42d Street, New York 18, N. Y. 807.8.

Copper and Brass Research Association, T. E. Veltfort, Manager, 420 Lexington Avenue, New York 17, N. Y. 641.21; 642.24; 644.21; 645.23; 646.21.

Crayon, Water Color and Craft Institute, Inc., John E. DeMeyer, President, 511 Fifth Avenue, New York City 17, N. Y. 849.7; 931.1; 937.1; 937.9.

Edison Electric Institute, Alexander Maxwell, Director of Engineering, 420 Lexington Ave., New York 17, N. Y. 713.5; 715.30.

Facing Tile Institute, Affiliated with Structural Clay Products Institute, Harry C. Plummer, Director, Engineering & Research, 1756 K Street NW., Washington 8, D. C. 534.25; 534.29.

Fir Door Institute, Tacoma Building, Tacoma, Wash. 423.1.

Fluorescent Lighting Assn., L. O. Holder, Secretary, 80 Beaver Street, New York, N. Y. 716.10; 718.18.

Grinding Wheel Manufacturers Assn., Harry B. Lindsay, Secretary-Treasurer, 27 Elm Street, Worcester 8, Mass. 541.0.

Gypsum Association, Henry J. Schweim, General Manager, 330 South Wells Street, Chicago 6, Ill. 518.3.

Names and Addresses of Standardizing Agencies

Hack Saw Manufacturers Assn. of America, Inc., William P. Jeffrey, Secretary, 50 Broadway, New York 4, N. Y. 615.82; 785.

Hardware Cloth and Poultry Netting Institute, Ralph W. Bacon, Secretary, 74 Trinity Place, New York City, N. Y. 603.41; 803.43.

Heat Exchange Institute, C. C. Rohrbach, Secretary, 90 West Street, New York 8, N. Y. 703.0; 703.9.

Hickory Handle Assn., Inc., Guy E. Basye, Secretary-Treasurer, Hope, Ark. 428.1; 428.29.

Illuminating Engineering Society, A. D. Hinckley, Executive Secretary, 51 Madison Avenue, New York 10, N. Y. 525.2; 715.30; 716.2; 716.30; 718.60.

Industrial Mineral Wool Institute, R. L. Davis, Secretary, 441 Lexington Avenue, New York 17, N. Y. 296.0; 709.

Industrial Safety Equipment Assn., A. O. Boniface, Executive Secretary, 366 Madison Avenue, New York, N. Y. 399.9; 797.1.

Institute of Boiler and Radiator Manufacturers, R. E. Ferry, General Manager, 60 East 42d Street, New York 17, N. Y. 614.0; 614.4; 792.0.

Institute of Traffic Engineers, Wilbur S. Smith, Secretary-Treasurer, 317 Strathcona Hall, New Haven 11, Conn. 797.0.

International Assn. of Electrical Inspectors, Inc., Victor H. Tousley, Secretary-Treasurer, 812 North Michigan Avenue, Chicago 11, Ill. 710.; 715.30.

International Assn. of Governmental Labor Officials, A. F. Henrichs, Secretary, U. S. Department of Labor, Washington 25, D. C. 787.

International Assn. of Industrial Accident Boards and Commissions, Verne A. Zimmer, Secretary-Treasurer, c/o U. S. Department of Labor, Washington 25, D. C. 910.

Laundryowners' National Assn. Now American Institute of Laundering.

Luggage and Leather Goods Manufacturers of America, Inc., Maurice A. Levitan, Executive Secretary, 220 Fifth Avenue, New York, N. Y. 958.3.

Mahogany Association, Inc., George N. Lamb, Secretary, 75 East Wacker Drive, Chicago 1, Ill. 430.

Manufacturing Chemists' Assn. of the U. S., Warren N. Watson, Secretary, 608 Woodward Building, Washington 5, D. C. 489.; 726.0; 800.0; 801.1; 821.5; 824.; 830.; 846.50; 950.; 951.31; 955.2.

Manufacturers Standardization Society of the Valve and Fittings Industry, Lester W. Benoit, General Secretary, 420 Lexington Avenue, New York 17, N. Y. 607.0; 607.2; 607.6; 608.31; 608.32; 645.21; 646.41; 646.51.

Milk Cap Statistical Bureau, Attn: Mr. George J. Lincoln, Lincoln-Liberty Building, Philadelphia 7, Pa. 496.

National Adequate Wiring Bureau, P. E. McCaughey, Manager, 155 East 44th Street, New York, N. Y. 715.30.

National Assn. of Fan Manufacturers, L. O. Monroe, Secretary, 5-208 General Motors Building, Detroit 2, Mich. 791.0.

National Assn. of Ice Refrigerator Manufacturers, E. G. Vail, Secretary, 1706 L Street NW., Washington 6, D. C. 959.4.

National Assn. of Mutual Casualty Companies, A. V. Gruhn, General Manager, 919 No. Michigan Avenue, Chicago, Ill. 787.

National Assn. of Pipe Nipples Manufacturers, Inc., H. A. Long, Secretary, 501 Fifth Avenue, New York, N. Y. 607.3; 607.4; 642.25; 645.4.

National Assn. of Sanitary Milk Bottle Closure Manufacturers, Lincoln-Liberty Building, Philadelphia 7, Pa. 496.

National Assn. of Shirt and Pajama Manufacturers, Max J. Loyell, Secretary, 276 Fifth Avenue, New York 1, N. Y. 310.0; 312.3.

National Assn. of Silo Manufacturers, Z. W. Craine, Secretary, Box 30, Norwich, N. Y. 603.0.

National Board of Boiler and Pressure Vessel Inspectors, C. O. Myers, Secretary-Treasurer, Brunson Building, 145 North High Street, Columbus 15, Ohio. 607.0; 608.0; 787.

National Board of Fire Underwriters, W. E. Mallalieu, General Manager, 85 John Street, New York 7, N. Y. 703.9; 792.0; 840.2.

National Canners Association, Edwin J. Cameron, Director, Division of Statistics, 1739 H Street NW., Washington 6, D. C. 125.0; 126.0; 127.0; 128.0; 134.0.

National Canvas Goods Manufacturers' Assn., Inc., James E. McGregor, Executive Secretary-Treasurer, 224 Endicott Building, St. Paul 1, Minn. 300.6; 319.98.

National Conservation Bureau, Mr. Robert W. Gardner, Publications Editor, 60 John Street, New York 7, N. Y. 722.0; 797.0; 797.3.

National Cottonseed Products Assn., Inc., S. M. Harmon, Secretary-Treasurer, Sterick Building, Memphis 3, Tenn. 112.2; 112.3; 126.11; 135.5; 141.; 142.0; 142.4; 142.6; 143.2; 301.3; 871.0.

National Council on Compensation Insurance, Wm. F. Roeber, General Manager, 45 East 17th Street, New York 3, N. Y. 910.

National Duck Pin Bowling Congress, Evans Building, 1420 New York Ave. NW., Washington, D. C. 429.9; 943.1; 943.98.

National Electrical Contractors Assn., Paul M. Geary, Executive Vice President, Investment Building, Washington 5, D. C. 715.30.

Directory of Commodity Specifications

- National Electrical Manufacturers Assn., L. D. Price, Manager, Engineering Dept., 155 East 44th Street, New York 17, N. Y. 552.; 701.2; 711.10; 711.11; 711.12; 711.20; 711.21; 711.22; 713.1; 713.2; 713.4; 713.5; 714.11; 714.42; 714.51; 715.30; 715.51; 717.1; 719.51; 719.52; 719.58; 719.58; 787.; 795.; 893.8; 959.4.
- National Electrical Wholesalers Assn., Charles G. Pyle, Director, 500 5th Avenue, New York 18, N. Y. 715.30.
- National Fire Protection Assn., Inc., 80 Batterymarch Street, Boston 10, Mass. 319.98; 412.3; 516.59; 605.27; 703.9; 789.; 893.0; 973.5.
- National Hardwood Lumber Assn., John W. McClure, Secretary-Manager, 59 East Van Buren Street, Chicago 5, Ill. 400.22; 400.30; 413.52.
- National Lime Assn., S. Walter Stauffer, General Manager, 927 15th Street NW., Washington 5, D. C. 514.4; 516.2; 516.3; 517.0; 517.2.
- National Lumber Manufacturers Assn., Frank J. Hanrahan, Structural Engineer, 1319 16th Street NW., Washington 6, D. C. 411.0; 412.0; 819.2.
- National Machine Tool Builders' Assn., Tell Berna, General Manager, 10525 Carnegie Avenue, Cleveland 8, Ohio. 711.24; 761.0.
- National Paint, Varnish and Lacquer Assn., Inc., Henry A. Gardner, Director Scientific Section, 1500 Rhode Island Avenue NW., Washington 5, D. C. 840.1.
- National Safety Council, 20 North Wacker Drive, Chicago, Ill. 910.
- National Shoe Mfrs. Assn., W. W. Stephenson, Executive Vice President, 405 Lexington Avenue, New York 17, N. Y. 087.0.
- National Shoe Retailers Assn., L. E. Langston, Executive Vice President, 274 Madison Avenue, New York 16, N. Y. 087.0.
- National Soybean Processors Assn., R. G. Houghtlin, President, 3616 Board of Trade Bldg., Chicago 4, Ill. 112.6; 143.2.
- National Warm Air Heating and Air Conditioning Assn., George Boeddener, Managing Director, 145 Public Square, Cleveland 14, Ohio. 489.; 792.0.
- Natural Gasoline Assn. of America, William F. Lowe, Secretary, 1022 Kennedy Building, Tulsa 3, Okla. 503.0; 504.50; 793.C; 839.40.
- New York Produce Exchange, Laurel Duval, Managing Director, 2 Broadway, New York, N. Y. 010.; 100.; 107.0; 142.4; 143.2; 280.; 502.0.
- Optical Society of America, Prof. Arthur C. Hardy, Secretary, Mass. Inst. of Technology, Cambridge, Mass. 911.0; 911.1; 911.2; 911.3; 911.4; 911.6; 912.
- Peanut Butter Manufacturers Assn., W. L. Walde, Technical Adviser, 839 17th Street NW., Washington 6, D. C. 955.4; 955.9.
- Pneumatic Automotive Equipment Assn., R. Kennedy Hanson, Executive Secretary, 1106 Clark Building, Pittsburgh 22, Pa. 791.2.
- Prefabricated Home Manufacturers' Institute, Shoreham Building, Washington, D. C. 516.51.
- The Producers' Council, Inc., 615 15th Street NW., Washington 5, D. C. 516.4; 516.60; 534.0.
- Radio Manufacturers Assn., Bond Geddes, Executive Vice President, 1317 F Street NW., Washington 4, D. C. 715.30; 718.60; 718.84.
- Rail Steel Bar Assn., W. H. Jacobs, Director, 38 So. Dearborn Street, Chicago 3, Ill. 603.20; 605.25.
- Rubber Manufacturers Assn., Inc., J. J. Catterall, Executive Secretary, Mechanical Division, 444 Madison Avenue, New York 22, N. Y. 201.0.
- Rubber Reclaimers Assn., Inc., Charles T. Jansen, Secretary, 250 West 57th Street, New York 19, N. Y. 201.2.
- Society of Automotive Engineers, Inc., 29 West 39th Street, New York 18, N. Y. 200.; 201.1; 201.9; 209.99; 396.; 425.9; 472.93; 477.9; 593.; 600.1; 600.3; 600.5; 603.21; 603.23; 603.27; 603.41; 603.43; 604.22; 604.23; 604.24; 607.4; 607.6; 608.0; 608.4; 608.51; 608.6; 611.21; 614.4; 615.42; 615.62; 621.31; 621.32; 622.3; 622.31; 622.4; 622.6; 622.9; 631.13; 631.21; 631.22; 631.23; 631.31; 631.41; 631.42; 631.43; 641.11; 641.12; 641.21; 641.23; 642.11; 642.12; 642.24; 643.9; 644.12; 644.21; 644.23; 645.11; 645.12; 646.41; 647.12; 647.13; 647.15; 647.16; 692.2; 692.3; 693.3; 695.2; 695.4; 695.5; 695.6; 697.3; 705.6; 707.11; 707.19; 711.12; 715.44; 719.4; 722.31; 724.0; 724.20; 724.21; 724.22; 724.24; 724.26; 724.29; 761.0; 791.1; 840.1; 844.1; 847.1; 848.7; 848.9; 849.6; 893.4; 893.9; 935.
- Society of Motion Picture Engineers, Boyce Nemec, Engineering Secretary, Hotel Pennsylvania, New York 1, N. Y. 516.54; 911.2; 912.
- Southern Pine Inspection Bureau, A. S. Boisfontaine, Secretary-Manager, Canal Building, New Orleans, La. 400.26.
- Soy Flour Assn., 3616 Board of Trade Bldg., Chicago 4, Ill. 109.9.
- Sporting Arms and Ammunition Manufacturers' Institute, C. Stewart Comeaux, Secretary, 103 Park Avenue, New York 17, N. Y. 619.1; 886.
- Steel Boiler Institute, Inc., M. L. Heminway, Executive Secretary, 366 Madison Avenue, New York 17, N. Y. 703.0.
- Steel Joist Institute, S. H. Burgess, Managing Director, 3709 24th Street NE., Washington 18, D. C. 605.12.
- Steel Kitchen Cabinet Institute, S. S. Keeney, Executive Secretary, 140 Public Square, Cleveland 14, Ohio. 813.9.

Names and Addresses of Standardizing Agencies

Tanners' Council of America, Inc., 100 Gold Street, New York 7, N. Y. 087.0.

Technical Assn. of the Pulp and Paper Industry, R. G. Macdonald, Secretary-Treasurer, 122 East Forty-second Street, New York 17, N. Y. 216.; 400.50; 400.7; 401.6; 470.1; 470.3; 471.1; 471.3; 472.0; 473.2; 504.54; 810.; 821.7; 824.; 833.9; 839.49; 842.1; 891.; 953.2.

Textile Color Card Assn. of the U. S., Inc., Margaret H. Rorke, Managing Director, 200 Madison Ave., New York 18, N. Y. 087.0; 300.4; 308.0; 319.97; 365.0; 387.0; 395.20; 397.0.

Tire and Rim Assn., Inc., C. G. Hoover, Executive Vice President and Secretary, 2001 First-Central Tower, Akron 8, Ohio. 206.0; 206.2; 208.3; 208.4; 208.5; 618.35; 722.36; 724.23; 725.2.

Toilet Goods Assn., Inc., H. D. Goulden, Director of Scientific Research and Standards, 9 Rockefeller Plaza, New York 20, N. Y. 839.38; 839.39.

Underwriters' Laboratories, Inc., J. A. Trovillo, Assistant Secretary, 207 East Ohio Street, Chicago 11, Ill. 202.21; 516.4; 520.; 613.5; 631.0; 695.0; 710.; 711.20; 715.44; 717.1; 718.31; 718.60; 719.59; 722.39; 722.95; 755.1; 785.0; 792.1; 793.0; 797.0; 970.; 973.2.

United States Golf Assn., Joseph C. Dey, Jr., Executive Secretary, 73 East 57th Street, New York 22, N. Y. 209.91; 943.1; 943.93.

Varnished Tubing Association, Inc., Stewart N. Clarkson, Secretary-Treasurer, 420 Lexington Avenue, New York 17, N. Y. 719.50.

Water Cooler and Drinking Fountain Manufacturers Assn., R. Kennedy Hanson, Executive Secretary, 1107 Clark Building, Pittsburgh, Pa. 785.1; 955.6.

West Coast Lumbermen's Assn., T. K. May, Director of Technical Service, 364 Stuart Building, Seattle 1, Wash. 400.21; 400.23; 400.24; 400.28.

Western Pine Assn., Attn. N. L. Cary, Yeon Building, Portland 4, Oreg. 400.0; 400.20; 400.21; 400.23; 400.25; 400.28; 400.28; 400.41; 402.43; 402.51; 403.2; 411.0; 411.1; 411.29; 411.42; 411.6; 412.0; 413.0; 413.1; 413.21; 413.29; 413.8; 413.8; 413.9; 423.1; 423.2.

Western Plumbing Officials Assn., Stephen I. Smoot, Secretary, 4733 Templeton Street, Los Angeles 32, Calif. 600.6.

Army Air Forces. Address: Headquarters, Air Technical Service Command, Wright Field, Ohio. 087.1; 087.8; 068.2; 069.3; 093.0; 202.10; 202.22; 202.32; 202.9; 203.2; 204.8; 282.; 311.1; 311.4; 311.8; 315.2; 319.97; 319.98; 319.99; 365.19; 387.1; 388.1; 388.9; 398.; 397.18; 397.2; 400.41; 429.4; 429.9; 474.9; 481.; 489.; 502.2; 504.19; 504.44; 521.8; 527.; 541.3; 541.9; 800.1; 805.19; 807.0; 807.6; 808.32; 816.91; 831.13; 831.31; 872.; 892.3; 895.4; 895.5; 897.2; 705.6; 707.15; 707.24; 711.11; 711.12; 711.21; 713.5; 713.7; 714.11; 714.14; 714.22; 714.33; 714.39; 714.52; 715.41; 715.42; 716.18; 717.1; 717.4; 718.29; 718.80; 718.81; 718.89; 718.7; 719.99; 724.0; 724.20; 724.21; 724.22; 724.24; 724.25; 724.28; 724.27; 724.29; 724.3; 725.3; 725.41; 729.2; 744.2; 755.1; 755.9; 756.; 761.1; 761.9; 762.1; 787.; 784.1; 791.2; 792.3; 793.2; 793.4; 793.8; 793.9; 796.; 797.2; 834.9; 839.41; 839.45; 839.9; 840.6; 846.59; 849.4; 849.9; 871.9; 882.3; 891.; 893.0; 893.4; 893.9; 911.1; 911.9; 912.; 914.5; 916.22; 916.9; 919.3; 919.89; 943.8; 950.; 953.2; 954.23; 954.36; 955.2; 958.1; 958.2; 957.3; 958.2; 958.9; 959.9; 973.3; 974.0; 993.

Army-Navy Aeronautical. Address: Bureau of Aeronautics, Navy Dept., Washington 25, D. C. 201.3; 202.0; 202.10; 202.12; 202.22; 202.32; 202.40; 202.43; 202.9; 204.92; 206.2; 206.4; 209.7; 282.; 298.4; 302.49; 306.38; 319.97; 365.98; 394.5; 394.6; 398.; 397.2; 400.13; 400.15; 400.41; 413.31; 413.32; 413.52; 429.9; 477.9; 479.2; 481.; 489.; 503.2; 503.3; 504.19; 504.23; 504.37; 504.49; 525.9; 531.8; 541.8; 574.; 593.; 800.1; 800.3; 800.5; 800.8; 803.23; 803.41; 803.42; 804.19; 804.22; 807.4; 807.8; 807.7; 808.2; 808.32; 808.6; 808.7; 818.99; 821.31; 821.32; 822.1; 822.3; 822.4; 831.20; 831.21; 831.23; 831.24; 831.33; 831.35; 831.41; 831.42; 831.6; 831.9; 834.; 842.12; 845.12; 845.24; 845.9; 846.32; 851.9; 853.32; 854.54; 871.; 881.49; 883.49; 892.0; 892.1; 892.3; 895.2; 895.5; 897.2; 704.0; 705.8; 707.13; 707.18; 707.20; 707.23; 707.24; 707.28; 707.29; 710.; 711.22; 712.2; 712.9; 713.5; 714.12; 714.14; 714.31; 714.33; 714.41; 714.51; 714.52; 715.12; 715.35; 715.40; 715.41; 715.43; 715.49; 716.19; 718.2; 718.30; 716.39; 717.3; 718.60; 719.3; 719.4; 719.72; 724.0; 724.20; 724.21; 724.22; 724.24; 724.25; 724.26; 724.27; 724.29; 724.3; 755.1; 755.2; 755.3; 767.; 793.0; 793.2; 794.; 801.8; 822.3; 822.5; 822.9; 839.43; 839.9; 840.5; 842.5; 842.82; 843.31; 843.39; 844.1; 844.4; 844.7; 846.21; 848.51; 846.53; 846.54; 846.59; 848.9; 847.1; 848.9; 871.9; 882.3; 891.; 893.0; 893.4; 893.5; 893.9; 911.2; 911.4; 911.5; 911.6; 918.1; 919.3; 944.5; 950.; 953.2; 953.36; 954.21; 954.36; 958.1; 958.2; 959.1; 959.6; 959.9; 993.

Dept. of Agriculture, Circulars and Bulletins. Address: Dept. of Agriculture, Inquiries and Distribution Service, Administration Building, Washington 25, D. C. 046.; 162.; 789.; 893.0.

Dept. of Agriculture, Production and Marketing Administration, Washington 25, D. C. 015.1; 015.5; 022.49; 105.1; 111.0; 111.1; 111.4; 111.5; 111.6; 111.91; 111.92; 111.93; 111.94; 111.95; 111.99; 113.1; 113.2; 113.3; 113.4; 113.5; 121.1; 121.9; 122.11; 122.13; 122.2; 122.8; 123.1; 123.2; 123.3; 123.4; 123.52; 123.8; 124.4; 126.11; 126.13; 126.2; 126.7; 128.1; 131.22; 131.25; 131.3; 131.4; 132.11; 132.21; 132.41; 132.42; 132.44; 132.45; 133.13; 133.41; 133.44; 133.45; 134.11; 134.41; 134.44; 134.45; 134.51; 135.5; 141.; 155.4; 178.3; 178.4; 178.8; 261.; 331.22; 360.

Dept. of Commerce, Civil Aeronautics Administration, Office of Federal Airways, Washington 25, D. C. 401.30; 505.4; 516.19; 605.23; 614.3; 715.41; 717.1; 718.5; 718.61; 791.1; 844.9; 918.22.

Dept. of Commerce, Civil Aeronautics Board, Washington 25, D. C. 705.8; 718.65; 724.0; 724.24; 724.26; 724.29.

Directory of Commodity Specifications

Dept. of Commerce, National Bureau of Standards, Washington 25, D. C. 206.6; 296.0; 300.0; 300.6; 304.2; 310.0; 311.5; 312.0; 312.3; 319.96; 369.21; 397.0; 399.9; 423.1; 428.1; 428.29; 496.; 505.16; 505.36; 516.50; 518.51; 518.67; 520.; 531.5; 534.25; 541.0; 541.4; 581.; 600.3; 603.23; 603.41; 603.43; 605.0; 607.0; 607.3; 607.4; 607.6; 608.31; 608.32; 608.4; 612.22; 614.4; 615.42; 615.61; 615.62; 615.63; 615.62; 619.1; 631.5; 642.24; 642.26; 645.23; 645.4; 648.41; 709.; 711.42; 715.35; 715.50; 745.3; 785.; 785.1; 791.2; 792.0; 793.9; 797.1; 840.1; 849.7; 886.; 915.10; 931.1; 937.1; 937.9; 953.2; 955.4; 955.6; 955.9; 956.3; 959.1.

Dept. of Interior, Bureau of Mines, Washington 25, D. C. 750.

Federal Security Agency, Food and Drug Administration, Washington 25, D. C. 037.4; 106.41; 106.42; 128.1; 151.1; 151.2; 151.3; 610.; 661.0.

Federal Security Agency, U. S. Public Health Service, Rockville Pike, Bethesda, Md. 716.30; 792.0.

Federal Specifications. Address: Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. 021.1; 021.7; 036.1; 041.3; 060.; 063.6; 068.1; 066.2; 066.3; 066.4; 066.7; 069.7; 069.9; 093.3; 093.7; 096.1; 103.4; 104.9; 107.3; 108.3; 108.9; 109.3; 109.4; 109.5; 109.6; 112.1; 112.2; 112.3; 112.5; 112.6; 112.9; 117.2; 118.1; 118.2; 118.3; 119.1; 119.4; 119.9; 121.3; 123.4; 126.11; 126.1; 129.12; 131.26; 131.3; 131.5; 132.11; 133.22; 133.41; 133.44; 133.45; 134.11; 134.44; 163.9; 176.3; 176.4; 202.12; 202.41; 202.42; 202.44; 202.46; 203.13; 203.9; 204.24; 204.25; 204.29; 204.4; 204.59; 204.92; 204.93; 204.95; 204.96; 205.4; 206.5; 206.1; 206.2; 206.6; 209.1; 211.3; 262.; 296.2; 300.4; 302.22; 302.32; 302.46; 304.71; 309.3; 311.92; 311.98; 315.31; 315.5; 319.3; 319.4; 349.1; 391.; 392.12; 392.54; 394.5; 397.3; 398.1; 398.31; 398.34; 399.3; 426.29; 429.2; 429.4; 429.9; 435.2; 473.3; 474.9; 476.21; 476.11; 476.12; 476.13; 476.19; 476.22; 479.2; 494.; 499.; 503.0; 503.1; 503.2; 503.3; 504.44; 504.49; 504.51; 504.7; 512.13; 512.14; 514.2; 514.3; 516.11; 516.19; 534.12; 541.4; 546.; 572.; 600.1; 602.2; 603.23; 603.41; 603.42; 603.43; 604.22; 605.11; 605.12; 605.25; 607.14; 607.2; 607.3; 607.4; 607.6; 612.22; 612.29; 613.4; 614.4; 615.12; 615.21; 615.22; 615.42; 615.61; 616.11; 616.15; 616.21; 616.34; 616.35; 616.8; 616.91; 619.3; 619.6; 621.31; 621.32; 621.33; 622.4; 622.6; 622.9; 631.12; 631.13; 631.21; 631.22; 631.23; 631.31; 631.32; 641.11; 642.12; 642.24; 642.4; 642.9; 645.21; 645.39; 645.4; 645.9; 646.41; 646.51; 647.21; 647.26; 647.32; 647.33; 647.35; 647.36; 647.38; 654.54; 662.; 661.41; 663.41; 663.49; 692.2; 693.5; 695.1; 707.13; 707.15; 707.21; 707.22; 707.23; 707.24; 707.25; 707.26; 707.26; 707.3; 707.42; 707.43; 707.44; 707.47; 707.49; 709.; 711.24; 715.11; 715.21; 715.41; 715.42; 715.44; 716.11; 716.12; 716.13; 716.19; 716.39; 717.2; 717.3; 716.32; 719.55; 719.56; 719.92; 751.; 767.; 793.5; 610.; 621.7; 631.4; 633.2; 834.4; 834.9; 839.1; 839.33; 839.9; 840.4; 840.5; 842.1; 842.2; 842.4; 842.5; 842.84; 842.7; 842.82; 842.86; 843.1; 843.31; 843.37; 843.39; 843.62; 843.7; 843.8; 844.2; 844.4; 844.5; 844.65; 844.67; 844.69; 844.9; 845.2; 845.3; 846.11; 846.12; 847.1; 846.7; 860.; 871.14; 871.19; 871.23; 871.26; 871.27; 871.29; 871.4; 871.9; 891.; 893.4; 914.9; 915.11; 915.12; 915.13; 915.19; 915.24; 915.25; 915.27; 915.29; 915.39; 915.45; 915.56; 916.5; 918.6; 918.81; 918.86; 918.9; 919.4; 919.6; 931.4; 932.2; 932.9; 933.9; 935.; 937.1; 950.; 951.13; 951.32; 951.44; 951.64; 953.2; 953.39; 955.4; 957.2; 959.1; 973.3; 982.1; 982.3; 982.9; 982.9; 992.

Interstate Commerce Commission, Bureau of Locomotive Inspection, Washington 25, D. C. 701.3; 704.0; 705.0; 721.1.

Interstate Commerce Commission, National Motor Freight Classification, Washington 25, D. C. 951.31; 951.72; 952.11; 952.2; 953.2; 953.39; 954.36; 957.19; 957.2; 959.1; 959.6.

Interstate Commerce Commission, Regulations for Transportation of Explosives and Other Dangerous Articles, Washington 25, D. C. 209.99; 489.; 722.37; 660.; 950.; 951.12; 951.13; 951.31; 951.32; 951.33; 951.34; 951.43; 951.44; 951.46; 951.61; 951.62; 951.64; 951.72; 953.2; 953.36; 954.1; 954.21; 954.4; 955.2; 955.7; 956.1; 956.2; 957.19; 957.2; 956.3; 959.1; 959.5.

Joint Army-Navy. Address: Navy Dept., Bureau of Supplies and Accounts, Washington 25, D. C. 103.9; 202.32; 206.0; 217.; 208.92; 295.; 301.2; 302.44; 302.45; 304.1; 304.4; 304.71; 306.16; 306.21; 306.23; 306.24; 306.29; 306.35; 306.36; 306.9; 311.3; 311.4; 317.9; 319.92; 319.97; 341.1; 365.19; 365.24; 366.95; 367.1; 393.; 395.29; 397.16; 397.2; 413.52; 423.9; 426.3; 477.8; 477.9; 478.23; 461.; 501.6; 505.19; 528.9; 534.25; 574.; 603.23; 603.41; 603.43; 607.0; 607.5; 607.6; 611.19; 611.59; 612.14; 613.9; 614.9; 619.2; 645.4; 645.9; 646.59; 652.0; 692.0; 695.1; 703.1; 703.9; 705.0; 707.15; 710.; 711.23; 712.0; 712.1; 713.1; 714.12; 714.39; 714.52; 715.21; 715.41; 716.2; 717.1; 718.61; 716.62; 716.63; 716.64; 716.65; 716.69; 719.54; 719.56; 719.72; 725.41; 741.9; 743.; 745.1; 755.2; 787.; 793.2; 793.6; 796.; 797.2; 801.2; 802.1; 802.3; 803.31; 803.32; 803.33; 803.35; 814.1; 815.1; 819.9; 821.5; 821.7; 821.9; 822.9; 831.1; 831.5; 831.9; 832.4; 832.9; 833.3; 833.9; 834.9; 835.5; 835.9; 839.31; 839.34; 839.35; 839.36; 839.9; 844.1; 846.59; 846.61; 849.6; 861.; 862.; 864.; 867.; 868.; 861.19; 861.9; 893.5; 893.8; 893.9; 911.2; 911.9; 912.; 914.5; 915.52; 916.22; 919.6; 919.84; 935.; 950.; 951.13; 951.32; 951.44; 951.64; 953.2; 953.36; 953.9; 954.1; 954.22; 954.23; 954.36; 956.2; 957.19; 957.2; 956.9; 959.1; 959.7; 973.3; 975.; 992.

Marine Corps. Address: Headquarters, Marine Corps, Navy Dept., Washington 25, D. C. 067.1; 067.6; 069.3; 303.5; 306.16; 306.44; 306.45; 309.2; 310.0; 311.1; 311.4; 311.5; 311.6; 311.8; 311.99; 319.7; 319.98; 319.99; 365.16; 365.23; 367.1; 367.5; 368.1; 368.2; 368.4; 368.82; 368.9; 369.6; 369.9; 392.51; 392.54; 395.13; 395.14; 395.15; 395.17; 395.19; 397.11; 397.14; 397.15; 397.19; 397.2; 399.3; 603.43; 612.22; 612.29; 616.15; 645.9; 727.; 797.2; 843.35; 843.39; 944.1; 944.3; 944.7; 957.15; 957.19; 992.

Navy Dept. Address: Bureau of Supplies and Accounts, Navy Dept., Washington 25, D. C. 021.2; 066.9; 066.2; 069.3; 069.4; 069.9; 142.2; 201.3; 201.9; 202.11; 202.12; 202.22; 202.31; 202.32; 202.46; 202.9; 203.2; 204.96; 206.1; 208.8; 209.5; 209.99; 211.5; 282.; 296.2; 296.9; 300.0; 301.2; 301.4; 302.31; 302.32; 303.1; 304.71; 308.9; 311.5; 311.6; 311.92; 311.93; 315.10; 315.11; 317.3; 317.9; 319.91; 319.92; 319.93; 319.94; 319.97; 319.98; 319.99; 331.11; 331.16; 349.1; 349.4; 363.2; 365.96; 367.1; 367.3; 367.4; 367.5; 367.7; 368.1;

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 993.

Navy Dept., Bureau of Yards and Docks, Washington 25, D. C. 411.0; 716.30.

Panama Canal, Purchasing Dept., Washington 25, D. C. 711.21.

Treasury Dept., Procurement Div., Washington 25, D. C. 045.; 069.2; 069.7; 203.2; 207.3; 309.4; 311.1;
 311.92; 312.2; 319.4; 319.99; 339.2; 342.1; 349.1; 399.9; 479.2; 504.19; 504.43; 505.13; 505.15; 505.16; 505.19;
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 933.9; 951.32; 952.14; 955.6; 973.2; 973.3; 973.4; 961.5; 983.; 993.

U. S. Army, Army Air Forces. Address: Commanding General, Materiel Command, Production Branch, Dept. 71,
 Wright Field, Dayton, Ohio. 069.3; 306.32; 315.19; 367.7; 368.9; 476.9; 521.1; 525.2; 600.3; 614.3; 672.;
 722.1; 722.37; 724.20; 724.23; 724.29; 729.2; 744.1; 744.2; 791.1; 792.3; 832.9; 834.9; 840.1; 911.1; 911.2;
 911.3; 911.4; 911.5; 911.6; 911.9; 954.23; 956.2.

U. S. Army, Chemical Warfare Service. Address: Chief, Chemical Warfare Service, War Dept., Washington 25,
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