

U. S. DEPARTMENT OF COMMERCE

JESSE H. JONES, Secretary

NATIONAL BUREAU OF STANDARDS

LYMAN J. BRIGGS, Director

National Bureau of Standards

AUG 30 1941

LEAD TRAPS AND BENDS

Reference book not to be  
taken from the Library.

COMMERCIAL STANDARD CS96-41

Effective Date, June 25, 1941



A RECORDED VOLUNTARY STANDARD  
OF THE TRADE

UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1941

## PROMULGATION

of

COMMERCIAL STANDARD CS96-41

for

LEAD TRAPS AND BENDS

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On September 26, 1940, the Lead Industries Association proposed the establishment of a commercial Standard for lead traps and bends, and submitted a specification which the Association has used as a basis for its seal of approval. This specification was submitted to a number of leading distributor and user organizations for comment and was later adjusted to suit the composite recommendations of those concerned. In the absence of need for a general conference, the recommended standard was circulated on April 23, 1941, to manufacturers, distributors, and users for written approval. The trade has since accepted and approved for promulgation by the United States Department of Commerce, through the National Bureau of Standards, the standard as shown herein.

The standard is effective from June 25, 1941.

Promulgation recommended.

I. J. Fairchild,  
*Chief, Division of Trade Standards.*

Promulgated.

Lyman J. Briggs,  
*Director, National Bureau of Standards.*

Promulgation approved.

Jesse H. Jones,  
*Secretary of Commerce.*

# LEAD TRAPS AND BENDS

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## COMMERCIAL STANDARD CS96-41

### PURPOSE

1. The purpose of this commercial standard is to provide a nationally recognized specification for lead traps and bends which shall serve to promote a better understanding between buyer and seller and to provide a basis for labeling as advance assurance of acceptable composition, construction, and workmanship,

### SCOPE

2. This standard covers chemical composition, defects, markings, weights and dimensions, and provisions for allowable deviations, for one grade in various sizes of full S-traps,  $\frac{1}{2}$  S- or P-traps, drum traps, and bends.

### REQUIREMENTS

3. *Composition.*—The lead trap or bend shall contain at least 99.7 percent of lead. The zinc content shall not exceed 0.002 percent.

4. *Defects.*—Reasonable diligence shall be used in manufacturing operations to eliminate all defects in lead traps or bends, such as laminations, cold joints, pits, obstructions and inclusions, and imperfectly sealed drum-trap bottoms.

5. *Weights and dimensions.*—Standard wall thickness shall be 0.125 inch. Wall thickness at any point shall be not less than 0.118 inch. Total weights are given in tables 2 and 4; a minus tolerance of 5 percent is permitted, with no maximum limitation, on total weight. Dimensions shall be as given in tables 1, 2, 3, and 4, except as provided for under paragraph 6, Exceptions. Minimum trap seal shall be 2 inches, measured vertically from the crown weir to the dip. (See fig. 1.)

#### 6. *Exceptions.*

6a. Traps and bends meeting this standard in all other respects, but having dimensions *a* and *b* different from those listed, shall be considered as meeting this standard if they are clearly stamped with their inlet and outlet dimensions.

6b. Traps and bends meeting this standard in all other respects, but having a greater nominal wall thickness than  $\frac{1}{8}$  inch, shall be considered as meeting this standard if they are clearly stamped with their wall thickness or weight per running foot, in which case a tolerance of 5 percent below the wall thickness so indicated will be permitted.

TABLE 1.—Lead traps and bends

Inside diameter	Weight <sup>1</sup> per running foot
<i>in.</i>	<i>lb oz</i>
1¼	2 10.5
1½	3 2.3
2	4 1.7
3	6 0.7
4	7 15.6

<sup>1</sup> A minus tolerance of 5 percent is permitted. No maximum limitation.

TABLE 2.—Traps

Inside diameter	Short		Long	
	Dimensions <i>a</i> × <i>b</i> <sup>2</sup>	Total weight <sup>1</sup>	Dimensions <i>a</i> × <i>b</i> <sup>2</sup>	Total weight <sup>1</sup>
FULL S				
<i>in.</i>	<i>in.</i>	<i>lb oz</i>	<i>in.</i>	<i>lb oz</i>
1¼	4½×7	4 9	4½×19½	7 6
1½	4½×7	5 10	4½×19½	8 14
2	4½×8	8 5	4½×19½	12 4
½ S or P				
1¼	4½×7	4 0	4½×14	5 9
1½	4½×7	4 15	4½×14	6 12
2	4½×8	7 2	4½×14	9 3

<sup>1</sup> A minus tolerance of 5 percent is permitted. No maximum limitation.

<sup>2</sup> Full S-trap measured from inlet to crown and from crown to outlet, respectively (see fig. 2). ½ S- or P-trap measured from inlet to top of outlet leg and from inlet leg to outlet, respectively (see fig. 3).

TABLE 3.—Drum traps

Inside diameter	Inside depth
<i>in.</i>	<i>in.</i>
4	8
4	9
4	10

TABLE 4.—Bends

1½ inches		3 inches		4 inches	
Dimensions <i>a</i> × <i>b</i> <sup>2</sup>	Total weight <sup>1</sup>	Dimensions <i>a</i> × <i>b</i> <sup>2</sup>	Total weight <sup>1</sup>	Dimensions <i>a</i> × <i>b</i> <sup>2</sup>	Total weight <sup>1</sup>
<i>in.</i>	<i>lb oz</i>	<i>in.</i>	<i>lb oz</i>	<i>in.</i>	<i>lb oz</i>
4×7	2 12	5½×10	7 3	5½×10	9 5
4×12	4 1	5½×12	8 3	5½×12	10 10
4×15	4 13	5½×15	9 12	5½×15	12 10
4×18	5 10	5½×18	11 4	5½×18	14 10
4×20	6 2	5½×20	12 4	5½×20	16 0
7×7	3 8	10×10	9 8	10×10	12 5
7×12	4 13	10×12	10 8	10×12	13 10
7×15	5 10	10×15	12 0	10×15	15 10
7×18	6 6	10×18	13 8	10×18	17 10
7×20	6 15	10×20	14 8	10×20	18 15

<sup>1</sup> A minus tolerance of 5 percent is permitted. No maximum limitation.

<sup>2</sup> Measured from the center of the bend to the inlet and outlet ends, respectively. (See fig. 4.)

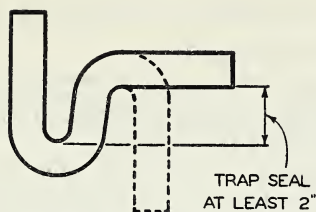


FIGURE 1.—Lead trap seal.

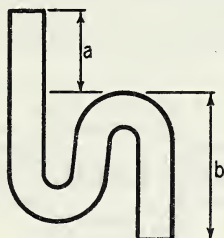
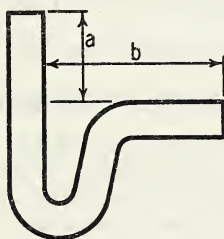


FIGURE 2.—Full S-trap.

Dimensions  $a$  and  $b$  are given in table 2.

FIGURE 3.— $\frac{1}{2}$  S- or P-trap.

Dimensions  $a$  and  $b$  are given in table 2.

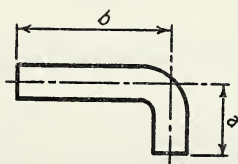


FIGURE 4.—Bend.

Dimensions  $a$  and  $b$  are given in table 4.

## CERTIFICATION AND LABELING

7. Each lead trap and bend shall be stamped with the inside diameter of the fitting and with the name of the manufacturer, his registered trade-mark, or identification mark registered with the Lead Industries Association. Bends shall be marked on top of the outlet, about halfway between the throat and end. Traps shall be marked on the front of the inlet, midway between the bottom and end.



8. It is recommended that the following form of certification be used on labels, tags, invoices, etc.:

The ----- Company certifies that these lead fittings conform to all the requirements of Commercial Standard CS96-41, as issued by the National Bureau of Standards of the U. S. Department of Commerce.

9. The Lead Industries Association, 420 Lexington Ave., New York, N. Y., has a plan whereby it authorizes manufacturers to use the Association's seal of approval on traps and bends conforming to the Association's standard, which is currently identical in substance with this Commercial Standard, the seal being mandatory for conformance with the Association's standard. The seal is illustrated in figure 5.



FIGURE 5.—Seal of approval of the Lead Industries Association.

### EFFECTIVE DATE

The standard is effective from June 25, 1941.

### 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 representatives. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Division of Trade Standards, National Bureau of Standards, which acts as secretary for the committee.

#### Chairman:

ALFRED P. KNAPP, American Smelting & Refining Co., 120 Broadway, New York, N. Y.

#### Producers:

CHARLES A. GEATTY, National Lead Co., 111 Broadway, New York, N. Y.

WILLIAM F. MURDOCK, Eagle-Picher Sales Co., 435 Reading Road, Cincinnati, Ohio.

OSCAR E. PLANTEROTH, Marks Lissberger & Son, Inc., 23-01 Borden Ave., Long Island City, N. Y.

#### Distributors:

American Institute of Wholesale Plumbing & Heating Supply Associations, 43 E. State St., Battle Creek, Mich. Invited to name representative.

Central Supply Association, 228 N. LaSalle St., Chicago, Ill. Invited to name representative.

Montgomery Ward & Co., Chicago, Ill. Invited to name representative.

#### Users:

R. S. JONES, Federal Housing Administration, Washington, D. C.

J. W. NICHOLSON, City Purchasing Agent, Milwaukee, Wis. Representing National Association of Purchasing Agents.

National Association of Master Plumbers, 917 15th St., N. W., Washington, D. C. Invited to name representative.

## HISTORY OF PROJECT

On September 26, 1940, the Lead Industries Association requested the establishment of a commercial standard for lead traps and bends and submitted as a basis for such a standard, a specification developed by the Association and used by it in authorizing the use of the Association's seal of approval on lead traps and bends manufactured in conformance with the specification.

Because the specification was well known to a large part of the trade, no public hearing for adjustment was believed necessary, but copies of the specification were submitted to approximately 300 interested producers, distributor and user organizations for comment on December 4, 1940. Following suitable adjustment and unqualified endorsement by a number of those organizations, and in the absence of objection, the recommended Commercial Standard was submitted to the entire trade for written acceptance on April 23, 1941.

On June 10, 1941, the National Bureau of Standards announced that acceptances representing a satisfactory volume of business had been received and that the standard would become effective from June 25, 1941.





## 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 -----

Division of Trade Standards,  
National Bureau of Standards,  
Washington, D. C.

Gentlemen:

Having considered the statements on the reverse side of this sheet, we accept the Commercial Standard CS96-41 as our standard of practice in the

Production <sup>1</sup>	Distribution <sup>1</sup>	Use <sup>1</sup>
of lead traps and bends.		

We will assist in securing its general recognition and use, and will cooperate with the standing committee to effect revisions of the standard when necessary.

Signature of individual 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 and State -----

<sup>1</sup> Please designate which group you represent by drawing lines through the other two. Please file separate acceptances for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade papers, colleges, etc., desiring to record their general approval, the words "in principle" 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 and individuals listed below have accepted this specification as their standard of practice in the production, distribution, and use of lead traps and bends. Such endorsement does not signify that they may not find it necessary to deviate from the standard, nor that producers so listed guarantee all of their products in this field to conform with the requirements of this standard. Therefore, specific evidence of quality certification should be obtained where required.

### ASSOCIATIONS

American Association of Engineers,  
Chicago, Ill.  
Denver Master Plumbers Association,  
Committee on Standardization, Den-  
ver, Colo.  
Lead Industries Association, New York,  
N. Y.  
Virginia Associated Plumbing & Heating  
Contractors, Inc.

### FIRMS

Adams, Franklin O., Tampa, Fla.  
Alpha Metal & Rolling Mills, Inc.,  
Brooklyn, N. Y.  
Altfillisch, Charles, Decorah, Iowa.  
American Radiator & Standard Sanitary  
Corporation, Minneapolis, Minn.  
American Smelting & Refining Co.,  
Federated Metals Division, New  
York, N. Y.  
American Smelting & Refining Co.,  
Lead Products Department, New  
York, N. Y.  
Annand, J. D., Portland, Oreg.  
Appleby Bros. & Whittaker Co., Harris-  
burg, Pa.  
Baker Lead Manufacturing Co., Wor-  
cester, Mass.  
Balch & Lippert, Madison, Wis.  
Beacham & LeGrand, Greenville, S. C.  
Beardsley, Wallace F., Auburn, N. Y.  
Becson, Carroll O., Crawfordsville, Ind.  
Bickford, Robert Turner, Elmira, N. Y.  
Blake, Edgar Ovet, Evanston, Ill.  
Blithe, Wesley Leshner, Philadelphia, Pa.  
Bogner, Harry, Milwaukee, Wis.  
Bond Supply Co., Kalamazoo, Mich.  
Bowman Supply & Manufacturing Co.,  
Inc., Pittsburgh, Pa.  
Bradley Supply Co., Chicago, Ill.  
Brainerd, Harry B., New York, N. Y.  
(In principle.)  
Braman, Dow & Co., Boston, Mass.  
Braseth & Houkom, Fargo, N. Dak.  
Brazier, Clarence W., New York, N. Y.

Brown, Floyd W., Minneapolis, Minn.  
Brown, Louis A., Jr., Charlottesville,  
Va.  
Brust & Brust, Milwaukee, Wis.  
Bucky, Fred W., Jr., Jacksonville, Fla.  
Buechner & Orth, St. Paul, Minn. (In  
principle.)  
Buffalo Testing Laboratories, Inc.,  
Buffalo, N. Y. (In principle.)  
Cambridge Smelting Co., Cambridge,  
Mass.  
Camlet, J. Thomas, Passaic, N. J.  
Candela, R., New York, N. Y.  
Canfield Supply Co., Kingston, N. Y.  
Cannon & Mullen, Salt Lake City, Utah.  
Capitol Supply Co., Lincoln, Nebr.  
Carroll, John, Ventnor, N. J.  
Central Plumbing Supply Co., The,  
Bridgeport, Conn.  
Central Vermont Public Service Corpo-  
ration, Rutland, Vt.  
Chesbrough Manufacturing Co., Con-  
solidated, New York, N. Y.  
Chiaverini, Francis, Providence, R. I.  
(In principle.)  
Cities Service Oil Co. (Del.), Barthes-  
ville, Okla.  
Cleveland Lead Co., The, Cleveland,  
Ohio.  
Coit, E., New York, N. Y.  
Cole Supply Co., Geo. H., Troy, N. Y.  
Columbia Pipe & Supply Co., Chicago,  
Ill.  
Conrad & Cummings, Binghamton,  
N. Y.  
Conrow, H. S., Wichita, Kans.  
Conwell & Co., E. L., Philadelphia, Pa.  
(In principle.)  
Cooldige, Shepley, Bulfinch & Abbott,  
Boston, Mass.  
Corlett, Will G., Oakland, Calif.  
Cotton States Fertilizer Co., Macon,  
Ga.  
County Seat Plumbing Supply Co.,  
Inc., White Plains, N. Y.  
Cram & Ferguson, Boston, Mass.  
Crowell & Lancaster, Bangor, Maine.



- Crown Metal Co., Milwaukee, Wis.  
 Dalziel Plumbing Supplies, San Francisco, Calif.  
 Danser Manufacturing & Supply Co., The, Weston, W. Va., and Clarksburg, W. Va.  
 DeJarnette, Charles Wagner, Des Moines, Iowa.  
 Delehanty, Andrew L., Albany, N. Y. (In principle.)  
 Detroit, City of, Public Lighting Commission, Detroit, Mich.  
 Division Lead Co., Chicago, Ill.  
 Dodge, Stephen W., New York, N. Y.  
 Dominique Chemical Co., Compton, Calif.  
 Drake, Inc., George H., Buffalo, N. Y.  
 Dubuque Supply Co., The R. A., St. Louis, Mo.  
 Duffy & Co., Edward W., Detroit, Mich.  
 Eagle-Picher Sales Co., The, Cincinnati, Ohio.  
 Eastern Plumbing Supply Co., Inc., The, Hartford, Conn.  
 Egyptian Supply Co., Inc., Christopher, Ill.  
 Eichenlaub, Geo. E., Erie, Pa.  
 Eldridge, Charles William, Oswego, N. Y.  
 Ellis & Sons, Inc., Sol, Chicago, Ill.  
 Englewood Plumbing Supply Co., Inc., Englewood, N. J.  
 English, Harold T., Hutchinson, Kans.  
 Espedahl, K. S., Columbia, S. C.  
 Evans Metal Co., Atlanta, Ga.  
 Fall River Steam & Gas Pipe Co., Fall River, Mass.  
 Flannagan, Eric G., Henderson, N. C.  
 Flemm Lead Co., Inc., The, Long Island City, N. Y.  
 Florida, University of, Gainesville, Fla.  
 Foltz & Son, Herbert, Indianapolis, Ind.  
 Freeport Plumbing & Heating Engineers, Freeport, N. Y.  
 Galloup Pipe & Supply Co., Battle Creek, Mich.  
 General Plumbing Supply Corporation, Coney Island, N. Y.  
 Glaser Lead Co., Inc., Brooklyn, N. Y.  
 Grinnell Co., Inc., Providence, R. I.  
 Groeniger, Wm. C., Columbus, Ohio.  
 Hahn, Stanley W., Silver Spring, Md.  
 Hannaford, Frederick T., Gainesville, Fla.  
 Hannaford & Sons, Samuel, Cincinnati, Ohio.  
 Haralson & Mott, Fort Smith, Ark.  
 Harley & Ellington, Detroit, Mich. (In principle.)  
 Harper & West, Boston, Mass.  
 Hasness, Carlisle D., Harrisburg, Pa.  
 Haxby & Bissell, Minneapolis, Minn.  
 Helfensteller, Hirsch & Watson, St. Louis, Mo.  
 Herron Co., The James H., Cleveland, Ohio. (In principle.)  
 Hess Co., Charles, New York, N. Y.  
 Hoeffer, Arthur Albert, N. Plainfield, N. J.  
 Holsman & Holsman, Chicago, Ill.  
 Home Plumbing & Heating Co., Twin Falls, Idaho.  
 Hoppe, M. F., Washington, D. C. (In principle.)  
 Hughes Heating & Plumbing Co., Minneapolis, Minn.  
 Hughes Supply Co., The, Mansfield, Ohio.  
 Hunting Co., The, Auburn, N. Y. and Rochester, N. Y.  
 Ideal Supply Co., Somerville, Mass.  
 Illinois, University of, Department of Architecture, Urbana-Champaign, Ill. (In principle.)  
 Jahns Supply Co., Fort Worth, Tex.  
 Joannes, Francis Y., New York, N. Y.  
 Johnson Plumbing Co., Texarkana, Ark.  
 Johnson, Wallwork & Dukehart, Portland, Oreg.  
 Jokol-Coy-Thal, Toledo, Ohio.  
 Kaelber, Wm. G., & L. A. Waasdorp, Rochester, N. Y.  
 Kahn Bros., Brooklyn, N. Y.  
 Kalispell Mercantile Co., Kalispell, Mont.  
 Kansas City Smelting Co., Kansas City, Mo.  
 Keich & O'Brien, Warren, Ohio.  
 Knapp Supply Co., The, Muncie, Ind.  
 Kohler Co., Kohler, Wis. (In principle.)  
 Kohn, Robert D., & Chas. Butler, Architects Associated, New York, N. Y.  
 Koller Bros. Co., The, Cleveland, Ohio.  
 Kyle, Herbert S., Charleston, W. Va.  
 Larrick, Thomas, Athens, Ohio.  
 Laucks Laboratories, Inc., Seattle, Wash.  
 Lawrence, Holford & Allyn, Portland, Oreg.  
 Lebanon Plumbing Supply Co., Inc., Lebanon, Pa.  
 Levy, Will, St. Louis, Mo.  
 Lissberger & Son, Inc., Marks, Long Island City, N. Y.  
 Main Supply Co., The, Cincinnati, Ohio.  
 Maine, University of, Department of Chemistry and Chemical Engineering, Orono, Maine. (In principle.)  
 Malone Plumbing Supply Co., S. S., Pittsburgh, Pa.  
 Mann & Co., Hutchinson, Kans. (In principle.)  
 Martin & Son, A. Oscar, Doylestown, Pa.  
 Massena & duPont, Wilmington, Del.  
 Mauran, Russell, Crowell & Mullgardt, St. Louis, Mo.  
 Messer Co., James A., Washington, D. C.  
 Meyer, Gerber Plumbing & Heating Supply Co., Chicago, Ill.  
 Mid-West Supply Co., Chicago, Ill.

- Miller & Yeager, Terre Haute, Ind.  
 Milwaukee Lead Works, Milwaukee, Wis.  
 Mineola Plumbing Supply Co., Inc., Mineola, N. Y.  
 Mission Pipe & Supply Co., San Diego, Calif.  
 Mitchell, Charles J., Providence, R. I.  
 Molther, F. R., Ancon, Canal Zone.  
 Montgomery Ward & Co., Chicago, Ill.  
 Muhlenberg Bros., Reading, Pa.  
 Mundie, Jensen, Bourke & Havens, Chicago, Ill.  
 Murdock Manufacturing & Supply Co., The, Cincinnati, Ohio.  
 Murphy, Inc., J. L., New York, N. Y.  
 Murray, Earl O., Birmingham, Ala.  
 National Lead Co., New York, N. Y.  
 Nelson Co., N. O., St. Louis, Mo.  
 Neptune Supply Corporation, Atlantic City, N. J.  
 New Jersey Engineering & Supply Co., Passaic, N. J.  
 New Mexico State College of A-M. A., State College, N. Mex. (In principle.)  
 Nichols, Edward J., Madison, Nebr.  
 North American Smelting Co., Inc., Philadelphia, Pa.  
 North Side Plumbing & Heating, Indianapolis, Ind.  
 Northern Indiana Supply Co., Inc., Kokomo, Ind.  
 Northwest Lead Co., Seattle, Wash.  
 O'Rourke Plumbing & Heating Co., W. R., Walla Walla, Wash.  
 Pancoast, Russell T., Miami Beach, Fla.  
 Penn Reading Supply Co., Reading, Pa.  
 Penniman & Browne, Baltimore, Md.  
 Pepper, Geo. W., Jr., Philadelphia, Pa.  
 Philadelphia Electric Co., Philadelphia, Pa.  
 Pitkin, Inc., Lucius, New York, N. Y. (In principle.)  
 Plumbing Wholesale Co., Jackson, Miss.  
 Proudfoot Rawson—Brooks & Borg, Des Moines, Iowa.  
 Public Service Electric & Gas Co., Newark, N. J.  
 Raffel's Plumbing & Heating Supply House, Chicago, Ill.  
 Rayl Co., Detroit, Mich.  
 Reese & Co., Reading, Pa.  
 Ritchie & Associates, James H., Boston, Mass.  
 Rochester Lead Works, Inc., Rochester, N. Y.  
 Rockford Plumbing Supply Co., Rockford, Ill.  
 Rom Co., The Robert, Milwaukee, Wis.  
 Ross-Willoughby Co., The, Columbus, Ohio.  
 Sales & Co., Murray W., Detroit, Mich.  
 Schoeppe, Edward, Philadelphia, Pa.  
 Schulzke, William H., Moline, Ill.  
 Sears, Roebuck & Co., Chicago, Ill.  
 Seashore Supply Co., Atlantic City, N. J.  
 Sidells, Arthur F., & Ellis M. Keppel, Warren, Ohio.  
 Sleeper, Harold R., New York, N. Y.  
 Smith, Emery & Co., San Francisco, Calif.  
 Smolka Co., Inc., New York, N. Y.  
 Southern California Edison Co., Ltd., Los Angeles, Calif.  
 Southern California Telephone Co., Los Angeles, Calif.  
 Specification Record, Chicago, Ill.  
 Standard Plumbing Supply Co., Inc., Minneapolis, Minn.  
 State Plumbing Supply Co., Philadelphia, Pa.  
 Staten Island Edison Corporation, St. George, Staten Island, N. Y.  
 Staten Island Supply Co., Inc., W. New Brighton, Staten Island, N. Y.  
 Staub, John F., Houston, Tex.  
 Steinmann, Robert, Cincinnati, Ohio.  
 Summers Hardware & Supply Co., Johnson City, Tenn.  
 Sun Oil Co., Philadelphia, Pa., and Marcus Hook, Pa.  
 Tallman Co., University City, Mo.  
 Taylor, Ellery K., Haddonfield, N. J.  
 Taylor & Wheeler, Fresno, Calif.  
 Tennessee Copper Co., Copperhill, Tenn.  
 Thorne, Henry Calder, Ithaca, N. Y.  
 Thornley Supply Co., The, Pawtucket, R. I.  
 Toye Supply Co., E. W., Winona, Minn.  
 Twining Laboratories, The, Fresno, Calif.  
 Van Denberg Supply Co., Rockford, Ill.  
 Victory White Metal Co., The, Cleveland, Ohio.  
 Vogel, Willis A., Toledo, Ohio.  
 Vogel & Sons Co., P. A., Louisville, Ky.  
 Wanner Bros, Baltimore, Md.  
 Warren Balderston Co., Trenton, N. J.  
 Warren Plumbers Supply Co., Inc., Jersey City, N. J.  
 Weber & Co., Inc., C. L., Philadelphia, Pa.  
 Weil-McLain Co., Chicago, Ill.  
 Welch, Carroll E., Huntington, N. Y.  
 Wensley Metal Products Co., Denver, Colo.  
 Westchester Square Plumbing Supply Co., Inc., New York, N. Y.  
 Whitaker, Courtney L., Dravosburg, Pa.  
 Wischmeyer, William F., St. Louis, Mo.  
 Wisconsin Electric Power Co., Milwaukee, Wis.  
 Wood & Son, E. J., Clarksburg, W. Va.  
 Woolcock Plumbing & Heating Co., Niagara Falls, N. Y.  
 Worthington Co., The Geo., Cleveland, Ohio.  
 Wright & Wright, Detroit, Mich. (In principle.)  
 Yelton-Weaver Supply Co., Springfield, Ill.



Young Gasoline & Refining Co., The,  
Lexington, Ky. (In principle.)  
Zimmerman, A. C., Pasadena, Calif.

U. S. GOVERNMENT

Agriculture, United States Department  
of, Washington, D. C.

Federal Loan Agency, Federal Housing  
Administration, Washington, D. C.  
Guam, Government of, Guam.  
Treasury Department, Washington,  
D. C.  
Veterans Administration, Washington,  
D. C.  
War Department, Washington, D. C.

# COMMERCIAL STANDARDS

CS No.	ITEM	CS No.	ITEM
0-40.	Commercial standards and their value to business (third edition).	51-35.	Marking articles made of silver in combination with gold.
1-32.	Clinical thermometers (second edition).	52-35.	Mohair pile fabrics (100-percent mohair plain velvet, 100-percent mohair plain frieze, and 50-percent mohair plain frieze).
2-30.	Mopsticks.	53-35.	Colors and finishes for cast stone.
3-40.	Stoddard solvent (third edition).	54-35.	Mattresses for hospitals.
4-29.	Staple porcelain (all-clay) plumbing fixtures.	55-35.	Mattresses for institutions.
5-40.	Pipe nipples; brass, copper, steel, and wrought iron.	56-41.	Oak flooring (second edition).
6-31.	Wrought-iron pipe nipples (second edition). Superseded by CS5-40.	57-40.	Book cloths, buckrams, and impregnated fabrics for bookbinding purposes except library bindings (second edition).
7-29.	Standard weight malleable iron or steel screwed unions.	58-36.	Woven elastic fabrics for use in overalls (overall elastic webbing).
8-41.	Gage blanks (third edition).	59-41.	Woven textile fabrics—testing and reporting (third edition).
9-33.	Builders' template hardware (second edition).	60-36.	Hardwood dimension lumber.
10-29.	Brass pipe nipples. Superseded by CS5-40.	61-37.	Wood-slat venetian blinds.
11-41.	Moisture regains of cotton yarns (second edition).	62-38.	Colors for kitchen accessories.
12-40.	Fuel oils (fifth edition).	63-38.	Colors for bathroom accessories.
13-39.	Dress patterns (second edition).	64-37.	Walnut veneers.
14-39.	Boys' button-on waists, shirts, junior and polo shirts (made from woven fabrics) (second edition).	65-38.	Wool and part-wool fabrics.
15-29.	Men's pajamas.	66-38.	Marking of articles made wholly or in part of platinum.
16-29.	Wall paper.	67-38.	Marking articles made of karat gold.
17-42.	Diamond core drill fittings (third edition).	68-38.	Liquid hypochlorite disinfectant, deodorant, and germicide.
18-29.	Hickory golf shafts.	69-38.	Pine oil disinfectant.
19-32.	Foundry patterns of wood (second edition).	70-41.	Phenolic disinfectant (emulsifying type) (second edition) (published with CS71-41).
20-36.	Staple vitreous china plumbing fixtures (second edition).	71-41.	Phenolic disinfectant (soluble type) (second edition) (published with CS70-41).
21-39.	Interchangeable ground-glass joints, stopcocks, and stoppers (fourth edition).	72-38.	Household insecticide (liquid spray type).
22-40.	Builders' hardware (nontemplate) (second edition).	73-38.	Old growth Douglas fir standard stock doors.
23-30.	Feldspar.	74-39.	Solid hardwood wall paneling.
24-30.	Standard screw threads.	75-39.	Automatic mechanical draft oil burners.
25-30.	Special screw threads.	76-39.	Hardwood interior trim and molding.
26-30.	Aromatic red cedar closet lining.	77-40.	Sanitary cast-iron enameled ware.
27-36.	Mirrors (second edition).	78-40.	Ground-and-polished lenses for sun glasses (second edition) (published with CS79-40).
28-32.	Cotton fabric tents, tarpaulins, and covers.	79-40.	Blown, drawn, and dropped lenses for sun glasses (second edition) (published with CS78-40).
29-31.	Staple seats for water-closet bowls.	80-41.	Electric direction signal systems other than semaphore type for commercial and other vehicles subject to special motor vehicle laws (after market).
30-31.	Colors for sanitary ware.	81-41.	Adverse-weather lamps for vehicles (after market).
31-38.	Wood shingles (fourth edition).	82-41.	Inner-controlled spotlamps for vehicles (after market).
32-31.	Cotton cloth for rubber and pyroxylin coating.	83-41.	Clearance, marker, and identification lamps for vehicles (after market).
33-32.	Knit underwear (exclusive of rayon).	84-41.	Electric tail lamps for vehicles (after market).
34-31.	Bag, case, and strap leather.	85-41.	Electric license-plate lamps for vehicles (after market).
35-31.	Plywood (hardwood and eastern red cedar).	86-41.	Electric stop lamps for vehicles (after market).
36-33.	Fourdrinier wire cloth (second edition).	87-41.	Red electric warning lanterns.
37-31.	Steel bone plates and screws.	88-41.	Liquid-burning flares.
38-32.	Hospital rubber sheeting.	89-40.	Hardwood stair treads and risers.
39-37.	Wool and part wool blankets (second edition). (Withdrawn as commercial standard, July 14, 1941.)	90-.	(Reserved for power shovels and cranes).
40-32.	Surgeons' rubber gloves.	91-41.	Factory fitted Douglas fir entrance doors.
41-32.	Surgeons' latex gloves.	92-41.	Cedar, cypress and redwood tank stock lumber.
42-35.	Fiber insulating board (second edition).	93-41.	Portable electric drills (exclusive of high frequency).
43-32.	Grading of sulphonated oils.	94-41.	Calking lead.
44-32.	Apple wraps.	95-41.	Lead pipe.
45-40.	Douglas fir plywood (domestic grades) (fourth edition).	96-41.	Lead traps and bends.
46-40.	Hosiery lengths and sizes (third edition).		
47-34.	Marking of gold-filled and rolled-gold-plate articles other than watch cases.		
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.		

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 Division of Trade Standards, National Bureau of Standards, Washington, D. C.

