
Bituminous-Coated Metal Septic Tanks (Single Compartment, Residential)

A RECORDED VOLUNTARY STANDARD OF THE TRADE

COMMODITY STANDARDS

Simplified Practice Recommendations and Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division of the Office of Industry and Commerce, Bureau of Foreign and Domestic Commerce, and with the National Bureau of Standards.

The purpose of Simplified Practice Recommendations is to eliminate avoidable waste through the establishment of standards of practice for stock sizes and varieties of specific commodities that currently are in general production and demand. The purpose of Commercial Standards is to establish standard methods of test, rating, certification, and labeling of commodities, and to provide uniform bases for fair competition.

The adoption and use of a Simplified Practice Recommendation or a Commercial Standard is voluntary. However, when reference to a Commercial Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforceable through usual legal channels as a part of the sales contract.

A Simplified Practice Recommendation or a Commercial Standard originates with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Commodity Standards Division the necessary data to be used as the basis for developing a standard of practice. The Division, by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the Division assures continuous servicing of each effective Simplified Practice Recommendation and Commercial Standard, through review and revision, whenever, in the opinion of the industry, changing conditions warrant such action. Simplified Practice Recommendations and Commercial Standards are printed and made available by the Department of Commerce through the Government Printing Office and the Department of Commerce field offices.

UNITED STATES DEPARTMENT OF COMMERCE

Charles Sawyer, Secretary



U. S. DEPARTMENT OF COMMERCE

CHARLES SAWYER, Secretary

BUREAU OF FOREIGN AND DOMESTIC
COMMERCE

Office of Industry and Commerce
H. B. McCoy, Director

IN COOPERATION WITH
NATIONAL BUREAU OF STANDARDS
E. U. CONDON, DIRECTOR

Bituminous-Coated Metal Septic Tanks

(Single Compartment, Residential)

[Effective May 20, 1951]

1. PURPOSE

1.1 The purpose of this commercial standard is to provide generally acceptable requirements for single-compartment, residential, metal septic tanks of satisfactory design and durability as a basis for better understanding between producers and users, to promote fair competition, and to provide a basis for labeling tanks to show compliance.

2. SCOPE

2.1 This standard covers single-compartment metal septic tanks, and includes definitions, essential details of quality and thickness of metal, pertinent items of design of two types, minimum capacity, means for protection against corrosion, and a uniform method of declaring compliance with the standard.

3. DEFINITIONS

3.1 *Residential septic tank*.—For the purpose of this standard, a residential septic tank is an enclosed watertight, sewage-settling tank intended to retain the solids in immediate contact with the sewage flowing through the tank for a sufficient period to secure satisfactory decomposition of settled solids by biochemical action.

3.2 *Metal residential septic tank*.—For the purpose of this standard, a metal septic tank is a single-compartment tank designed to perform the functions stated in 3.1, and constructed of metal protected against corrosion by a bituminous coating.

3.3 *Liquid capacity*.—For the purpose of this standard, liquid capacity shall be the capacity of the tank below the bottom of the outlet when the tank is properly installed.

4. GENERAL REQUIREMENTS

4.1 *Workmanship and finished appearance*.—Workmanship shall be in accordance with high-grade commercial practice. Tanks shall be free from defects which may affect their serviceability, durability, or appearance.

4.2 *Watertightness*.—Construction of the tank shall be such as to assure its being watertight and prevent the entrance of rain water, surface drainage, or ground water.

4.3 *Capacity*.—The minimum liquid capacity of tanks covered by this standard shall be 500 gallons.

4.4 *Tank metal*.

4.4.1 *Kind*.—Sheet metal of the tank shall be new, unused, hot-rolled commercial quality steel or at least equally suitable metal.

4.4.2 *Thickness*.—Thickness of steel sheet shall be a minimum of No. 14 (0.0747 in.) manufacturers' gage for sheet steel, with commercial tolerances. All tanks shall be designed and built to withstand a vertical load of 150 pounds per square foot without permanent distortion.

5. DETAIL REQUIREMENTS

5.1 *Design*.—Septic tanks shall be designed in accordance with pertinent requirements for types 1 and 2.

5.1.1 *Type 1 tank*.

5.1.1.1 *Liquid depth*.—The design of all tanks shall be such as to provide a minimum liquid depth of 48 inches and a maximum liquid depth of 72 inches when measured vertically from point of overflow to bottom of tank.

5.1.1.2 *Space above liquid*.—Total depth of tank shall be at least 8 inches greater than that at the liquid level and shall be such as to provide a volume above the liquid of at least 15 percent of the liquid capacity of the tank.

5.1.1.3 *Baffles and drain pipe fittings*.—Baffles shall extend, on the intake side, to within not less than $\frac{1}{2}$ inch nor more than 1 inch from the top of the tank, and to approximately 6 inches below the water surface; on the outlet side, to within not less than $\frac{1}{2}$ inch nor more than 1 inch from the top of the tank, and to a distance below the water surface equal to approximately 40 percent of 1 foot less than the liquid depth.¹ Intake and outlet openings shall have provision for accommodating pipe in both 4-inch and 6-inch sizes, and means shall be provided to insure clearance between the pipe ends and the baffles of at least 5 inches. The invert of the intake shall be located at least 1 inch above the invert of the outlet. Both inlet and outlet shall be plainly so marked.

5.1.1.4 *Means of access*.—Access to tanks for cleaning and inspection shall be provided by a removable cover or by a manhole at least 16 inches in least dimension. Access to top of inlet baffle shall be provided for cleaning.

5.1.2 *Type 2 tank*.—Type 2 tanks shall comply with all other requirements of this standard and in addition shall have a length not less than two nor more than three times the width.

5.2 *Bituminous coatings*.

5.2.1 *Coating requirements*.—The coating shall be composed of bituminous-base materials impervious to water and resistant to sulfuric and sulfurous acids of concentrations encountered in the normal operation of septic tanks. The physical characteristics of the materials shall be such that they are capable of being applied in a continuous coating, free from bubbles, pinholes, holidays, etc.; have good adherence to the metal; and permit handling incidental to shipping and installation at temperatures between 30° and 140° F without separating from the metal or showing appreciable flow or stickiness.

¹ The distance the baffle, on the outlet side, is to extend below the water surface may be obtained by the following formula:

$$\frac{\text{Liquid depth in inches}-12}{2.5}=\text{inches below water surface.}$$

Applying this formula to a liquid depth of 72 inches—

$$\frac{72-12}{2.5}=24 \text{ inches.}$$

5.2.2 *Coating systems.*—Two coating systems are acceptable:

System I. Hot-dipped asphalt coating applied to the bare metal or over an asphalt primer, followed by a coal-tar-base emulsion coating applied to the critical area (all interior surfaces, including the cover, above a point not less than 8 inches below the liquid level).

System II. Cold-application coal-tar-base coating to the bare metal or over a coal-tar primer, followed by a second application of coating to the critical area (all interior surfaces, including the cover, above a point not less than 8 inches below the liquid level).

5.2.3 *Materials.*—Materials shall meet requirements for the applicable system, as follows:

System I.

- (a) Asphalt for hot-dipped coatings.—Shall comply with Federal Specification SS-A-666² for Asphalt; (for) Built-up Roofing, Waterproofing, and Damp-Proofing, type II, grade 2.
- (b) Asphalt primer, when used.—Suitable primer to be furnished by the manufacturer of asphalt coating.
- (c) Coal-tar-base emulsion.—Shall comply with Military Specification MIL-C-15203 (SHIPS),³ for Coating, Bituminous Emulsion.

System II.

- (a) Coal-tar-base coating.—Shall comply with paragraph 1-05, Department of the Navy, Bureau of Yards and Docks Specification 34Yb,⁴ for Bituminous Coating of Steel Surfaces (Waterfront and Underground Service).
- (b) Coal-tar primer, when used.—Suitable primer to be furnished by the manufacturer of the coal-tar-base coating.

5.2.4 *Coating procedure.*

5.2.4.1 *Preparation of tanks.*—The metal shall be free from all loose scale, rust, oil, and grease prior to the coating. The cleaned tanks shall be protected from rain, snow, and frost prior to coating.

5.2.4.2 *System I.*

- (a) Apply asphalt primer when recommended by the manufacturer of the coating material used, application to be in accordance with recommendations of the coating manufacturer. Allow primer to set to touch at atmospheric temperature.
- (b) Submerge the tank in the hot asphalt and withdraw it from the asphalt bath at such a rate that it will be coated with a uniform coating of asphalt 0.035 to 0.060 inch thick, and free from air bubbles, pinholes, and holidays.
- (c) After the tank has cooled to atmospheric temperature, apply the coal-tar emulsion to the critical area (all interior surfaces, including the cover, above a point not less than 8 inches below the liquid level) by brush or spray at a rate of not more than 60 square feet per gallon of emulsion.

5.2.4.3 *System II.*

- (a) Apply coal-tar primer when recommended by the manufacturer of the coating material used, application to be in accordance

² Obtainable from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at 5 cents a copy.

³ Obtainable upon application to the Bureau of Supplies and Accounts, Department of the Navy, Washington 25, D. C.

⁴ Obtainable from the Bureau of Yards and Docks, Department of the Navy, Washington 25, D. C.

with recommendations of the coating manufacturer. Allow primer to set to touch at atmospheric temperature.

- (b) Apply the coal-tar-base coating uniformly by brush or spray to the exterior and interior surfaces of the tank at a rate of not more than 100 square feet per gallon. Allow to dry not less than 24 hours at atmospheric temperature. Drying may be accelerated by the use of infrared lamps or heated drying chamber. Temperature for accelerated drying should not exceed 120° F. Drying time at approximately 120° F should be between 6 and 8 hours.
- (c) Apply a second coat of the coal-tar-base coating to the critical area (all interior surfaces, including the cover, above a point not less than 8 inches below the liquid level), at a rate of not more than 75 square feet per gallon.

5.2.4.4 *Touch-up coating*.—There shall be provided with each tank a pint of touch-up material conforming to Federal Specification SS-R-451 ⁵ for system I, and to Specification 34Yb ⁶ (par. 1-05) for system II.

6. MARKING

6.1 *Manufacturer's name or trademark*.—Each tank shall be clearly, legibly, and permanently marked with the name and address or nationally registered trademark of the manufacturer.

6.2 *Capacity*.—Each tank shall be clearly and legibly marked with the liquid capacity in gallons.

6.3 *Compliance*.—The following statement is recommended for use on labels, invoices, trade literature, etc., to indicate compliance:

This (type 1) ⁷---(type 2) ⁷ metal septic tank complies with all applicable requirements of Commercial Standard CS177-51, as developed by the trade under the procedure of the Commodity Standards Division, and issued by the U. S. Department of Commerce.

7. INSTALLATION REQUIREMENTS

7.1 *Instructions*.—Manufacturers shall make available detailed installation and service directions for installers and servicemen.

7.2 *Installation certificate*.—A blank certificate shall be supplied by the manufacturer for the convenience of the installer. This form shall provide for at least the data shown on the installation certificate which follows.

⁵ Federal specification for Roof-Coating; Asphalt, Brushing-Consistency, obtainable from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at 5 cents a copy.

⁶ See footnote 4, p. 5.

⁷ State which.

SEPTIC TANK INSTALLATION CERTIFICATE
AS REQUIRED BY COMMERCIAL STANDARD 177-51

(To be posted in service or utility room)

This _____
(Make) (Model) (Size, gallons liquid capacity)
residential metal septic tank installed at _____
(Address of installation)

having _____ bedrooms, bears a label evidencing compliance with Commercial Standard 177-51.

This (type 1)* --- (type 2)* tank has been installed to comply with the manufacturer's installation instructions and in conformity with local regulations, codes, and ordinances. Required permits have been secured. It has been checked and tested in accordance with the manufacturer's instructions as provided for in CS177-51, and is so certified, and any exterior or interior coating damage has been repaired with material furnished by the manufacturer.

_____ Date _____
(Name of company making installation)
Per _____

(Address)

(Telephone)
For service, call: _____
(Name)

(Address)

(Telephone)

*State which.

8. EFFECTIVE DATE

8.1 Having been passed through the regular procedure of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this commercial standard was issued by the United States Department of Commerce, effective from May 20, 1951.

EDWIN W. ELY,
Chief, Commodity Standards Division

HISTORY OF THE PROJECT

The need for a satisfactory standard for metal septic tanks prompted leading manufacturers and governmental agencies, including the United States Public Health Service and the Federal Housing Administration, to request the cooperation of the Commodity Standards Division in the establishment of a commercial standard as a means of providing a nationally recognized standard. In compliance with this request a preliminary conference was held at the National Bureau of Standards on September 19, 1949, with members of that Bureau present as technical advisers, for the purpose of developing a preliminary draft.

A proposed preliminary draft was circulated to manufacturers, distributors, purchasers, users, and other interested organizations for advance review and comment. Subsequent meetings were held at the National Bureau of Standards on January 30 and June 7, 1950, for the purpose of considering the comments received and developing the standard. At the latter meeting special emphasis was given to the inclusion of provisions for bituminous coatings, both asphalt and coal-tar.

On August 3, 1950, a revised draft was circulated to the industry, as a proposed commercial standard, for comment. The comments received were considered at a meeting held for that purpose on September 18, 1950, and the draft was adjusted in accordance with the consensus of these comments. At that time it was found that further research, especially in connection with the bituminous coatings, was necessary. Later the proposed standard was further adjusted in accordance with the research findings. It was then circulated to the trade as a recommended commercial standard on January 29, 1951, for consideration and acceptance.

Upon receipt of official acceptances estimated to represent a satisfactory majority of the production by volume, and in the absence of active valid opposition, the standard was promulgated on April 20, 1951, as Commercial Standard 177-51, to become effective for new production from May 20, 1951.

Project Managers: P. A. Cooley and F. E. Powell, Commodity Standards Division, Office of Industry and Commerce.

Technical Advisers: H. R. Snoke and L. R. Kleinschmidt, Building Technology Division, National Bureau of Standards.

STANDING COMMITTEE

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Commodity Standards Division, Office of Industry and Commerce, United States Department of Commerce, which acts as secretary for the committee.

D. H. JAQUITH, *Chairman*

G. A. BURNS, Butler Manufacturing Co., Thirteenth and Eastern Avenue, Kansas City 3, Mo.

E. E. ELLIOTT, Rheem Manufacturing Co., 570 Lexington Avenue, New York 22, N. Y.

D. H. JAQUITH, San-Equip, Inc., East Brighton and Glen Avenues, Syracuse 5, N. Y.

L. R. KLEINSCHMIDT, National Bureau of Standards, Washington 25, D. C.

JAMES R. SIMPSON, Federal Housing Administration, 1001 Vermont Avenue, NW., Washington 25, D. C.

RALPH J. VAN DERWERKER, Public Health Service, Federal Security Agency, Washington 25, D. C.

WARREN A. CLOHISY, Mail Order Association of America, 1022 Washington Loan and Trust Building, Washington 4, D. C.

JOHN E. KIKER, JR., Professor, Department of Civil Engineering, University of Florida, Gainesville, Fla. (representing American Public Health Assn.).

ACCEPTANCE OF COMMERCIAL STANDARD

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this commercial standard.

Date_____

Commodity Standards Division,
Office of Industry and Commerce,
U. S. Department of Commerce,
Washington 25, D. C.

Gentlemen:

We believe that the Commercial Standard 177-51 constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production ¹ distribution ¹ purchase ¹ testing

of bituminous-coated metal septic tanks (single compartment, residential).

We reserve the right to depart from it as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

Signature of authorized officer_____

(In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer_____

Organization_____

(Fill in exactly as it should be listed)

Street address_____

City, zone, and State_____

¹ Underscore which one. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of commercial standards is to establish for specific commodities nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard, and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the commercial standard, where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function performed by the Department of Commerce in the voluntary establishment of commercial standards on a Nation-wide basis is fourfold: first, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active, valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

ACCEPTORS

The organizations listed below have individually accepted this standard for use as far as practicable in the production, distribution, testing, or purchase of bituminous-coated metal septic tanks (single compartment, residential). In accepting the standard they reserved the right to depart from it as they individually deem advisable. It is expected that bituminous-coated metal septic tanks which actually comply with the requirements of this standard in all respects will be regularly identified or labeled as conforming thereto, and that purchasers will require such specific evidence of conformity.

ASSOCIATIONS

(General Support)

National Association of Home Builders, Washington, D. C.

FIRMS AND OTHER INTERESTS

Ain, J., Glen Cove, N. Y.
 Aird-Don Co., Albany, N. Y.
 Airthern Manufacturing Co., St. Louis, Mo.
 Alert Pipe & Supply Co., Bay City, Mich.
 Allen, Walter H., Co., Inc., Dallas, Tex.
 American Plumbers Supply Co., Toledo, Ohio.
 American Plumbing & Steam Supply Co., Tacoma, Wash.
 American Radiator & Standard Sanitary Corp., Fort Wayne, Ind.; Milwaukee, Wis.; Rapid City and Sioux Falls, S. Dak.
 American Steel Works, Kansas City, Mo.
 American Steel Works of Kansas, Inc., Wichita, Kans.
 Anchor Supply Co., Inc., Hickory, N. C.
 Andrew, W. T., Co., Detroit, Mich.
 Armo Drainage & Metal Products, Inc., Middletown, Ohio.
 Armo Drainage & Metal Products, Inc., South Bend, Ind.
 Baker, H. L., Manufacturing Co., Rankin, Pa.
 Baker Manufacturing Co., Enid, Okla.
 Baker Manufacturing Co., Kansas City, Mo.
 Baker Manufacturing Co., Omaha, Nebr.
 Barr, Warren, Supply Co., Chicago, Ill.
 Barrett Division, Allied Chemical & Dye Corp., New York, N. Y. (General Support.)
 Barrett Hardware Co., Joliet, Ill.
 Bay District Pipe & Supply Co., Santa Monica, Calif.
 Behrer-Nason Co., Inc., Mineola, L. I., N. Y.
 Berghorst, B. J. W., & Sons, Zeeland, Mich.
 Bettenburg, Townsend & Stolte, St. Paul, Minn.
 Black, Sivalis & Bryson, Inc., Kansas City, Mo.
 Blake-Rounds Supply Co., Portland, Maine.
 Bluefield Supply Co., Bluefield, W. Va.
 Bond Supply Co., Kalamazoo, Mich.
 Booth & Thomas, Springfield, Ill.
 Brown-Camp Hardware Co., Des Moines, Iowa.
 Brown Steel Tank Co., Minneapolis, Minn.
 Bruce Co., Inc., Fort Smith, Ark.
 Brust & Brust, Architects, Milwaukee, Wis.
 Budd's Supplies, Inc., Woodbury, N. J.
 Buffalo, City of, Architectural Office, Division of Buildings, Department of Public Works, Buffalo, N. Y.
 Busser Supply Co., Lewisburg, Pa.
 Butler Manufacturing Co., Kansas City, Mo.
 Canfield Supply Co., Kingston, N. Y.
 Capitol Supply Co., Lincoln, Nebr.
 Careva Co., Inc., York, Pa.
 Carstens Bros., Plumbing & Heating, Ackley Iowa.
 Case, W. A., & Son Manufacturing Co., Newburgh, N. Y.
 Cattaraugus County Department of Health, Olean, N. Y.
 Cedar Rapids Pump & Supply Co., Cedar Rapids, Iowa.
 Cellarius, Charles F., Architect, Cincinnati, Ohio.

Central Supply Co., Minneapolis, Minn.
 Chicago Boiler Co., Chicago, Ill.
 Chicago Steel Tank Co., Chicago, Ill.
 Clompus, I. M., West Chester, Pa.
 Coast Pipe & Supply Co., San Francisco, Calif.
 Cohen, P., & Son, Brooklyn, N. Y.
 Coleman Supply Co., Martinsville, Va.
 Columbia Pipe & Supply Co., Chicago, Ill.
 Conrad & Cummings, Associated Architects, Binghamton, N. Y.
 Consoer, Townsend & Associates, Consulting Engineers, Chicago, Ill.
 Cook, P. S., Co., Cheyenne, Wyo.
 Cooper, Harry, Supply Co., Springfield, Mo.
 Corcoran Supply Co., Fall River, Mass.
 Corpus Christi Hardware Co., Corpus Christi, Tex.
 Cortlandt Plumbing Supply Co., Inc., Peekskill, N. Y.
 Cram & Ferguson, Architects & Engineers, Boston, Mass.
 Crane Co., Binghamton, N. Y.; Muskogee, Okla.; Ogden, Utah; and Tucson, Ariz.
 Creamer & Dunlap, Tulsa, Okla.
 Curry Steel Products Co., Independence, Mo.
 Dalziel Plumbing Supplies, San Francisco, Calif.
 Danser Hardware & Supply Co., Weston, W. Va.
 Darby, Bognor & Associates, Milwaukee, Wis.
 Davies Supply Co., Chicago, Ill.
 Degan, James E., Detroit, Mich.
 Dempster Mill Manufacturing Co., Beatrice, Nebr.
 Denver, Bureau of Health & Hospitals, Denver, Colo.
 Dixie Culvert Manufacturing Co., Little Rock, Ark.
 Doerr Metal Products, Larned, Kans.
 Dolan Supply Co., Troy, N. Y.
 E & A Plumbing Specialty Co., Enid, Okla.
 Eastern Plumbing Supply Co., Hartford, Conn.
 Eaton Metal Products Corp., Albuquerque, N. Mex.
 Eaton Metal Products Corp., Omaha, Nebr.
 Economy Plumbing & Heating Supply Co., Inc., Annapolis, Md.
 Economy Supply Corp., Pottsville, Pa.
 Ellison Plumbing Supply Co., Monroe, N. Y.
 Endicott Co., Philadelphia, Pa.
 Englewood Plumbing Supply Co., Inc., Englewood, N. J.
 Eureka Plumbing Supply Co., Inc., Poughkeepsie, N. Y.
 Ewing Plumbing Service, Branson, Mo.
 Fall River Steam & Gas Pipe Co. Corp., Fall River, Mass.
 Familiar Pipe & Supply Co., South Gate, Calif.
 Floral Plumbing Supply Co., Inc., New Hyde Park, L. I., N. Y.
 Fort Worth Department of Public Health & Welfare, Fort Worth, Tex.
 Foster-Thornburg Hardware Co., Huntington, W. Va.
 Freehold Plumbing & Heating Co., Freehold, N. J.
 Freer & Smith, Clifton, N. J.
 Garrity Co., Chicago, Ill.
 Garvey, J. F., Baltimore, Md.
 General Plumbing Supply Co., Baltimore, Md.
 Gerber, Max, Inc., Chicago, Ill.
 Gibbons, M. J., Supply Co., Dayton, Ohio.

Gibson-Schlemmer Co., Cincinnati, Ohio.
 Glauber, Inc., New York, N. Y.
 Globe Machinery & Supply Co., Des Moines, Iowa.
 Globe Machinery & Supply Co., Spencer, Iowa.
 Goldin, Ben, Inc., Westbury, L. I., N. Y.
 Goodin Co., Minneapolis, Minn.
 Green, Raymond C. & Co., Jenkintown, Pa.
 Grove Supply, Inc., Willow Grove, Pa.
 Hahn Plumbing & Heating Supply Co., Lewiston, Idaho.
 Hansen Supply Co., New London, Conn.
 Harley, Ellington & Day, Inc., Detroit, Mich.
 Harris Fabricating Co., Inc., Youngstown, Ohio.
 Harris Hardware & Supply Co., Inc., Kingston, Pa.
 Harris Pump & Supply Co., Pittsburgh, Pa.
 Hartford Plumbing Supply, Inc., Hartford, Conn.
 Hartmann, H. C., Son, Union City, N. J.
 Hawaii, Territory of, Department of Health, Honolulu, T. H. (General support.)
 Heieck & Moran, Fresno, Calif.
 Henderson, John M., Professor of Sanitary Science, Columbia University, New York, N. Y. (General support.)
 Herzog Supply Co., Inc., Kingston, N. Y.
 Hett Plumbing & Heating Co., Wausau, Wis.
 Hobbs, W. H., Supply Co., Eau Claire, Wis.
 Hoe Supply Co., Christopher, Ill.
 Hoe Supply Co., Paducah, Ky.
 Hubbard, S. B., Co., Jacksonville, Fla.
 Hughes Supply Co., Mansfield, Ohio.
 Hulbert Bros., Plattsburg, N. Y.
 Hunter, Alfred J., & Co., Muskegon, Mich.
 Hunting Co., Auburn, N. Y.
 Hunting Co., Rochester, N. Y.
 Huntington Plumbing Supply Co., Inc., Huntington Station, L. I., N. Y.
 Illinois Steel Tank Co., Chicago, Ill.
 Illinois Supply Co., Aurora, Ill.
 Industrial Supply Co., Terre Haute, Ind.
 Integrity Supply, Inc., Columbus, Ohio.
 Interstate Plumbing Supply Co., Inc., Albany, N. Y.
 Interstate Plumbing Supply Co., Inc., Poughkeepsie, N. Y.
 Iowa Wind Mill & Pump Co., Cedar Rapids, Iowa.
 Johnson, Barker, Webb Corp., Nashua, N. H.
 Johnson, J. D., Co., Inc., Camden, N. J.
 Judd Co., Austin, Minn.
 Kahn, Albert, Associated Architects & Engineers, Inc., Detroit, Mich.
 Kansas City Pump Co., Kansas City, Mo.
 Keck Plumbing Supply Co., Hekensack, N. J.
 Keffer, Karl, Associates (Architects-Engineers), Des Moines, Iowa.
 Knapp Supply Co., Inc., Muncie, Ind.
 Koepsell, J. J., Co., Sheboygan, Wis.
 Koller Bros. Co., Cleveland, Ohio.
 Koppers Co., Inc., Pittsburgh, Pa.
 Koven, L. O., & Bro., Inc., Jersey City, N. J.
 Krentzman Supply Co., Lewistown, Pa.
 Kretschmer Tredway Co., Dubuque, Iowa.
 Kulp, J. S., & Co., Inc., Telford, Pa.
 La Crosse Plumbing Supply Co., La Crosse, Wis.
 Lane Plumbing & Heating Supply Co., Inc., Pleasantville, N. Y.
 Lansing Supply Co., Lansing, Mich.
 Lebanon Plumbing Supply Co., Inc., Lebanon, Pa.
 Lehigh Valley Supply Co., Allentown, Pa.
 LeValley, McLeod, Inc., Elmira, N. Y.
 Levinson & Peiffer, Inc., Peekskill, N. Y.
 Lewiston Hardware & Plumbing Supply Co., Lewiston, Maine.
 Lincoln Supply, Trenton, N. J.
 Line Material Co., Milwaukee, Wis. (General support.)
 Litchfield County Plumbing Supply Co., Torrington, Conn.
 Loeb, Laurence M. (Architect), White Plains, N. Y.
 Luzerne & Lackawanna Supply Co., Wilkes-Barre, Pa.
 Malone-Day Co., Warren, Ohio.
 Malone Plumbing Supply Co., Pittsburgh, Pa.
 Market Plumbing & Heating Supply Co., Inc., Newark, N. J.
 Marr, Charles J. (A. I. A.), New Philadelphia, Ohio.
 Marshall, Wells Co., Spokane, Wash.

Massachusetts Engineering Co., Inc., North Quincy, Mass.
 Massena & duPont (Architects), Wilmington, Del.
 Master Plumbers Supply Co., Inc., Ottumwa, Iowa.
 Master Supply Co., Joliet, Ill.
 Maxwell, J. W., & Son, Downingtown, Pa.
 May Supply Co., Anderson, Ind.
 McArdle & Cooney, Inc., Philadelphia, Pa.
 McDonald, A. Y., Manufacturing Co., Sioux City, Iowa.
 McGowin Lyons Hardware & Supply Co., Mobile, Ala.
 McKee Plumbing Supply Co., Cleveland, Ohio.
 McManua, William, Sales Co., St. Paul, Minn.
 McNeill, O. H., Plumbing & Heating Contractor, Herrin, Ill.
 Mechanical Construction Corp., Hibbing, Minn.
 Memphis Plumbing & Heating Supply Co., Memphis, Tenn.
 Mesher Supply Co., Portland, Oreg.
 Messer, James A., Co., Washington, D. C.
 Michigan Plumbing & Heating Supply Co., South Haven, Mich.
 Michigan Supply Co., Lansing, Mich.
 Mideke Supply Co., Oklahoma City, Okla.
 Midland Plumbing Supply Co., Inc., East St. Louis, Ill.
 Mid South Supply Co., Nashville, Tenn.
 Miner Supply Co., Red Bank, N. J.
 Modern Plumbing & Building Supplies, Missoula, Mont.
 Modern Plumbing Supply Co., Rock Island, Ill.
 Mohawk Metal Products Co., Inc., Frankfort, N. Y.
 Momen, Dunnegan, Ryan Co., El Paso, Tex.
 Monmouth Plumbing Supply Co., Inc., Belmar, N. J.
 Monroe Company of Boston, Jamaica Plain, Mass.
 Monroe, E. J., Co., Ticonderoga, N. Y.
 Montague, Rogers, Inc., Baltimore, Md.
 Montana Plumbing Supply Co., Great Falls, Mont.
 Moore, A. B., & Co., Daytona Beach, Fla.
 Moran, Clifford, Plumbing & Heating Service, Highland Park, Ill.
 Morin, J. J., Inc., Lacombe, N. H.
 Morley-Murphy Co., Green Bay, Wis.
 Morley-Murphy Co., Wausau, Wis.
 Morrison Bros. Co., Dubuque, Iowa.
 Mott Bros. Co., Rockford, Ill.
 Mott Company of Pennsylvania, Camden, N. J.
 Moucha & Queleh, Inc., New York, N. Y.
 Muhly, Conrad E., Inc., Lansdowne, Pa.
 Murphy & Walsh, Inc., Pekin, Ill.
 N & S Plumbing & Heating Supply Co., Wappingers Falls, N. Y.
 Nelson Co., Detroit, Mich.
 New England Pipe & Supply Co., Brewer, Maine.
 New Hampshire Hardware & Plumbing Supply Co., Manchester, N. H.
 New Rochelle Department of Public Health, New Rochelle, N. Y.
 New York Plumbing Supplies Co., New Haven, Conn.
 Niles Steel Tank Co., Niles, Mich.
 Noland Co., Inc., Atlanta, Ga.
 Noland Co., Inc., Chattanooga, Tenn.
 Northeastern Plumbing & Heating Supply Co., Baltimore, Md.
 Northern Hardware & Supply Co., Menominee, Mich.
 Northrup Supply Corp., Binghamton, N. Y.
 Northrup Supply Corp., Oneonta, N. Y.
 Northwest Plumbing Supply Co., Seattle, Wash.
 Nurmeg Plumbing Supply Co., Danbury, Conn.
 Old Dominion Iron & Steel Corp., Richmond, Va.
 P. H. & I. Supply Co., Kenosha, Wis.
 Paine Supply Co., Guilford, Miss.
 Palmer Plumbing Supply Co., Rochester, N. H.
 Palmer Supply Co., Portland, Maine.
 Parkton Compound Boiler Co., Inc., Clarks Summit, Pa.
 Patterson, W. S., Co., Appleton, Wis.
 Penn Reading Supply Co., Reading, Pa.
 Pennsylvania, Department of Property & Supplies, Harrisburg, Pa.
 Perth Amboy Supply Co., Perth Amboy, N. J.
 Petter, Henry A., Supply Co., Paducah, Ky.
 Pinski Bros., Inc., Great Falls, Mont.
 Plumb Supply Co., Des Moines, Iowa.

Plumb Supply Co., Mason City, Iowa.
 Plumb Supply—Omaha, Inc., Omaha, Nebr.
 Plumbers Supply Co., Inc., Haverford, Pa.
 Plumbers Supply Co., New Bedford, Mass.
 Plumbing & Industrial Supply Co., Inc., Evansville, Ind.
 Plundone Co., Rapid City, S. Dak.
 Poughkeepsie Plumbing Supply Co., Inc., Poughkeepsie, N. Y.
 Progressive Supply Co., South Euclid, Ohio.
 Providence Pipe & Sprinkler Co., Providence, R. I.
 Puerto Rico Agricultural Extension Service, Rio Piedras, P. R.
 R & S Plumbing Supply Co., Pine Brook, N. J.
 Ral Supply Co., Passaic, N. J.
 Rapid Plumbing Co., Rapid City, S. Dak.
 Raub Supply Co., Winchester, Va.
 Reichle Supply Co., Saginaw, Mich.
 Republic Plumbing & Heating Supply Co., Chicago, Ill.
 Rex Plumbing Supply Co., Inc., Jersey City, N. J.
 Rheem Manufacturing Co., South Gate, Calif.
 Richmond Supply Corp., Richmond, Ind.
 Ridgewood Plumbing Supply Co., Ridgewood, N. Y.
 Robbins, Gamwell Corp., Pittsfield, Mass.
 Roberts, E. N. (Engineer), Concord, N. H.
 Roberts, Hamilton Co., Minneapolis, Minn.
 Roberts, J. T., & Bro., Inc., Baltimore, Md.
 Robertson, H. H., Co., Pittsburgh, Pa. (General support.)
 Rochester Plumbing Supply Co., Inc., Rochester, N. Y.
 Rom, Robert, Co., Milwaukee, Wis.
 Salt Lake Hardware Co., Salt Lake City, Utah.
 Samuels, Sidney, Inc., New York, N. Y.
 San Bernardino Pipe & Supply Co., San Bernardino, Calif.
 San-Equip, Inc., Syracuse, N. Y.
 Sanitary Plumbing Co., Redlands, Calif.
 Sanitary Plumbing & Heating Co., Muscatine, Iowa.
 Sanitary Plumbing Supply Co., Jersey City, N. J.
 Sanitary Supply Co., Inc., Baltimore, Md.
 Sawyer, J. E., & Co., Inc., Glenn Falls, N. Y.
 Schaberg, Dietrich, Wholesale Hardware Co., Lansing, Mich.
 Seaford Plumbing Supply Co., Seaford, Del.
 Sears, Roebuck & Co., Chicago, Ill.
 Seashore Supply Co., Atlantic City, N. J.
 Seckinger, M. O., Plumbing & Heating, Savannah, Ga.
 Seekell, H. H., Ypsilanti, Mich.
 Service Welding & Machine Co., Inc., Louisville, Ky.
 Shafer, W. G., Co., Inc., Syracuse, N. Y.
 Shore Distributors, Salisbury, Md.
 Silk City Plumbing Supply Co., Paterson, N. J.
 Southern Maryland Supply Corp., Annapolis, Md.
 Southern Materials Co., Springfield, Mo.
 Southern Pipe & Supply Co., Meridian, Miss.
 Southern Wholesalers, Inc., Dalton, Ga.
 Southside Plumbing & Heating Maintenance, Freeport, N. Y.
 Standard Supply Co., Portsmouth, Ohio.
 Starks, George L., & Co., Inc., Saranac Lake, N. Y.
 Steel Tank & Fabricating Co., Mancelona, Mich.
 Sterner, Edwin, Co., Flint, Mich.
 Stevens Supply Corp., Radford, Va.

St. Joseph Furnace & Supply Co., St. Joseph, Mo.
 Stone Supply Co., Portland, Oreg.
 Stover Steel Tank & Manufacturing Co., Freeport, Ill.
 Superior Sterling Co., Bluefield, W. Va.
 Superior Supply Co., Cincinnati, Ohio.
 Tabor, Price & Christenson, Houston, Tex.
 Tacoma-Pierce County Health Department, Tacoma, Wash.
 Tacoma Plumbing Supply Co., Tacoma, Wash.
 Tapper Supply Co., Hazleton, Pa.
 Taylor Plumbing & Heating, Grand Rapids, Minn.
 Thomas Drain Service, Akron, Ohio.
 Thornley Supply Co., Pawtucket, R. I.
 Tinker Septic Tank Co., Union City, N. J.
 Trant, Thomas, & Bro., Inc., Hartford, Conn.
 United Plumbing & Heating Supply Co., Inc., Plainfield, N. J.
 Universal Supply Co., Newark, Ohio.
 Utica Plumbing Supply Corp., Utica, N. Y.
 Van Denberg Supply Co., Rockford, Ill.
 Walker Supply Co., Trenton, N. J.
 Warren Plumbing Supply Co., Detroit, Mich.
 Warwick Plumbing Supply Co., Inc., Warwick, R. I.
 Wasatch Plumbing Supply Co., Salt Lake City, Utah.
 Waterville Hardware & Plumbing Supply Co., Waterville, Maine.
 Weakley, Watson, Miller Hardware Co., Brownwood, Tex.
 Weekes, John, & Son Co., Watertown, N. Y.
 Weeks, Ralph E., Co., Scranton, Pa.
 Westchester County, Department of Health, White Plains, N. Y. (General support)
 Western Supply Co., Lincoln, Nebr.
 Westwater Supply Co., Columbus, Ohio.
 Whitney & Ford Co., Chicago, Ill.
 Wierman, Diller, Inc., Hanover, Pa.
 Wiegman Co., Sioux City, Iowa.
 Willow Grove Plumbing & Heating Supply Co., Sellersville, Pa.
 Wisconsin River Supply Co., Wausau, Wis.
 Wisconsin Supply Corp., Madison, Wis.
 Woodland Plumbing & Hardware Co., Woodland, Calif.
 Woolcock Plumbing & Heating Co., Niagara Falls, N. Y.
 Yaun, R. D., Supply, Inc., Liberty, N. Y.
 Yelton, Payne Co., Granite City, Ill.
 Youngblood Plumbing & Heating Supply Co., Cairo, Ill.
 Youngblood Plumbing & Heating Supply Co., Paducah, Ky.

U. S. GOVERNMENT AGENCIES

Agriculture, U. S. Department of, Division of Purchase, Sales and Traffic.
 Army, Department of the, Standards Branch, Procurement Division.
 Federal Housing Administration, (General support.)
 Interior, Department of the, Branch of Buildings and Utilities.
 Public Health Service, U. S., Division of Sanitation. (General support.)
 Veterans Administration, Loan Guaranty Service. (General support.)

COMMERCIAL STANDARDS

CS No.
 0-40. Commercial standards and their value to business.
 1-42. Clinical thermometers.
 2-30. Mopsticks.
 3-40. Stoddard solvent.
 4-29. Staple porcelain (all-clay) plumbing fixtures.
 5-46. Pipe nipples; brass, copper, steel and wrought-iron.
 6-31. Wrought-iron pipe nipples. Superseded by CS5-46.
 7-29. Standard weight malleable iron or steel screwed unions.
 8-41. Gage blanks.
 9-33. Builders' template hardware.
 10-29. Brass pipe nipples. Superseded by CS 5-46.

CS No.
 11-41. Moisture regains of cotton yarns.
 12-48. Fuel oils.
 13-44. Dress patterns.
 14-51. Boys' sport and dress shirt (woven fabrics) size measurements.
 15-46. Men's pajama sizes (made from woven fabrics).
 16-29. Wallpaper.
 17-47. Diamond core drill fittings.
 18-29. Hickory golf shafts.
 19-32. Foundry patterns of wood.
 20-49. Vitreous china plumbing fixtures.
 21-39. Interchangeable ground-glass joints, stopcocks, and stoppers.
 22-40. Builders' hardware (nontemplate).
 23-30. Feldspar.
 24-43. Screw threads and tap-drill sizes.

CS No.
 25-30. Special screw threads. Superseded by CS24-43.
 26-30. Aromatic red cedar closet lining.
 27-36. Mirrors.
 28-46. Cotton fabric tents, tarpaulins, and covers.
 29-31. Staple seats for water-closet bowls.
 30-31. (Withdrawn).
 31-38. Wood shingles.
 32-31. Cotton cloth for rubber and pyroxylin coating.
 33-43. Knit underwear (exclusive of rayon).
 34-31. Bag, case, and strap leather.
 35-49. Hardwood plywood.
 36-33. Fourdrinier wire cloth.
 37-31. Steel bone plates and screws.
 38-32. Hospital rubber sheeting.
 39-37. (Withdrawn).
 40-32. Surgeons' rubber gloves.
 41-32. Surgeons' latex gloves.
 42-49. Structural fiber insulating board.
 43-32. Grading of sulphonated oils.
 44-32. Apple wraps.
 45-48. Douglas fir plywood.
 46-49. Hosiery lengths and sizes.
 47-34. Marking of gold-filled and rolled-gold-plate articles other than watchcases.
 48-40. Domestic burners for Pennsylvania anthracite (underfed type).
 49-34. Chip board, laminated chip board, and miscellaneous boards for bookbinding purposes.
 50-34. Binders board for bookbinding and other purposes.
 51-35. Marking articles made of silver in combination with gold.
 52-35. Mohair pile fabrics (100-percent mohair plain velvet, 100-percent mohair plain frieze, and 50-percent mohair plain frieze).
 53-35. Colors and finishes for cast stone.
 54-35. Mattresses for hospitals.
 55-35. Mattresses for institutions.
 56-49. Oak flooring.
 57-40. Book cloths, buckrams, and impregnated fabrics for bookbinding purposes except library bindings.
 58-36. Woven elastic fabrics for use in overalls (overall elastic webbing).
 59-44. Textiles—testing and reporting.
 60-48. Hardwood dimension lumber.
 61-37. Wood-slat venetian blinds.
 62-38. Colors for kitchen accessories.
 63-38. Colors for bathroom accessories.
 64-37. Walnut veneers.
 65-43. Methods of analysis and of reporting fiber composition of textile products.
 66-38. Marking of articles made wholly or in part of platinum.
 67-38. Marking articles made of karat gold.
 68-38. Liquid hypochlorite disinfectant, deodorant, and germicide.
 69-38. Pine oil disinfectant.
 70-41. Phenolic disinfectant (emulsifying type) (published with CS71-41).
 71-41. Phenolic disinfectant (soluble type) (published with CS70-41).
 72-38. Household insecticide (liquid spray type).
 73-48. Old growth Douglas fir, Sitka spruce, and Western hemlock standard stock doors.
 74-39. Solid hardwood wall paneling.
 75-42. Automatic mechanical draft oil burners designed for domestic installations.
 76-39. Hardwood interior trim and molding.
 77-48. Enameled cast-iron plumbing fixtures.
 78-40. Ground-and-polished lenses for sun glasses (published with CS79-40).
 79-40. Blown, drawn, and dropped lenses for sun glasses (published with CS78-40).
 80-41. Electric direction signal systems other than semaphore type for commercial and other vehicles subject to special motor vehicle laws (after market).
 81-41. Adverse-weather lamps for vehicles (after market).
 82-41. Inner-controlled spotlamps for vehicles (after market).
 83-41. Clearance, marker, and identification lamps for vehicles (after market).

CS No.
 84-41. Electric tail lamps for vehicles (after market).
 85-41. Electric license-plate lamps for vehicles (after market).
 86-41. Electric stop lamps for vehicles (after market).
 87-41. Red electric warning lanterns.
 88-41. Liquid burning flares.
 89-40. Hardwood stair treads and risers.
 90-49. Power cranes and shovels.
 91-41. Factory-fitted Douglas fir entrance doors.
 92-41. Cedar, cypress, and redwood tank stock lumber.
 93-50. Portable electric drills (exclusive of high frequency).
 94-41. Calking lead.
 95-41. Lead pipe.
 96-41. Lead traps and bends.
 97-42. Electric supplementary driving and passing lamps for vehicles (after market).
 98-42. Artists' oil paints.
 99-42. Gas floor furnaces—gravity circulating type.
 100-47. Porcelain-enameled steel utensils.
 101-43. Flue-connected oil-burning space heaters equipped with vaporizing pot-type burners.
 102- . (Reserved for "Diesel and fuel-oil engines.")
 103-48. Rayon Jacquard velour (with or without other decorative yarn).
 104-49. Warm-air furnaces equipped with vaporizing type oil burners.
 105-48. Mineral wool insulation for low temperatures.
 106-44. Boys' pajama sizes (woven fabrics).
 107-45. (Withdrawn).
 108-43. Treading automobile and truck tires.
 109-44. Solid-fuel-burning forced-air furnaces.
 110-43. Tire repairs—vulcanized (passenger, truck, and bus tires).
 111-43. Earthenware (vitreous-glazed) plumbing fixtures.
 112-43. Homogeneous fiber wallboard.
 113-51. Oil-burning floor furnaces equipped with vaporizing pot-type burners.
 114-43. Hospital sheeting for mattress protection.
 115-44. Porcelain-enameled tanks for domestic use.
 116-44. Bituminized-fibre drain and sewer pipe.
 117-49. Mineral wool insulation for heated industrial equipment.
 118-44. Marking of jewelry and novelties of silver.
 (E)119-45.¹ Dial indicators (for linear measurements).
 120-48. Standard stock ponderosa pine doors.
 121-45. Women's slip sizes (woven fabrics).
 122-49. Western softwood plywood.
 123-49. Grading of diamond powder.
 (E)124-45.¹ Master disks.
 125-47. Prefabricated homes.
 126-45. Tank mounted air compressors.
 127-45. Self-contained mechanically refrigerated drinking water coolers.
 128-49. Men's sport shirt sizes—woven fabrics (other than those marked with regular neckband sizes).
 129-47. Materials for safety wearing apparel.
 130-46. Color materials for art education in schools.
 131-46. Industrial mineral wool products, all types—testing and reporting.
 132-46. Hardware cloth.
 133-46. Woven wire netting.
 134-46. Cast aluminum cooking utensils (metal composition).
 135-46. Men's shirt sizes (exclusive of work shirts).
 136-46. Blankets for hospitals (wool, and wool and cotton).
 137-51. Size measurements for men's and boys' shorts (woven fabrics).
 138-49. Insect wire screening.
 139-47. Work gloves.
 140-47. Testing and rating convector.
 141-47. Sine bars, blocks, plates, and fixtures.
 142-47. Automotive lifts.
 143-47. Standard strength and extra strength perforated clay pipe.
 144-47. Formed metal porcelain enameled sanitary ware.

¹ Where "(E)" precedes the CS number, it indicates an emergency commercial standard, drafted under war conditions with a view toward early revision.

CS No.
 145-47. Testing and rating hand-fired hot-water-supply boilers.
 146-47. Gowns for hospital patients.
 147-47. Colors for molded urea plastics.
 148-50. Men's circular flat and rib knit rayon underwear.
 149-48. Utility type house dress sizes.
 150-48. Hot-rolled rail steel bars (produced from Tee-section rails).
 151-48. Body measurements for the sizing of apparel for infants, babies, toddlers, and children (for the knit underwear industry).
 152-48. Copper naphthenate wood-preservative (spray, brush, dip application).
 153-48. Body measurements for the sizing of apparel for girls (for the knit underwear industry).
 154- . (Reserved for "Wire rope.")
 155-50. Body measurements for the sizing of boys' apparel (knit underwear, shirts, trousers).
 156-49. Colors for polystyrene plastics.
 157-49. Ponderosa pine and sugar pine plywood.
 158-49. Model forms for girls' apparel.
 159-49. Sun glass lenses made of ground and polished plate glass, thereafter thermally curved.

CS No.
 160-49. Wood-fiber blanket insulation (for building construction).
 161-49. "Standard grade" hot-dipped galvanized ware (coated after fabrication).
 162-49. Tufted bedspreads.
 163-49. Standard stock ponderosa pine windows, sash, and screens.
 164- . (Reserved for "Concrete mixers.")
 165-50. Zinc naphthenate wood-preservative (spray, brush, dip application).
 166-50. Size measurements for men's work trousers.
 167-50. Automotive and general service copper tube.
 168-50. Polystyrene plastic wall tiles, and adhesives for their application.
 169-50. Galvanized ware fabricated from *pregalvanized* steel sheets.
 170-50. Cotton flour-bag (sack) towels.
 171-50. Hardwood veneered doors.
 172-50. Brass trim for water-closet bowls, tanks, and urinals (dimensional standards).
 173-50. Heavy-duty alpha-cellulose-filled melamine tableware.
 174-51. 140-F dry-cleaning solvent.
 175-51. Circular-knitted gloves and mittens.
 176-51. Prefinished wallpanels.
 177-51. Bituminous-coated metal septic tanks (single compartment, residential).

NOTICE.—Those interested in commercial standards with a view toward accepting them as a basis of everyday practice may secure copies of the above standards, while the supply lasts, by addressing the Commodity Standards Division, Office of Industry and Commerce, U. S. Department of Commerce, Washington 25, D. C.

U. S. DEPARTMENT OF COMMERCE

Field Service

Albuquerque, N. Mex. 203 W. Gold Ave.	Memphis 3, Tenn. 229 Federal Bldg.
Atlanta 3, Ga. 50 Whitehall St. SW.	Miami 32, Fla. 36 NE. First St.
Baltimore 2, Md. 200 E. Lexington St.	Milwaukee 2, Wis. 517 E. Wisconsin Ave.
Boston, Mass. 40 Broad St.	Minneapolis 2, Minn. 607 Marquette Ave.
Buffalo 3, N. Y. 117 Ellicott St.	Mobile 10, Ala. 109-13 St. Joseph St.
Butte, Mont. 306 Federal Bldg.	New Orleans 12, La. 333 St. Charles Ave.
Charleston 29, S. C. 6 Hudson St.	New York 4, N. Y. 42 Broadway
Cheyenne, Wyo. 410 Federal Office Bldg.	Oklahoma City 2, Okla. 102 NW. Third St.
Chicago 1, Ill. 221 N. La Salle St.	Omaha 2, Nebr. 1319 Farnam St.
Cincinnati 2, Ohio 105 W. Fourth St.	Philadelphia 6, Pa. 1015 Chestnut St.
Cleveland 14, Ohio 925 Euclid Ave.	Phoenix, Ariz. 808 N. First St.
Dallas 2, Tex. 1114 Commerce St.	Pittsburgh 22, Pa. 717 Liberty Ave.
Denver 2, Colo. 142 New Customhouse	Portland 4, Oreg. 520 SW. Morrison St.
Detroit 26, Mich. 230 W. Fort St.	Providence 3, R. I. 327 Post Office Annex
El Paso, Tex. 310 San Francisco St.	Reno, Nev. 1479 Wells Ave.
Hartford 1, Conn. 135 High St.	Richmond 19, Va. 801 E. Broad St.
Houston 14, Tex. 602 Federal Office Bldg.	St. Louis 1, Mo. 1114 Market St.
Jacksonville 1, Fla. 311 W. Monroe St.	Salt Lake City 1, Utah 109 W. Second, South
Kansas City 6, Mo. 903 McGee St.	San Francisco 2, Calif. 870 Market St.
Los Angeles 12, Calif. 312 N. Spring St.	Savannah, Ga. 125-29 Bull St.
Louisville 2, Ky. 631 Federal Bldg.	Seattle 4, Wash. 909 First Ave.

*For local telephone listing, consult section devoted
to U. S. Government*