HARDWOOD DIMENSION LUMBER

(Second Edition)

COMMERCIAL STANDARD CS60–48

[Supersedes CS60–36]

Effective Date for New Production From February 25, 1948

A RECORDED VOLUNTARY STANDARD
OF THE TRADE

UNITED STATES DEPARTMENT OF COMMERCE

W. AVERELL HARRIMAN, Secretary

For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington 25, D. C. - Price 10 cents

COMMODITY STANDARDS

Simplified Practice Recommendations and Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division of 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 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 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.

COMMERCIAL STANDARD FOR HARDWOOD DIMENSION LUMBER

On June 26, 1936, at the instance of the Hardwood Dimension Manufacturers Association, a general conference, to which were invited representative manufacturers, distributors, and users of hardwood dimension lumber, adopted a recommended commercial standard for this commodity. This standard was accepted by the trade and promulgated as Hardwood Dimension Lumber, Commercial Standard CS60–36.

A recommended revision submitted by the Hardwood Dimension Manufacturers Association and endorsed by the standing committee, was circulated on October 15, 1947, to the trade for written acceptance. Those concerned have since accepted and approved the revised standard as shown herein.

Project Manager: J. W. MEDLEY, Commodity Standards Division, National Bureau of Standards.

Technical Adviser: V. B. PHELAN, Building Technology Division, National Bureau of Standards.

COMMERCIAL STANDARD CS60-48

for

HARDWOOD DIMENSION LUMBER

(SECOND EDITION)

PURPOSE

1. The commercial standard grading rules for hardwood dimension lumber as given herein are established as a basis of common understanding between the manufacturer, distributor, exporter, and user. It is recognized that these grading specifications may not be applicable to every transaction involving the sale of hardwood dimension lumber, but they will in most cases provide basic specifications to which other requirements may be added in order that the purchaser may purchase, by grade, the type of material best suited to his needs.

SCOPE

2. This standard provides minimum specifications for solid and glued-up hardwood dimension lumber for domestic and export trade, made in five grades of flat stock and four grades of squares. It covers a definition of the product, permissible defects, measurement, and tolerances for rough, surfaced, semifabricated, and completely fabricated hardwood dimension lumber. It also covers inspection, and a method of certifying compliance with the standard.

DEFINITION OF PRODUCT

3. Hardwood dimension lumber, as covered by this standard, is defined as hardwoods, normally kiln-dried, which have been processed to a point where the maximum waste is left at the dimension mill, and the maximum utility delivered to the user. It is manufactured from rough boards and flitches to the specific requirements of a particular plant or industry. It is in specified thicknesses, widths, and lengths, or multiples thereof. It may be solid or glued-up, as specified. It is classified as rough dimension, surfaced dimension, semifabricated dimension, or completely fabricated dimension.

4. Rough hardwood dimension consists of blanks sawed and ripped to certain sizes.

5. Surfaced and semifabricated hardwood dimension is rough dimension carried one or more steps further. It may include one or more of several operations as surfacing, molding, tenoning, drum-sanding, equalizing, trimming, mitering, etc., but will not make the product a completely fabricated one ready for assembly.

6. Completely fabricated hardwood dimension is that which is ready for assembly into whatever type of product it is to be used.

GENERAL REQUIREMENTS

7. All hardwood dimension lumber sold as conforming to this standard shall meet the following general requirements:

8. *Seasoning.*—Material shall be properly dried according to accepted methods for the thickness and species in question within the range of moisture content agreed upon. Because of the tendency of wood to change in moisture content with changes in atmospheric conditions, no specific percentage of moisture content can be guaranteed when the hardwood dimension lumber reaches its destination. Shippers shall exercise all possible care in the seasoning and handling of their products to assure delivery in suitable condition.

9. *Gluing.*—Glued-up hardwood dimension lumber shall be bonded with high-grade glue and in such manner as to provide strong joints. Type of glue used and kind of joint shall be a matter of contract between buyer and seller.

10. *Workmanship.*—All hardwood dimension lumber shall be well manufactured, of good workmanship, and shall conform to the various grades as hereinafter defined.

DETAIL REQUIREMENTS—GRADES

FLAT STOCK

11. In rough dimension lumber of any grade, those blemishes that will be removed in planing or dressing to finished thickness shall be permitted.

12. The standard grades of flat-stock hardwood dimension lumber are as follows:

13. *Clear.*—This grade shall be clear on both faces, the edges, and the ends, except that sapwood, slight streaks, and light stain shall be permitted. Irregularities of the wood fibers producing a slight configuration, such as a swirl blister or burl effect, shall be permitted, unless accompanied by a knot or encased bark. (Note.—In glued-up hardwood dimension lumber, matching for grain, figure, and color shall be a matter of contract between buyer and seller.)

14. *Clear one face.*—This grade shall be clear on one face, both edges, and both ends, and shall otherwise comply with the clear grade, except that the reverse face may contain defects of a sound nature, including patches and slight imperfections in surfacing. (Note.—In glued-up hardwood dimension lumber, matching for grain, figure, and color shall be a matter of contract between buyer and seller.)

15. *Paint.*—This grade will permit, on the best face, defects of a smooth and sound nature—such as burls, tight knots, or their equivalent, which, when properly filled, will be concealed when finished with nontransparent material. The reverse face or back may contain defects of a sound nature, patches, and slight imperfections in surfacing.

16. *Core.*—This grade shall be sound on both faces, admitting tight sound knots, small worm holes, slight surface checks, or their equivalent. Pieces making up the core may be joined for length, using glued joints, lock, lap, tongued-and-grooved, or butt joints providing no such joint is within 2 in. from the edges or the ends. Patches or plugs in

reasonable amount may also be used provided they are not within 2 in. from the edges or the ends. Wedge patches will be permitted in the ends provided no such patch is within 2 in. of the edge of the piece. Stock shall be surfaced smoothly on both faces.

17. *Sound.*—This grade is a utility grade that may contain any defects that will not materially impair the strength of the individual piece. Slight skips in dressing on either face will be permitted.

SQUARES

18. Dimension squares are generally considered as dimension rectangular in cross section but may include stock not more than twice as wide as the thickness. The grades of squares are as follows:

19. *Clear squares.*—This grade shall be clear on all faces, edges, and ends, and shall otherwise conform to the clear grade of flat stock.

20. *Select squares.*—This grade shall be clear on two adjacent sides as specified in the clear grade described above. The other two sides shall be clear one-third of the length of the piece from one end while the other two-thirds may contain sound knots not larger in diameter than one-fourth of the width of the face, small worm holes, bird pecks, slight surface checks, skips in dressing, and wane if it does not extend further inward from the corner than one-fifth of the thickness of either side.

21. *Paint squares.*—This grade will permit on all faces defects of a sound nature—such as burls, small worm holes, smooth tight knots or their equivalent, which will be concealed when properly filled and finished with nontransparent material.

22. *Sound squares.*—This grade will permit on any face, small knots situated so as to cause no material impairment of the strength of the piece, small worm holes, bird pecks, and slight surface checks. Slight skips in dressing and other machining imperfections will be permitted on two adjacent sides of any piece.

STANDARD MEASUREMENT METHODS

23. *Thickness.*—In computing the footage of hardwood dimension lumber, the rough nominal thickness required for its manufacture is used. Surface measurement is to apply on rough 1-in. and thinner lumber and board measurement is to apply on lumber over 1-in. rough thickness.

24. *Width.*—In computing footage when edges are surfaced, molded, or sawed to exact width, ¼ in. shall be added to the net finished width if under 6 in. wide and under 50 in. long. If 6 in. or wider, all lengths, and 50 in. or longer, all widths, ½ in. shall be added to the net finished width. If widths are in fractions of less than eighths of an inch, assume the next higher ⅛ in. Pieces under 1 in. wide shall be counted as 1 in. wide.

25. *Length.*—Hardwood dimension lumber when equalized to exact length is measured 1 in. longer than the net finished length. If lengths are in fractions, the measurements shall be to the nearest ¼ in., then add the 1 in. for equalizing. For those measurements falling exactly at midpoint between quarters of an inch, the lower quarter shall be used.

EXAMPLES OF MEASUREMENT

If S4S and equalized to $\frac{5}{16} \times 7 \times 16\frac{1}{2}$ in., measure as $1 \times 7\frac{1}{2} \times 17\frac{1}{2}$ in.
If S4S and equalized to $\frac{7}{16} \times 5\frac{1}{8} \times 17\frac{1}{8}$ in., measure as $1 \times 5\frac{3}{8} \times 18$ in.
If S4S and equalized to $\frac{3}{4} \times 11\frac{1}{16} \times 20$ in., measure as $1 \times 11\frac{5}{8} \times 21$ in.
If S4S and equalized to $\frac{3}{4} \times 6\frac{1}{4} \times 74$ in., measure as $1 \times 6\frac{3}{4} \times 75$ in.
If S4S and equalized to $1\frac{1}{32} \times 3\frac{15}{16} \times 18\frac{3}{16}$ in., measure as $1\frac{1}{4} \times 4\frac{1}{4} \times 19\frac{1}{4}$ in.
If S4S and equalized to $1\frac{11}{16} \times 1\frac{11}{16} \times 29\frac{1}{8}$ in., measure as $2 \times 2 \times 30$ in.
If S4S and equalized to $\frac{1}{2} \times 8\frac{11}{16} \times 27\frac{5}{8}$ in., measure as $1 \times 9\frac{1}{4} \times 28\frac{1}{2}$ in.
If S4S and equalized to $\frac{3}{4} \times 3 \times 58$ in., measure as $1 \times 3\frac{1}{2} \times 59$ in.
If S4S and equalized to $\frac{1}{2} \times 8\frac{1}{2} \times 12\frac{7}{16}$ in., measure as $1 \times 9 \times 13\frac{1}{2}$ in.
If S4S and equalized to $\frac{3}{4} \times 4 \times 20\frac{3}{8}$ in., measure as $1 \times 4\frac{1}{4} \times 21\frac{1}{4}$ in.

LAMINATED STOCK

26. When flat stock or squares are laminated for thickness, regardless of the number of plies used, the thickness measurement is determined from the standard thicknesses given in table 1 as to the rough thickness of lumber required for solid stock.

EXAMPLES OF MEASUREMENT

If S4S and equalized to 2¼x2¼x30 in., measure as 2½x2½x31 in.
If S4S and equalized to 2½x2½x42 in., measure as 3x2¾x43 in.

TABLE 1. *Standard S2S thicknesses*

Rough lumber	Surfaced two sides to—		
	Less than 6 in. wide	6 in. and less than 18 in. wide	18 in. and wider
Inches	*Inches*	*Inches*	*Inches*
3/8	3/16	5/32	1/8
1/2	5/16	9/32	1/4
5/8	7/16	13/32	3/8
3/4	9/16	17/32	1/2
4/4	13/16	25/32	3/4
5/4	1 1/16	1 1/32	1
6/4	1 5/16	1 9/32	1 1/4
8/4	1 3/4	1 11/16	1 5/8
10/4	2 1/4	2 3/16	2 1/8
12/4	2 3/4	2 11/16	2 5/8

TOLERANCES

27. *Rough dimension.*—

27a. A tolerance of plus ⅛ in. or minus 1/16 in. in thickness and width will be permitted, but not more than 10 percent may be scant in any one size of any one shipment.

27b. A tolerance of plus 1 in. or minus 1/64 in. in length will be permitted.

28. *Surfaced and semifabricated dimension.*—The tolerance for surfaced and semifabricated dimension must necessarily be a combination of the tolerances for rough dimension and completely fabricated dimension. The tolerances covered in paragraph 27, above, shall apply to those portions of the piece which are not machined, while the tolerance covered by paragraph 29, below, shall apply to those portions which are completely fabricated.

29. *Completely fabricated dimension.*—A tolerance of plus or minus 1/64 in. will be permitted in all measurements unless otherwise stipulated.

INSPECTION

30. All hardwood dimension lumber sold as conforming to the commercial standard grading rules is subject to inspection in the form and condition as received.

30a. *Domestic shipment.*—In case of complaint, the purchaser shall notify the seller within 5 days after receipt of shipment. Any rejected material shall be held intact, properly protected, in its original form for a period up to 3 weeks after notice of rejection, and pending adjustment.

30b. *Export shipment.*—In case of complaint, the purchaser shall notify the seller, by cable, within 2 days after receipt of shipment, and shall make a supporting detailed written report within 5 days after such goods have been received by the purchaser. Any rejected material shall be held intact, properly protected, in its original form for a period up to 5 weeks after notice of rejection, and pending adjustment. Any inspection shall be made by a party agreed upon by the purchaser and seller with complete reports being given to both.

30c. *Quantity.*—Hardwood dimension lumber shall be ordered in specific quantities in terms of number of pieces, sets of pieces, and/or number of feet. The buyer shall accept up to 5 percent overrun in pieces, sets of pieces, or feet in any or all items ordered.

IDENTIFICATION

31. In order to assure the purchaser that he is getting hardwood dimension lumber of standard quality, producers may, individually or in concert with their trade association, issue certificates declaring conformance to the established standard.

32. In an effort to acquaint the purchaser with the origin of the material he is buying and to extend assurance of its quality, the Hardwood Dimension Manufacturers Association has adopted the certificate shown below.

HARDWOOD DIMENSION MANUFACTURERS ASSOCIATION

Certificate of Origin

DATE_____ INVOICE No_____

THIS HARDWOOD DIMENSION LUMBER

has been manufactured by a member of the

HARDWOOD DIMENSION MFRS. ASSN.

and is guaranteed by the undersigned to conform to COMMERCIAL STANDARD CS60-48 issued by the NATIONAL BUREAU OF STANDARDS, UNITED STATES DEPARTMENT OF COMMERCE.

_____

Name of Manufacturer

GENERAL INFORMATION [1]

33. The following information is not, strictly speaking, a part of the standard, but is furnished for the guidance of producers, distributors, and users of hardwood dimension lumber.

34. In the manufacture of hardwood dimension lumber, utmost care is exercised in machining to specified sizes. Since lumber is a product of nature, the fact must be recognized that atmospheric conditions cause variation in thickness and width.

35. Hardwood dimension lumber should be ordered in specific quantities in terms of number of pieces, sets of pieces, and/or number of feet.

36. To avoid confusion and delay, the following data should be included in any inquiry for prices on hardwood dimension lumber:

Number of pieces.
Part name.
Kind of lumber.
Grade.
Finished size:
  Length.
  Width.
  Thickness.
Operations to be performed.
What each part is to be used for.

RECOMMENDED USES OF VARIOUS GRADES

37. *Clear.*—This grade is recommended for use where both faces, both edges, and both ends are exposed and where strength and appearance are necessary.

38. *Clear one face.*—This grade is recommended for use where only one face, one or both edges, and one or both ends are exposed.

39. *Paint.*—This grade is recommended for use where one face, one or both edges, and one or both ends are smoothly finished and covered with nontransparent material.

40. *Core.*—This grade is recommended as a base for plywood or for large surfaces requiring a sound lumber base or backing of good appearance and strength.

41. *Sound.*—This grade is recommended for purposes where the requirements are such that strength rather than appearance is a characteristic of its use.

42. *Clear squares.*—This grade is recommended for turnings or other purposes where the entire surface area is exposed.

43. *Select squares.*—This grade is recommended for use where a considerable portion of two faces is not exposed, as in case goods, cabinets, etc.

44. *Paint squares.*—This grade is recommended for application where one or more faces are finished and covered with nontransparent material.

45. *Sound squares.*—Sound squares are recommended for use as interior framing or fillers where no part of the piece is exposed and requirements for strength are unimportant.

[1] Additional basic information on wood as a material of construction, with data for its use in design and specifications, may be found in a publication prepared by the Forest Products Laboratory, U. S. Department of Agriculture, entitled "Wood Handbook." Also the U. S. Department of Commerce has issued a booklet, Trade Promotion Series No. 201, entitled "American Hardwood Dimension, Wall Paneling and Interior Trim." Copies of the above publications may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

ABBREVIATIONS

46. The following standard lumber abbreviations are in common use in contracts and other documents arising in the transactions of purchase and sale of lumber:

Abbreviation	Expression	Abbreviation	Expression
AD	air dried.	in	inch or inches. Also two accent marks (″).
a. l	all lengths.	KD	kiln-dried.
av	average.	k. d	knocked down.
av. l	average length.	lbr	lumber.
av. w	average width.	lgth	length.
a. w	all widths.	lgr	longer.
B1S	beaded one side.	lin. ft	linear foot; that is, 12 inches.
B2S	beaded two sides.	LR	log run.
bd	board.	M	thousand.
bd ft	board foot; that is, an area of 1 square foot by 1 inch thick.	M.b.m	thousand (feet) board measure.
bdl	bundle.	m.l	mixed lengths.
Bev	beveled.	Mldg	molding.
bm	board (foot) measure.	M.s.m	thousand (feet) surface measure.
Btr	better.	m.w	mixed widths.
Clg	ceiling.	N. Eq	not equalized.
Clr	clear.	No	number.
CM	Center matched; that is, the tongue-and-groove joints are worked along the center of the edges of the piece.	Ord	order.
		P	planed.
		Pat	pattern.
Com	common.	Pln	plain, as plain sawed.
cu ft	cubic foot.	Qtd	quartered—when referring to hardwoods.
Dim	dimension.	R	rough.
DS1S	drum sanded 1 side.	rdm	random.
DS2S	drum sanded 2 sides.	res	resawed.
DS4S	drum sanded 4 sides.	rip	ripped.
E	edge.	r.l	random lengths.
Eq	equalize.	rnd	round.
E. G	edge grain.	r.w	random width.
EM	end matched—either center or standard.	S&E	surfaced one side and one edge.
FAS	firsts and seconds—a combined grade of the two upper grades of hardwoods.	S1E	surfaced one edge.
		S1S	surfaced one side.
		S2S	surfaced two sides.
f. bk	flat back.	S1S1E	surfaced one side and one edge.
fcty	factory (lumber).	S2S1E	surfaced two sides and one edge.
F. G	flat grain.	S1S2E	surfaced one side and two edges.
f. o. k	free of knots.	S4S	surfaced four sides.
ft	foot or feet. Also one accent (′).	S&CM	surfaced one or two sides and center matched.
ft b. m	feet board measure.	S2S&CM	surfaced two sides and center matched.
ft s. m	feet surface measure.	Sap	sapwood.
H. bk	hollow back.	Sd	seasoned.
hdwd	hardwood.	Sel	select.
Hrt	heart.	s.f	surface foot; that is, an area of 1 square foot.
Hrtwd	heartwood.		
1s&2s	Ones and twos—a combined grade of the hardwood grades of firsts and seconds.		

Abbreviation	Expression	Abbreviation	Expression
sftwd	softwood.	S. W	sound wormy.
Sh. D	shipping dry.	Te	tennon.
s.m	surface measure.	T&G	tongued and grooved.
S.n.d	sap no defect.	TB&S	top, bottom, and sides.
snd	sound.	Tbrs	timbers.
sq	square.	V.G	vertical grain.
sqrs	squares.	Wth	width.
Std	standard.	Wdr	wider.
stnd	stained.	wt	weight.
stk	stock.		

HISTORY OF PROJECT

Members of the Hardwood Dimension Manufacturers Association, comprising representative manufacturers of hardwood dimension lumber, had long felt the need of uniform grading specifications and measuring practices. Grading rules were prepared by a committee appointed for that purpose and on January 20, 1936, the cooperation of the National Bureau of Standards was requested in bringing about the general acceptance and use of these rules as a commercial standard for the industry.

After several preliminary meetings, a general conference was called at Louisville, Ky., on June 26, 1936, to which were invited all interested manufacturers, distributors, and users of hardwood dimension lumber, for the purpose of considering and adjusting the proposed commercial standard, as submitted by the Association. After some modifications, the proposed standard was approved at the conference and recommended for circulation to and acceptance by all interested parties. Following written acceptance by a satisfactory majority, the standard was promulgated as CS60–36, effective October 1, 1936.

FIRST REVISION

Pursuant to a request from the Hardwood Dimension Manufacturers Association dated June 11, 1947, and following approval by the standing committee a revision of this standard was circulated on October 15, 1947, to the trade for written acceptance. The main purpose of the revision was to clarify the description of the methods of measurement used. This revision supersedes both CS60–36 and CS60E–41, since hardwood dimension lumber is now graded and measured on the same basis whether for domestic or export purposes. Following acceptance by a large majority the establishment of the revision was announced on January 26, 1948, as Commercial Standard CS60–48.

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. Each organization nominated its own representative. Comment concerning the standard and suggestions for revision may be addressed

to any member of the committee or to the Commodity Standards Division, National Bureau of Standards, which acts as secretary for the committee.

A. F. Deneke (chairman), Himmelberger-Harrison Mfg. Co., Cape Girardeau, Mo.
J. B. Edwards, Hillyer Deutsch Edwards, Inc., Oakdale, La.
Omar Hilton, Bradley Lumber Co. of Arkansas, Warren, Ark.
Chas. M. Rasche, Pekin Wood Products Co., Helena, Ark.
Ray L. Prine, Michigan Dimension Co., Manistique, Mich.
William J. Wenz, Auburn Wood Products, Inc., 13 Osborne Street, Auburn, N. Y.
O. William Lowry, Charles R. Sligh Co., Holland, Mich.
Guy P. Darsey, Woodward Manufacturing Corp., P. O. Box 1023, Austin, Tex.
Max Haden, P. O. Box 801, Jackson, Miss.

EFFECTIVE DATE

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 Department of Commerce, effective from February 25, 1948.

Edwin W. Ely,
Chief, Commodity Standards Division.

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,
National Bureau of Standards,
Washington 25, D. C.

Gentlemen:

We believe that the Commercial Standard CS60–48 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]

of hardwood dimension lumber. 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 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 these grading rules for use as far as practicable in the production, distribution, or purchase of hardwood dimension lumber. In accepting this standard, they reserved the right to depart therefrom as they individually deem advisable. It is expected that articles 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)

American Specification Institute, Chicago, Ill.
Building Officials Conference of America, Inc., Washington, D. C.
Carolina Lumber & Building Supply Association, Charlotte, N. C.
Hardwood Dimension Manufacturers Association, Louisville, Ky.
Hardwood Plywood Institute, Chicago, Ill.
Mahogany Association, Inc., Chicago, Ill.
National Hardwood Lumber Association, Chicago, Ill.
National Wooden Box Association, Washington, D. C.
New Jersey Lumbermen's Association, Newark, N. J.
Prefabricated Home Manufacturers' Institute, Washington, D. C.
Southern California Retail Lumber Association, Los Angeles, Calif.
Southern Hardwood Producers, Inc., Memphis, Tenn.
Toy Manufacturers of the U. S. A., Inc., New York, N. Y.
Veneer Association, The, Chicago, Ill.
West Coast Lumbermen's Association, Portland, Oreg.

FIRMS AND OTHER INTERESTS

Albert Furniture Co., Shelbyville, Ind.
American Chair Co., Sheboygan, Wis.
American Furniture Co., Batesville, Ind.
American Lumber Products, Louisville, Ky.
American Novelty Co., Wellsville, N. Y.
American Plywood Corp., New London, Wis.
Anchor Toy Co., Division of Transogram Co., Inc., Coudersport, Pa.
Anderson-Tully Co., Memphis, Tenn.
Angelina Hardwood Sales Co., Lufkin, Tex.
Angelus Furniture Manufacturing Co., Los Angeles, Calif.
Argent Lumber Co., Hardeeville, S. C.
Atlanta Oak Flooring Co., Atlanta, Ga.
Ayers-Cihlar-Ransom Co., Chicago, Ill.
Bailey Lumber Co., Laurel, Miss.
Baird, David, Co., Camden, N. J.
Baker-McMillen Co., The, Akron, Ohio.
Bartlett, C. O., & Snow Co., Cleveland, Ohio.
Baxter, C. B., & Co., Kansas City, Mo.
Beck Plywood & Lumber Co., Inc., Chicago, Ill.
Bennett Bailey Lumber Co., Minneapolis, Minn.
Bennett Manufacturing Co., The, Westerville, Ohio.
Berkey & Gay Furniture Co., Grand Rapids, Mich.
Big Rapids Furniture Manufacturing Co., Big Rapids, Mich.
Bison Upholstered Furniture Co., Buffalo, N. Y.
Bissell Carpet Sweeper Co., Grand Rapids, Mich.
Black, J. W., Lumber Co., Corning, Ark.
Bradley Lumber Co. of Arkansas, Warren, Ark.
Bristol Door & Lumber Corp., Bristol, Va., and Bristol, Tenn.
Bruce, E. L., Co., Memphis, Tenn.
Cannon & Mullen, Salt Lake City, Utah.
Cavalier Corp., Chattanooga, Tenn.
Cellarius, Chas. F., Cincinnati, Ohio.
Central Chair Manufacturing Co., Philadelphia, Pa.
Chapin, Rollin C., Minneapolis, Minn. (General support.)
Chattahoochee Furniture Co., Flowery Branch, Ga.
Cherry River Boom & Lumber Co., Richwood, W. Va.
Cincinnati Butchers Supply Co., The, Cincinnati, Ohio.
Coffin, R. V., Seattle, Wash.
Coolidge, Shepley, Bulfinch & Abbott, Boston, Mass.
Corbin Cabinet Lock Division, The American Hardware Corp., New Britain, Conn.
Cox, Chas. O., Corp., Memphis, Tenn.
Cram & Ferguson, Boston, Mass.
Crane & MacMahon, Inc., St. Marys, Ohio.
Crawford Furniture Manufacturing Corp., Jamestown, N. Y.
Crompton & Knowles Loom Works, Worcester, Mass.
Cron-Kills Co., Inc., Piqua, Ohio.
Cross, Austin & Ireland Lumber Co., Brooklyn, N. Y.
Crowell & Lancaster, Bangor, Maine.
Curtis Cos., Inc., Clinton, Iowa.
Davis Furniture Corp., Jamestown, N. Y.
De Soto Hardwood Flooring Co., Memphis, Tenn.
DeWeese Wood Products Co., Philadelphia, Miss.
Dierks Lumber & Coal Co., Kansas City, Mo.
Edison, Thomas A. Inc., West Orange, N. J.
Elliott Hardwood Co., Inc., Potsdam, N. Y.
Ellis, Wm. C., & Sons Iron Works, Memphis, Tenn.
Emery Industries, Inc., Cincinnati, Ohio.
Empire Furniture Corp., Johnson City, Tenn.
Engelberg Huller Co., Inc., Syracuse, N. Y.
English, Miller & Hockett, Hutchinson, Kans.
Estes Lumber Co., Birmingham, Ala.
Euclid Wood Products Co., Cleveland, Ohio.
Falcon Manufacturing Co., Big Rapids, Mich.
Farrin, M. B., Lumber Co., Cincinnati, Ohio.
Ferguson, W. T., Lumber Co., St. Louis, Mo.
Ferguson Manufacturing Co., Inc., San Francisco, Calif.
Fink & Schindler Co., The, San Francisco, Calif.
Fordyce Wood Products, Inc., Fordyce, Ark.
Foster Bros. Manufacturing Co., Utica, N. Y.
Frankson Furniture Manufacturing Corp., New York, N. Y.
Frost Lumber Industries, Inc., Shreveport, La.
Fuller, G., & Son Lumber Co., Brighton, Mass.
Gamble Brothers, Inc., Louisville, Ky.
Gem Manufacturing Corp., Bascom, Ohio.
Gloekler Refrigerator Co., Erie, Pa.
Grand Rapids Chair Co., Grand Rapids, Mich.
Grand Rapids Store Equipment Co., Grand Rapids, Mich.
Greene & Wood, Inc., New Bedford, Mass.
Gundlach, P. M., Sons, Belleville, Ill.
Gunn Furniture Co., Grand Rapids, Mich.
Hagemeyer Lumber Co., Cincinnati, Ohio.
Hale Co., Inc., East Arlington, Vt.
Halsam Products Co., Inc., Chicago, Ill.
Harbor Sales Co., Inc., The Baltimore, Md.
Harris Hardwood Co., Inc., Roanoke, Va.
Hawley, John, Ontonagon, Mich.
Haxby, Bissell & Belair, Minneapolis, Minn.
Henderson-Molpus Co., Philadelphia, Miss.

Himmelberger-Harrison Manufacturing Co., Cape Girardeau, Mo.
Hinckley, Dwight, Lumber Co., The, Cincinnati, Ohio.
Holly Hill Cypress Co., Holly Hill, S. C.
Holsman, Holsman & Klekamp, Chicago, Ill.
Hoopes Bro. & Darlington, Inc., W. Chester, Pa.
Hoosier Desk Co., Jasper, Ind.
Hope, Frank L., San Diego, Calif.
Horner Wood Products Co., Inc., Dollar Bay, Mich.
Howell, Leslie D., Portland, Oreg. (General support.)
Hunt, Robert W., Co., St. Louis, Mo.
Huntingburg Furniture Co., Inc., Huntingburg, Ind.
Hygrade Cabinet Co., Mt. Vernon, N. Y.
Ideal Desk Co., Auburn, Maine.
Indiana Lumber & Supply Co., Inc., Indiana, Pa.
James Lumber Co., Boston, Mass.
Jamestown Table Co., Salamanca, N. Y.
Jasper Novelty Furniture Co., Inc., Jasper, Ind.
Johnson-Carper Furniture Co., Inc., Roanoke, Va.
Kansas State College, Department of Architecture, Manhattan, Kans.
Keely, Hal, Plywood Co., Pittsburgh, Pa.
Kent-Coffey Manufacturing Co., Lenoir,N . C.
Kewaunee Manufacturing Co., Adrian, Mich.
Kilham, Hopkins & Greeley, Boston, Mass.
Kindel Furniture Co., Grand Rapids, Mich.
Kingsley Furniture Co., Inc., La Porte, Ind.
Klerner, Peter, Furniture Corp., New Albany, Ind.
Lange & Christ Box & Lumber Co., Inc., Clarksburg, W. Va.
Latenser, John, & Sons, Omaha, Nebr.
Law, Law, Potter & Nystrom, Madison, Wis.
Lawsonia Manufacturing Co., Inc., Philadelphia, Pa.
Levin Bros., Inc., Minneapolis, Minn.
Levy, Will, St. Louis, Mo.
Loeb, Laurence M., White Plains, N. Y.
Long-Bell Lumber Co., The (Hudson River Division), DeRidder, La.
Los Angeles Period Furniture Manufacturing Co., Los Angeles, Calif.
Louck & Hill Co., Richmond, Ind.
Louisville Chair & Furniture Co., Louisville, Ky.
Lovatt, George I., Philadelphia, Pa.
Lundstrom, C. J., Manufacturing Co., The, Little Falls, N. Y.
Markland, M. B., Contracting Co., Atlantic City, N. J.
Marsh Furniture Co., High Point, N. C.
Mason, George D., & Co., Detroit, Mich.
Meadow River Lumber Co., Rainelle, W. Va.
Meier & Pohlmann Furniture Co., St. Louis, Mo.
Meloy Manufactring Co., Shelbyville, Ind.
Memphis Hardwood Flooring Co., Memphis, Tenn.
Menasha Wooden Ware Corp., Menasha, Wis.
Mersman Bros. Corp., The, Celina, Ohio.
Michigan Dimension Co., Manistique, Mich.
Michigan Maple Block Co., Petoskey, Mich.
Miller & Vrydagh, Terre Haute, Ind.
Mills Industries, Inc., Chicago, Ill.
Minneapolis Desk Manufacturing Co., Minneapolis, Minn.
Minneapolis-Moline Power Implement Co., Minneapolis, Minn.
Missouri Furniture Co., St. Louis, Mo.
Monteath, J. H., Co., New York, N. Y.
Montgomery Ward, Chicago, Ill.
Moore, J. W., New Orleans, La.
Morgan Furniture Co., Asheville, N. C.
Morgan Manufacturing Co., Inc., Black Mountain, N. C.
Morris Furniture Manufacturing Co., Inc., Los Angeles, Calif.
Morris, C. L.. Lumber Co., Plymouth, Ind.
Mutschler Brothers Co., Nappanee, Ind.
Myrtle Desk Co., High Point, N. C.
National Furniture Manufacturing Co., Evansville, Ind.
New York & Brooklyn Casket Co., Brooklyn, N. Y.
New York Wood Working Corp., Flushing, N. Y.
Newman, S., & Sons, Philadelphia, Pa.
Newton & Thompson, Inc., Brandon, Vt.
Nickey Brothers, Inc., Memphis, Tenn.
Northwestern Furniture Co., Milwaukee, Wis.
Olive & Myers Manufacturing Co., Dallas, Tex.
Paidar, Emil J., Co., Chicago, Ill.
Patten Blinn Lumber Co., Los Angeles, Calif.
Patzig Testing Laboratories, Des Moines, Iowa.
Pehrsen, G. A., & Associates, Spokane, Wash.
Perfect Parlor Furniture Co., Inc., Chicago, Ill.
Phenix, L. C., Co., Los Angeles, Calif.
Phenix Furniture Co., Warren, Pa.
Phoenix Chair Co., Sheboygan, Wis.
Picket Lumber Co., Pittsburgh, Pa.
Portsmouth Lumber Corp., Portsmouth, Va.
Precision-Built Homes Corp., Trenton, N. J.
Quigley Furniture Co., Whitesboro, N. Y.
Randolph Furniture Works, Jamestown, N. Y.
Resnikoff, Abraham, New York, N. Y.
Reynolds & Manley Lumber Co., Savannah, Ga.
Richardson Bros. Co., Sheboygan Falls, Wis.
Richmond Cabinet Co., Richmond, Ind.
Richmond Furniture Manufacturing Co., Richmond, Ind.
Ritchie, James H., & Associates, Boston, Mass.
Ritter, W. M., Lumber Co., Columbus, Ohio.
Rockford Furniture Co., Rockford, Ill.
Rockford National Furniture Co., Rockford, Ill.
St. Croix Manufacturing Co., Bayport, Minn.
Seaburg Manufacturing Co., Jamestown, N. Y.
Sears Roebuck & Co., Chicago, Ill.
Sellers, G. I., & Sons Co., Elwood, Ind.
Sells Lumber & Manufacturing Co., Johnson City, Tenn.
Setter Bros., Inc.. Cattaraugus, N. Y.
Shelbyville Desk Co., Shelbyville, Ind.
Sherman-Manson Corp., St. Marys, Ohio.
Sholar, H. W., Lumber Co., Lenoir, N. C.
Sjostrom, John E., Co., Philadelphia, Pa.
Sligh-Lowry Furniture Co., Holland, Mich.
Smith Cabinet Manufacturing Co., Inc., Salem, Ind.
Smith, W. T., Lumber Co., Chapman, Ala.
Spencer Cardinal Corp., Marion, Ind.
Springfield Furniture Works, Inc., Springfield, Ohio.
Standard Cabinet Manufacturing Co., Peru, Ind.
Standard Chair Co., Union City, Pa.
Standard Furniture Co., Herkimer, N. Y.
Staub & Rather, Houston, Tex.
Stoetzel, Ralph, Chicago, Ill.
Sumter Cabinet Co., Sumter, S. C.
Sun Lumber Co., The, Weston, W. Va.
Sweat-Comings Co., The, Richford, Vt.
Taylor, Ellery Kirke, Haddonfield, N. J.
Temple, S. J.—Arthur Temple, Davenport, Iowa.
Temple Lumber Co., Pineland, Tex.
Toledo Metal Furniture Co., The, Toledo, Ohio.
Trogdon Furniture Co., Toccoa, Ga.
Tulane Hardwood Lumber Co., Inc., New Orleans, La.
Tygard Valley Wood Products Corp., Dailey, W. Va.
Union Furniture Co., Batesville, Ind.
United Furniture Corp., Lexington, N. C.
Valley Furniture Co., Inc., St. Louis, Mo.
Virginia Polytechnic Institute, Blacksburg, Va. (General support.)
Ward Furniture Manufacturing Co., Fort Smith, Ark.
Weber Showcase & Fixture Co., Inc., Los Angeles, Calif.
Weiman Co., The, Rockford, Ill.
Wells, J. W., Lumber Co., Montgomery, Ala.
West, Albert E., Boston, Mass.
West Virginia Wood Products Corp., Morgantown, W. Va.
Western Furniture Co., Inc., Batesville, Ind.
Wood Cellulose Products Co., Chattahoochee, Fla.
Woodstock Manufacturing Co., Inc., The, Charleston, S. C.
Wright & Wright, Detroit, Mich. (General support.)

UNITED STATES GOVERNMENT

Agriculture, U. S. Department of, Division of Purchase, Sales & Traffic, Washington, D. C.
Agriculture, U. S. Department of, Forest Service, Missoula, Mont.
Public Housing Administration, Chicago, Ill., and Washington, D. C.
Veterans' Administration, Washington, D. C.

The following acceptances were received after the manuscript was submitted to the Government Printing Office:

ASSOCIATIONS

(General Support)

Douglas Fir Plywood Association, Tacoma, Wash.
Wisconsin Retail Lumbermens Association, Milwaukee, Wis.

FIRMS AND OTHER INTERESTS

Andrews, C. E., Lumber Co., New Bethlehem, Pa.
Artistic Furniture Co., Detroit, Mich.
Bay View Furniture Co., Holland, Mich.
Bradley, David, Manufacturing Works, Bradley, Ill.
Bernhardt Furniture Co., Lenoir, N. C.
Brown Saltman Furniture Co., South Gate, Calif.
Carey Manufacturing Co., Inc., Keene, N. H.
Chillicothe Furniture Manufacturing Co., Chillicothe, Mo.
Coolerator Co., The, Duluth, Minn.
Doehler Metal Products Corp., New York, N. Y.
Exchange Lumber & Manufacturing Co., Spokane, Wash.
Fry-Fulton Lumber Co., St. Louis, Mo.
Gluck Bros., Inc., Morristown, Tenn.
Haden, Max M., Co., Inc., Jackson, Miss.
Hardwood Dimensions, Inc., Irvington, N. J.
Hillyer-Deutsch-Edwards, Inc., Oakdale, La.
Huber Manufacturing Co., The, Marion, Ohio.
Huttig Sash & Door Co., St. Louis, Mo.
King Lumber Industries, Canton, Miss.
Kittinger Co., Inc., Buffalo, N. Y.
Louisiana Lumber Co., Cairo, Ill.
Mason Manufacturing Co., The, Los Angeles, Calif.
Mell Lumber Co., Philadelphia, Pa.
Miller Brothers Co., Inc., Johnson City, Tenn., and Knoxville, Tenn.
Morrison-Merrill & Co., Salt Lake City, Utah.
Munising Wood Products Co., Inc., Chicago, Ill.
New England Woodshop Co., Greenville, N. H.
Olsen, O. C. S., Co., Chicago, Ill.
Phoenix Wood Products Co., Inc., Brooklyn, N. Y.
Pineville Wood Products, Inc., Pineville, La.
Root, A. I., Co., The, Medina, Ohio.
Saginaw Cabinet Co., Chicago, Ill.
Schuco Industries, Inc., Kansas City, Mo.
Sheboygan Chair Co., Inc., Sheboygan, Wis.
Singer Cabinet Shops, Inc., New York, N. Y.
Vestal Lumber & Manufacturing Co., Knoxville, Tenn.
Weis Manufacturing Co., The, Monroe, Mich.
Woodward Manufacturing Corp., Austin, Tex.

UNITED STATES GOVERNMENT

Federal Works Agency, Public Buildings Administration, Washington, D. C. (General support.)
Navy, Department of the, Bureau of Yards & Docks, Washington, D. C.

COMMERCIAL STANDARDS

CS No. Item

0-40. Commercial standards and their value to business (third edition).
1-42. Clinical thermometers (third edition).
2-30. Mopsticks.
3-40. Stoddard solvent (third edition).
4-29. Staple porcelain (all-clay) plumbing fixtures.
5-46. Pipe nipples; brass, copper, steel and wrought-iron (second edition).
6-31. Wrought-iron pipe nipples (second edition). Superseded by CS5-46.
7-29. Standard weight malleable iron or steel screwed unions.
8-41. Gage blanks (third edition).
9-33. Builders' template hardware (second edition).
10-29. Brass pipe nipples. Superseded by CS5-46.
11-41. Moisture regains of cotton yarns (second edition).
12-40. Fuel oils (fifth edition).
13-44. Dress patterns (fourth edition).
14-43. Boys' button-on waists, shirts, junior and sport shirts (made from woven fabrics) (third edition).
15-46. Men's pajama sizes (made from woven fabrics) (third edition).
16-29. Wall paper.
17-47. Diamond core drill fittings (fourth edition).
18-29. Hickory golf shafts.
19-32. Foundry patterns of wood (second edition).
20-47. Staple vitreous china plumbing fixtures (fourth edition).
21-39. Interchangeable ground-glass joints, stopcocks, and stoppers (fourth edition).
22-40. Builders' hardware (nontemplate) (second edition).
23-30. Feldspar.
24-43. Screw threads and tap-drill sizes.
25-30. Special screw threads. Superseded by CS24-43.
26-30. Aromatic red cedar closet lining.
27-36. Mirrors (second edition).
28-46. Cotton fabric tents, tarpaulins and covers (second edition).
29-31. Staple seats for water-closet bowls.
30-31. Colors for sanitary ware.
31-38. Wood shingles (fourth edition).
32-31. Cotton cloth for rubber and pyroxylin coating.
33-43. Knit underwear (exclusive of rayon) (second edition).
34-31. Bag, case, and strap leather.
35-47. Hardwood plywood (third edition).
36-33. Fourdrinier wire cloth (second edition).
37-31. Steel bone plates and screws.
38-32. Hospital rubber sheeting.
39-37. Wool and part wool blankets (second edition). (Withdrawn as commercial standard, July 14, 1941).
40-32. Surgeons' rubber gloves.
41-32. Surgeons' latex gloves.
42-43. Structural fiber insulating board (third edition).
43-32. Grading of sulphonated oils.
44-32. Apple wraps.
45-47. Douglas fir plywood (seventh edition).
46-40. Hosiery lengths and sizes (third edition).
47-34. Marking of gold-filled and rolled-gold-plate articles other than watchcases.
48-40. Domestic burners for Pennsylvania anthracite (underfeed type) (second edition).
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.
56-41. Oak flooring (second edition).

CS No. Item

57-40. Book cloths, buckrams, and impregnated fabrics for bookbinding purposes except library bindings (second edition).
58-36. Woven elastic fabrics for use in overalls (overall elastic webbing).
59-44. Textiles—testing and reporting (fourth edition).
60-48. Hardwood dimension lumber (second edition).
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 (second edition).
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) (second edition) (published with CS71-41).
71-41. Phenolic disinfectant (soluble type) (second edition) published with CS70-41).
72-38. Household insecticide (liquid spray type).
73-45. Old growth Douglas fir standard stock doors (third edition).
74-39. Solid hardwood wall paneling.
75-42. Automatic mechanical draft oil burners designed for domestic installations (second edition).
76-39. Hardwood interior trim and molding.
77-40. Sanitary cast-iron enameled ware.
78-40. Ground-and-polished lenses for sunglasses (second edition) (published with CS79-40).
79-40. Blown, drawn, and dropped lenses for sunglasses (second edition) (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).
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- (Reserved for power shovels and cranes).
91-41. Factory-fitted Douglas fir entrance doors.
92-41. Cedar, cypress, and redwood tank stock lumber.
93-41. 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 (third edition).
101-43. Flue-connected oil-burning space heaters equipped with vaporizing pot-type burners.
102- (Reserved for Diesel and fuel-oil engines).
103-42. Cotton and rayon velour (jacquard and plain).
104-46. Warm-air furnaces equipped with vaporizing pot-type oil burners (second edition).
105-43. Mineral wool; loose granulated, or felted form, in low-temperature installations.

CS No.	Item
106–44.	Boys' pajama sizes (woven fabrics) (second edition).
107–45.	Commercial electric-refrigeration condensing units (second edition). (Withdrawn as commercial standard September 4, 1947.)
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.
113–44.	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.
117–44.	Mineral wool; blankets, blocks, insulating cement, and pipe insulation for heated industrial equipment.
118–44.	Marking of jewelry and novelties of silver.
(E)119–45.[1]	Dial indicators (for linear measurements).
120–46.	Standard stock ponderosa pine doors (second edition).
121–45.	Women's slip sizes (woven fabrics).
122–45.	Western hemlock plywood.
123–45.	Grading of diamond powder.
(E)124–45.[1]	Master disks.
125–47.	Prefabricated homes (second edition).
126–45.	Tank-mounted air compressors.
127–45.	Self-contained mechanically refrigerated drinking water coolers.
128–45.	Men's sport shirt sizes—woven fabrics (other than those marked with regular neckband sizes).
129–47.	Materials for safety wearing apparel (second edition).
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).
137–46.	Size measurements for men's and boys' shorts (woven fabrics).
138–47.	Insect wire screening.
139–47.	Work gloves.
140–47.	Testing and rating convectors.
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.
145–47.	Testing and rating hand-fired hot-water-supply boilers.
146–47.	Gowns for hospital patients.
147–47.	Colors for molded urea plastics.

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

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, National Bureau of Standards, Washington 25, D. C.

U. S. GOVERNMENT PRINTING OFFICE, 1948