

“STANDARD GRADE” HOT-DIPPED GALVANIZED WARE

(Coated After Fabrication)

COMMERCIAL STANDARD CS161-49

Effective Date for New Production From November 1, 1949



**A RECORDED VOLUNTARY STANDARD
OF THE TRADE**

UNITED STATES DEPARTMENT OF COMMERCE

CHARLES SAWYER, Secretary

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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 "STANDARD GRADE" HOT-DIPPED GALVANIZED WARE

On January 5, 1948, a commercial standard for "Standard Grade" hot-dipped galvanized ware, as developed and proposed by the Galvanized Ware Manufacturers Council, was submitted to manufacturers, distributors, and users for approval or comment. The industry and others concerned have since accepted and approved this standard, shown herein.

COMMERCIAL STANDARD CS161-49
for
"STANDARD GRADE" HOT-DIPPED GALVANIZED
WARE
(Coated After Fabrication)

1. DEFINITION

1.1 The term "Standard Grade" as used herein means the usual commercially produced grade intended for ordinary domestic use, as differentiated from "Heavy Grade" or "Extra Heavy Grade."

2. PURPOSE

2.1 The purpose of this commercial standard is to establish minimum essential requirements for material, workmanship, and construction of the articles of hot-dipped galvanized ware listed in table 1, herein.

3. SCOPE

3.1 This commercial standard covers requirements for base metal and coating, workmanship, and important features of construction, and gives weights per dozen, finished. A recommended statement for indicating compliance with the standard is also given.

4. GENERAL REQUIREMENTS

4.1 *Material of base.*—The base metal of bodies, bottoms, bands, covers, stamped handles, and clips shall be a good grade of sheet steel having the strength, rigidity, and quality necessary for the production of hot-dipped galvanized ware conforming to this standard. Top wires, bails for pails, and wire handles shall be of drawn-steel wire. Rivets shall be of high-grade soft steel.

4.2 *Composition of bath.*—The zinc bath shall contain less than 2 percent total of elements other than zinc.

4.3 *Workmanship and appearance.*—Workmanship shall be such as to insure the production of articles free from defects impairing their watertightness (when intended for holding liquids), serviceability, or durability. All rivets shall be securely set and all welds shall be sound and smooth.

5. DETAIL REQUIREMENTS

5.1 *Sizes and items.*—Capacities, dimensions, nominal sizes, and weights of the items covered by this standard shall be as set forth in table 1.

TABLE 1. Hot-dipped galvanized ware ("Standard Grade" items only)

Item	Nominal size	Minimum capacity or dimension	Minimum weight per dozen, finished
			<i>Lb and p</i>
Water pails.....	10 qt.....	9.6 qt.....	21
	12 qt.....	11.5 qt.....	25
	14 qt.....	13.5 qt.....	28
Round tubs:			
No. 0.....	8 gal.....	7.75 gal.....	50
No. 1.....	11 gal.....	11.0 gal.....	66
No. 2.....	14 gal.....	13.75 gal.....	80
No. 3.....	17 gal.....	17.0 gal.....	95
Scrub tubs.....	4 gal.....	4.0 gal.....	28
	4 gal.....	3.75 gal.....	50
	6 gal.....	5.75 gal.....	60
	8 gal.....	7.75 gal.....	77
Garbage and ash cans and garbage pails.....	10 gal.....	9.5 gal.....	86
	15 gal.....	14.5 gal.....	120
	20 gal.....	19.5 gal.....	140
	25 gal.....	24.0 gal.....	175
	32 gal.....	31.0 gal.....	195
Coal hods (open style).....	16 in.....	15½ in.....	31
	17 in.....	16½ in.....	36
	18 in.....	17½ in.....	39
Baskets.....	½ bu.....	½ bu.....	49
	1 bu.....	1 bu.....	64
	1½ bu.....	1½ bu.....	80
Measures (grain and feed).....	½ bu.....	½ bu.....	40

5.2 *Coating*.—After fabrication and cleaning, each article shall be completely coated by the hot-dip process. The coating shall be smooth, continuous, and thorough. It shall be free from such imperfections as lumps, slivers, blisters, gritty areas, uncoated spots, acid and black spots, dross and flux, and shall have clean bright-spangled surfaces.

5.2.1 *Adherence of coating* shall be sufficiently tight to prevent removal by any ordinary use.

5.2.2 *Composition of coating*.—The coating shall be Prime Western zinc or its equal.

5.3 *Tightness*.—All articles intended to hold liquids shall be watertight when tested as described in paragraph 6.2.

5.4 *Attachments*.

5.4.1 *Top wires* shall be full length (not spliced), with ends butted together within ½ inch, and fully enclosed.

5.4.2 *Bails and bail ears, handles, and handle clips* shall be of ample strength and so attached that no permanent deformation shall occur when samples of the article are tested as described in paragraph 6.3.

6. METHODS OF INSPECTION AND TEST

6.1 *Inspection*.—Samples of galvanized ware, selected at random from each lot of each item produced (in no case fewer than one per thousand of the total quantity), shall be carefully inspected for defects in material, workmanship, and coating.

6.2 *Liquid-tightness*.—At least one sample representing a lot of each article intended to hold liquid shall be filled with water and

allowed to stand for 24 hours. To be acceptable under this test there shall be no indication of leakage during this period.

6.3 *Deformation.*—Samples of articles other than ash and garbage cans and garbage pails shall be completely filled with dry sand and suspended from the bail or handles for a period of 5 minutes; and samples of ash and garbage cans and garbage pails shall be similarly filled with dry sand to half capacity and suspended for a period of 5 minutes. Measurements shall be made before and after the test to determine whether any permanent deformation of bails or bail ears, of handles or handle clips, or of top diameter has occurred.

7. LABELING AND MARKING

7.1 *Compliance.*—In order that purchasers of hot-dipped galvanized ware may be assured that the articles comply with the applicable requirements of this standard, it is recommended that the following statement appear on labels affixed to the articles:

This "STANDARD GRADE" article of galvanized ware conforms to the requirements of Commercial Standard CS161-49, as developed by the trade under the procedure of the National Bureau of Standards, and issued by the United States Department of Commerce.

(Company name)

7.2 *Manufacturer's name or trade-mark.*—Each article of galvanized ware which bears a statement of compliance shall be impressed on the bottom with the manufacturer's name or identifying symbol.

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 November 1, 1949.

EDWIN W. ELY,
Chief, Commodity Standards Division.

9. HISTORY OF PROJECT

9.1 The Galvanized Ware Manufacturers Council, intent on improving the quality of their products, and desirous of taking a first step in that direction, requested the National Bureau of Standards to pass the manufacturers' proposed commercial standard through its regular procedure, and make available the means for steadily improving the program by regular revision.

9.2 After some modifications had been made in the suggested standard, a final draft was submitted to manufacturers, distributors, and users for consideration and approval.

9.3 Upon receipt of written acceptances estimated to represent a satisfactory majority of the production volume, and in the absence of

objections, the standard was promulgated as Commercial Standard CS161-49, effective for new production from November 1, 1949.

10. STANDING COMMITTEE

10.1 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, National Bureau of Standards, which acts as secretary for the committee.

Representing manufacturers:

- W. B. THOMAS, Galvanized Ware Manufacturers Council, 2130 Keith Building, Cleveland 15, Ohio. (acting chairman).
- E. P. ALTEMEIER, National Enameling & Stamping Co., 270 North Twelfth Street, Milwaukee 1, Wis.
- GEORGE FRITZ, JR., F. H. Lawson Co., Evans & Whateley Streets, Cincinnati 4, Ohio.
- LYNDON WILSON, Lisk-Savory Corp., 90 Alabama Street, Buffalo 4, N. Y.
- W. H. SCHLUETER, Schluter Manufacturing Co., 4616 North Broadway, St. Louis 7, Mo.

Representing distributors:

- THOMAS A. FERNLEY, JR., National Wholesale Hardware Association, 505 Arch Street, Philadelphia 6, Pa.
- RIVERS PETERSON, National Retail Hardware Association, 333 North Pennsylvania Street, Indianapolis 4, Ind.
- JOHN IMRIE, J. J. Newberry Co., 245 Fifth Avenue, New York 16, N. Y. (representing Limited Price Variety Stores Association, Inc.).
- J. E. SMAGAC, Sears, Roebuck & Co., Chicago, Ill.

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 CS161-49 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 "Standard Grade" hot-dipped galvanized ware. 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 this standard for use as far as practicable in the production, distribution, or purchase of "Standard Grade" hot-dipped galvanized ware. In accepting the standard, they reserved the right to depart therefrom as they individually deem advisable. It is expected that articles that 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 Hot Dip Galvanizers Association, Pittsburgh, Pa.
Galvanized Ware Manufacturers Council, Cleveland, Ohio.
Retail Hardware Association, Birmingham, Ala.

FIRMS AND OTHER INTERESTS

Ace Hardware Corp., Chicago, Ill.
Agnew Hardware Co., Everett, Wash.
Albany Hardware Co., Albany, Ga.
Albany Hardware & Iron Co., Albany, N. Y.
Albright's Hardware, Harrisburg, Pa.
Allen & Jemison Co., Tuscaloosa, Ala.
Allen, Walter H., Co., Inc., Dallas, Tex.
Allison-Erwin Co., Charlotte, N. C.
Amarillo Hardware Co., Amarillo, Tex.
American Hardware & Equipment Co., Charlotte, N. C.
American Wholesale Hardware Co., Long Beach, Calif.
Anderson & Ireland Co., Baltimore, Md.
Armstrong, C. E., & Sons, Clinton, Iowa.
Athens Hardware Co., Athens, Ga.
Atlantic Stamping Co., Rochester, N. Y.
Auburn Hardware, Inc., Auburn, Ind.
Aushman Hardware Co., Inc., Syracuse, N. Y.
Badger Paint & Hardware Stores, Inc., Milwaukee, Wis.
Baird Hardware Co., Gainesville, Fla.
Baker & Hamilton, San Francisco, Calif.
Ballou Johnson & Nichols Co., Providence, R. I.
Bard Hardware Co., Reading, Pa.
Barnett, G. W., Hardware Co., Montgomery, Ala.
Baron Hardware Co., New Castle, Pa.
Bartow Mansfield Co., Jonesboro, Ark.
Bayonne Steel Products Co., Newark, N. J.
Belknap Hardware & Manufacturing Co., Inc., Louisville, Ky.
Bering Cortes Hardware Co., Houston, Tex.
Bigelow & Dowse Co., Boston, Mass.
Biggs Kurtz Co., Grand Junction, Colo.
Blish, Mize & Silliman Hardware Co., Atchison, Kans.
Bluefield Supply Co., Bluefield, W. Va.
Blumberg, Wm. L., Co., Inc., New York, N. Y.
Boetticher & Kellogg Co., Inc., Evansville, Ind.
Bostwick-Braun Co., Toledo, Ohio.
Bragg, N. H., & Sons, Bangor, Maine.
Breck, Joseph, & Sons Corp., Boston, Mass.
Brown Lyach Scott Co., Inc., Monmouth, Ill.
Brown-Rogers-Dixon, Winston-Salem, N. C.
Bry-Block Mercantile Corp., Memphis, Tenn.
Buck, Peter E., & Sons, Ashland, Pa.
Budge, Frank T., Co., Miami, Fla.
Buhman-Pharr Hardware Co., Texarkana, Ark.
Burhans & Black, Inc., Syracuse, N. Y.
Burkhead Manufacturing Co., Houston, Tex.
Buyrn, Old & Eaton, Inc., Norfolk, Va.
Carlisle Hardware Co., Springfield, Mass.
Carolina Hardware Co., Raleigh, N. C.
Carpenter Hardware Co., Athens, Ohio.
Carson Pirie Scott & Co., Chicago, Ill.
Central Hardware Co., St. Louis, Mo.

Centre Hardware Co., Roslindale, Mass.
Charleston Hardware Co., Charleston, W. Va.
Charlottesville Hardware Co., Charlottesville, Va.
Chillicothe Hardware & Supply, Inc., Chillicothe, Ohio.
Cincinnati Galvanizing Co., Cincinnati, Ohio.
Cloverdale Hardware & Lumber Co., Cloverdale, Ind.
Cole, Wm. H., & Sons, Baltimore, Md.
Colladay, Frank, Hardware Co., Hutchinson, Kans.
Collins, J. S., & Son, Inc., Morristown, N. J.
Columbia University, Teachers College, New York, N. Y.
Conron, Inc., Danville, Ill.
Corpus Christi Hardware Co., Corpus Christi, Tex.
Crescent Supply Co., Marietta, Ohio.
Crunden Martin Manufacturing Co., St. Louis, Mo.
Cutler Hardware Co., Waterloo, Iowa.
Dakota Hardware Co., Fargo, N. Dak.
Danser Hardware & Supply Co., Weston, W. Va.
Davis Hardware Co., Gardner, Mass.
Delta Hardware Co., Escanaba, Mich.
Delta Hardware & Implement Co., Clarksdale, Miss.
Dinkins-Davidson Hardware Co., Atlanta, Ga.
Disbrow & Co., Omaha, Nebr.
Donnan, W. S., Hardware Co., Richmond, Va.
Dreisbach's, C., Sons, Inc., Lewisburg, Pa.
Duer, John, & Sons, Inc., Baltimore, Md.
Duncan, Henry, Corp., Everett, Mass.
Dunham, Hanson Co., Bangor, Maine.
Durango Mercantile Co., Durango, Colo.
Dutton-Lainson Co., Hastings, Nebr.
Edwards & Walker Co., Portland, Maine.
Elder-Conroy Hardware Co., Clarksville, Tenn.
Emery-Waterhouse Co., Portland, Maine.
Emmons Hawkins Hardware Co., Huntington, W. Va.
Erb Hardware Co., Lewiston, Idaho.
Fair, D. J., Lumber Co., Sterling, Kans.
Farwell Ozmun Kirk & Co., St. Paul, Minn.
Fitchburg Hardware Co., Fitchburg, Mass.
Fones Bros. Hardware Co., Little Rock, Ark.
Fort Plain Hardware, Fort Plain, N. Y.
Foster, F. G., Co., Hoquiam, Wash.
Franke, C. D., & Co., Inc., Charleston, S. C.
Franklin Hardware Co., New York, N. Y.
Franklin Hardware & Supply Co., Philadelphia, Pa.
Fulton, Mehring & Hauser Co., Inc., York, Pa.
Gamble-Skogmo, Inc., Minneapolis, Minn.
Gates Hardware & Supply Co., Tulsa, Okla.
General Electric Co., Bridgeport, Conn.
General Hardware & Supply Co., Phillipsburg, Pa.
General Metalware Co., Minneapolis, Minn.
Gender, Paeschke & Frey Co., Milwaukee, Wis.
Goldenblum, William, & Co., New York, N. Y.
Gould, L., & Co., Inc., Chicago, Ill.
Graves Humphreys Hardware Co., Roanoke, Va.
Greenhut & Co., Chicago, Ill.
Greer & Laing, Wheeling, W. Va.
Hagan Hardware & Paint Co., Burlington, Vt.
Hager & Bro., Lancaster, Pa.
Hall Hardware Co., Minneapolis, Minn.
Hall & Knight Hardware Co., Lewiston, Maine.
Harco Hardware Co., Cleveland, Ohio.
Harper & McIntire Co., Cedar Rapids, Iowa.
Harper & Reynolds Corp., Los Angeles, Calif.

- Harris Ace Store, Janesville, Wis.
Harris Hardware Co., Washington, N. C.
Harris Hardware & Supply Co., Kingston, Pa.
Hassco, Inc., Denver, Colo.
Haw Hardware Co., Ottumwa, Iowa.
Haynes & Chalmers Co., Bangor, Maine.
Heberlein, L. H., Inc., Brooklyn, N. Y.
Heilig Bros. Co., Inc., York, Pa.
Helena Hardware Co., Helena, Mont.
Henderson & Baird Hardware Co., Greenwood, Miss.
Hendrie & Bolthoff Co., Denver, Colo.
Henkle & Joyce Hardware Co., Lincoln, Nebr.
Herr & Co., Inc., Lancaster, Pa.
Herrnstein Hardware, Chillicothe, Ohio.
Hibbard, Spencer, Bartlett & Co., Chicago, Ill.
Higginbotham-Pearlstone Hardware Co., Dallas, Tex.
Hobbs, W. H., Supply Co., Eau Claire, Wis.
Holter, A. M., Hardware Co., Helena, Mont.
House-Hasson Hardware Co., Knoxville, Tenn.
Hubbard, Geo. W., Hardware Co., Flint, Mich.
Hulfish, Worth, & Sons, Inc., Alexandria, Va.
Hunt & Mottet Co., Tacoma, Wash.
Ifield, Chas., Co., Santa Fe and Las Vegas, N. Mex.
Imperial Hardware Co., El Centro, Calif.
Interstate Hardware Co., Inc., Bristol, Tenn.
Jacobs & Hutchinson Hardware Co., Fairmont, W. Va.
Janney Semple Hill & Co., Minneapolis, Minn.
Jellico Hardware Co., Jellico, Tenn.
Jennison Hardware Co., Bay City, Mich.
Jensen-Byrd Co., Spokane, Wash.
Johnson & Co., Langdale, Ala.
Johnson Hardware Co., Clarksburg, W. Va.
Kaminski Hardware Co., Georgetown, S. C.
Keith Simmons Co., Inc., Nashville, Tenn.
Kelley-How-Thomson Co., Duluth, Minn.
Kleinhardt Hardware Co., New York, N. Y.
Knapp & Spencer Co., Sioux City, Iowa.
Korber, J., & Co., Albuquerque, N. Mex.
Kruse Hardware Co., Cincinnati, Ohio.
Lake Erie Hardware Co., Cleveland, Ohio.
Lampert Lumber Co., St. Paul, Minn.
Larrabee, John E., Co., Inc., Amsterdam, N. Y.
Larsen Hardware Co., Moorhead, Minn.
Larson Hardware Co., Sioux Falls, S. Dak.
Lawson, F. H., Co., Cincinnati, Ohio.
Lee Hardware Co., Salina, Kans.
Lee Hardware Co., Ltd., Shreveport, La.
Lewis & Bennett Hardware Co., Wilkes-Barre, Pa.
Lewis Lumber Co., Asbury Park, N. J.
Lilien Hardware & Supply Corp., Long Island City, N. Y.
Lisk-Savory Corp., Buffalo, N. Y.
Little River Hardware Co., Miami, Fla.
Logan-Gregg Hardware Co., Pittsburgh, Pa.
Logan Hardware & Supply Co., Logan, W. Va.
Longacre Hardware & Electric Co., Inc., New York, N. Y.
Louisville Tin & Stove Co., Louisville, Ky.
Lovett & Tharpe Hardware Co., Dublin, Ga.
Lowe, Geo. A., Co., Ogden, Utah.
Madison Hardware Co., Madison, Wis.
Mahowald Cycle Co., Mankato, Minn.
Maison Blanche Co., New Orleans, La.
Marion Hardware & Supply Co., Inc., Marion, Va.
Marshall-Wells Co., Duluth, Minn.
Massey Hardware Co., Conway, Ark.
Maxwell Wholesale Hardware Co., Oakland, Calif.
May Hardware Co., Portland, Oreg.
May Hardware Co., Washington, D. C.
McGowin-Lyons Hardware & Supply Co., Mobile, Ala.
McGregor Hardware Co., Springfield, Mo.
McKee, R. D., Hagerstown, Md.
McPhillips Manufacturing Co., Inc., Mobile, Ala.
Melton Hardware Co., Meridian, Miss.
Michigan Hardware Co., Grand Rapids, Mich.
Midland Coal & Lumber Co., Miles City, Mont.
Miller Bros. Hardware Co., Richmond, Ind.
Miller, C. H., Hardware Co., Huntingdon, Pa.
Missoula Mercantile Co., Missoula, Mont.
Mitchell Powers Hardware Co., Bristol, Va.
Monroe Hardware Co., Monroe, N. C.
Montana Hardware Co., Butte, Mont.
Moore-Handley Hardware Co., Inc., Birmingham, Ala.
Morehouse & Wells Co., Decatur, Ill.
Morley Bros., Saginaw, Mich.
Morris Hardware & Paint Co., New York, N. Y.
Morrow-Thomas Hardware Co., Amarillo, Tex.
Morse Hardware Co., Bellingham, Wash.
Mueller & Wendt, Hudson, Wis.
Murtz & Lea Co., Elgin, Ill.
Murchison, J. W., Co., Inc., Wilmington, N. C.
Murray-Brooks, Inc., Lake Charles, La.
Myer-Bridge's Co., Inc., Louisville, Ky.
Myers, M. P., & Co., Inc., Plattsburg, N. Y.
Nash Hardware Co., Fort Worth, Tex.
Nelson Hardware Co., Roanoke, Va.
N. H. Hardware & Plumbing Supply Co., Manchester, N. H.
Newberry's Hardware Co., Alliance, Nebr.
Northern Commercial Co., Seattle, Wash.
Northern Hardware & Supply Co., Menominee, Mich.
Northern Wholesale Hardware Co., Portland, Oreg.
Norton Hardware Co., Norton, Va.
O'Connell, J. T., Inc., Newport, R. I.
Odell Hardware Co., Greensboro, N. C.
Ohio Valley Hardware & Roofing Co., Evansville, Ind.
Oklahoma City Hardware Co., Oklahoma City, Okla.
O'Neil, M., Co., Akron, Ohio.
O'Neill McNamara Hardware Co., Vicksburg, Miss.
Oregon Hardware Distributors, Bend, Oreg.
Overbeck-Heyman Co., San Francisco, Calif.
Page, Steele & Flagg Co., New Haven, Conn.
Paxton & Gallagher Co., Omaha, Nebr.
Pearlstone Hardware Co., St. Matthews, S. C.
Pearlstone, I. M., & Sons, Charleston, S. C.
Peavey, L. L., Co., Inc., Portsmouth, N. H.
Peck, Geo. W., Co., Bath, N. Y.
Peden Iron & Steel Co., Houston, Tex.
Pensacola Hardware Co., Pensacola, Fla.
Peterson Lumber Co., El Paso, Tex.
Phillips, I. W., & Co., Tampa, Fla.
Piedmont Hardware Co., Danville, Va.
Pierce Hardware Co., Taunton, Mass.
Porter, E. R., Hardware Co., Dothan, Ala.
Pottsville Supply Co., Inc., Pottsville, Pa.
Pritzlaff, John, Hardware Co., Milwaukee, Wis.
Pruzman, H. C., Co., Inc., Altoona, Pa.
Reeves Steel & Manufacturing Co., Dover, Ohio.
Reilly Bros. & Raub, Lancaster, Pa.
Rex Supply Co., Pittsburgh, Pa.
Rice & Miller Co., Bangor, Maine.
Richards & Conover Hardware Co., Kansas City, Mo.
Richardson Lumber Co., Forest City, Mo.
Richmond Hardware Co., Richmond, Va.
Roanoke Hardware Co., Roanoke, Va.
Roberts, Sanford & Taylor Co., Sherman, Tex.
Rochester Can Co., Rochester, N. Y.
Rogers & Baldwin Hardware Co., Springfield, Mo.
Rohrbach Hardware Supply Co., Inc., Scranton, Pa.
Rome Hardware Co., Inc., Rome, Ga.
Royal Oak Wholesale Co., Royal Oak, Mich.
Saginaw Hardware Co., Saginaw, Mich.
San Jose Hardware Co., San Jose, Calif.
Schafer Co., Inc., Decatur, Ind.
Schelly, C. Y., & Bro., Inc., Allentown, Pa.
Schlaffer's, Inc., Appleton, Wis.
Schlatter Hardware Co., Fort Wayne, Ind.
Schlueter Manufacturing Co., St. Louis, Mo.
Schuster, Ed., & Co., Inc., Milwaukee, Wis.
Schwabacher Hardware Co., Seattle, Wash.
Sears, Roebuck & Co., Chicago, Ill.
Seattle Hardware Co., Seattle, Wash.
Sechtman Hardware Co., Inc., Hartford, Conn.
Seller Bros. & Co., San Francisco, Calif.
Semer Bros. Hardware Co., Inc., Newark, N. J.
Shapleigh Hardware Co., St. Louis, Mo.
Sharp-Horsely Hardware Co., Atlanta, Ga.
Sheffield Hardware Co., Americus, Ga.
Shepard, Clark Co., Boston, Mass.
Shields & Brother, Philadelphia, Pa.
Siler City Hardware Co., Siler City, N. C.
Small, P. A. & S., Co., Inc., York, Pa.
Smith-Comstock Co., Inc., Bridgeport, Conn.

Smith, Timothy, Co., Boston, Mass.
 Southern Hardware Co., Charleston, W. Va.
 Southern Hardware Co., Ltd., Monroe, La.
 Specification Record, Chicago, Ill.
 Spicola Hardware Co., Tampa, Fla.
 Spiegel, Inc., Chicago, Ill.
 Stangel, J. J., Hardware Co., Manitowoc, Wis.
 Stauffer, Eshleman & Co., Ltd., New Orleans, La.
 Steinman Hardware Co., Lancaster, Pa.
 Stichter Hardware Co., Inc., Reading, Pa.
 Stowe Hardware & Supply Co., Kansas City, Mo.
 Strange-Jones Hardware Co., Clinton, Okla.
 Stratton & Terstege Co., Louisville, Ky.
 Stratton-Warren Hardware Co., Memphis, Tenn.
 Strevel Paterson Hardware Co., Salt Lake City, Utah.
 Summers Hardware & Supply Co., Johnson City, Tenn.
 Swank Hardware Co., Johnstown, Pa.
 Talladega Hardware Co., Talladega, Ala.
 Tenk Hardware Co., Quincy, Ill.
 Thalhimers Bros., Richmond, Va.
 Thomas & Sons, Inc., Boonsboro, Md.
 Thompson, H. D., & Co., Malone, N. Y.
 Thompson Hardware Co., Lowell, Mass.
 Thompson-Miller Hardware Corp., Charleston, S. C.
 Thompson, W. A. L., Hardware Co., Topeka, Kans.
 Towner Hardware Co., Muskegon, Mich.
 Tracy-Wells Co., Columbus, Ohio.
 Tryon, Edw. K., Co., Philadelphia, Pa.
 Van Camp Hardware & Iron Co., Indianapolis, Ind.
 Vance Co., Inc., Chilhowie, Va.
 Van Hoogenhuyze, Wm., Hardware Co., San Antonio, Tex.
 Yan Kleek Co., Panama City, Fla.
 Varick, John B., Co., Manchester, N. H.
 Vaughn, Geo. C., & Sons, Houston, Tex.
 Wade Hardware Co., Greenwood, Miss.
 Wagner Hardware Co., Mansfield, Ohio.
 Waite Hardware Co., Worcester, Mass.

Watkins Cottrell Co., Richmond, Va.
 Watters & Martin, Inc., Norfolk, Va.
 Watts Hardware & Supply Co., San Antonio, Tex.
 Weakley-Watson-Miller Hardware Co., Brownwood, Tex.
 Weed & Co., Buffalo, N. Y.
 Western Metal Supply Co., San Diego, Calif.
 Western Windmill Co., Sweetwater, Tex.
 Wetherbee, Geo. C., & Co., Detroit, Mich.
 Whaley Hardware Inc., Painesville, Ohio.
 Wholesale Hardware Co., Inc., New York, N. Y.
 Wiant & Barr Hardware Co., Parkersburg, W. Va.
 Williams Hardware Co., Fort Smith, Ark.
 Williams, J. A., Co., Pittsburgh, Pa.
 Williamson, Ben, & Co., Inc., Ashland, Ky.
 Wilson & Pugh Co., Cumberland, Md.
 Wimberly & Thomas Hardware Co., Inc., Birmingham, Ala.
 Winter Hardware Co., Billings, Mont.
 Wirtz Bros. Hardware Supply, Chicago, Ill.
 Witbeck, Clark, Co., Schenectady, N. Y.
 Witt Cornice Co., Cincinnati, Ohio.
 Witte Hardware Corp., St. Louis, Mo.
 Woodbury Hardware Co., Portland, Oreg.
 Woodring, Jere, & Co., Hazleton, Pa.
 Woodward Hardware Co., Cairo, Ill.
 Woodward, Wm. W., Hardware Co., Newton, N. J.
 Woodward, Wight & Co., Ltd., New Orleans, La.
 Woodwell, Joseph, Co., Pittsburgh, Pa.
 Worthington, Geo., Co., Cleveland, Ohio.
 Wyatt, Job P., & Sons Co., Raleigh, N. C.
 Young, M. S., & Co., Allentown, Pa.
 ZCMI Wholesale Hardware Division, Salt Lake City, Utah.

U. S. GOVERNMENT

Department of the Army, Logistics Division, 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.
1-42.	Clinical thermometers (third 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-day) plumbing fixtures.	55-35.	Mattresses for institutions.
5-46.	Pipe nipples; brass, copper, steel, and wrought-iron (second edition).	56-49.	Oak flooring (third edition).
6-31.	Wrought-iron pipe nipples (second edition). Superseded by CS5-46.	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).	59-44.	Textiles—testing and reporting (fourth edition).
9-33.	Builders' template hardware (second edition).	60-48.	Hardwood dimension lumber (second edition).
10-29.	Brass pipe nipples. Superseded by CS5-46.	61-37.	Wood-slat venetian blinds.
11-41.	Moisture regains of cotton yarns (second edition).	62-38.	Colors for kitchen accessories.
12-48.	Fuel oils (sixth edition).	63-38.	Colors for bathroom accessories.
13-44.	Dress patterns (fourth edition).	64-37.	Walnut veneers.
14-43.	Boys' button-on waists, shirts, junior and sport shirts (made from woven fabrics) (third edition).	65-43.	Methods of analysis and of reporting fiber composition of textile products (second edition).
15-46.	Men's pajama sizes (made from woven fabrics) (third edition).	66-38.	Marking of articles made wholly or in part of platinum.
16-29.	Wall paper.	67-38.	Marking articles made of karat gold.
17-47.	Diamond core drill fittings (fourth 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).
20-49.	Vitreous china plumbing fixtures (fifth 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).	73-48.	Old growth Douglas fir, Sitka spruce, and Western hemlock standard stock doors (fourth edition).
23-30.	Feldspar.	74-39.	Solid hardwood wall paneling.
24-43.	Screw threads and tap-drill sizes.	75-42.	Automatic mechanical draft oil burners designed for domestic installations (second edition).
25-30.	Special screw threads. Superseded by CS24-43.	76-39.	Hardwood interior trim and molding.
26-30.	Aromatic red cedar closet lining.	77-48.	Enameled cast iron plumbing fixtures (second edition).
27-36.	Mirrors (second edition).	78-40.	Ground-and-polished lenses for sun glasses (second edition) (published with CS79-40).
28-46.	Cotton fabric tents, tarpaulins, and covers (second edition).	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. (Withdrawn as commercial standard, March 15, 1948.)	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).
33-43.	Knit underwear (exclusive of rayon) (second edition).	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).
35-49.	Hardwood plywood (fourth edition).	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.)	90-49.	Power cranes and shovels.
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.
42-49.	Structural fiber insulating board (fourth edition).		
43-32.	Grading of sulphonated oils.		
44-32.	Apple wraps.		
45-48.	Douglas fir plywood (eighth edition).		
46-49.	Hosiery lengths and sizes (fourth 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.		

CS No.	Item	CS No.	Item
93-41.	Portable electric drills (exclusive of high frequency).	129-47.	Materials for safety wearing apparel (second edition).
94-41.	Calking lead.	130-46.	Color materials for art education in schools.
95-41.	Lead pipe.	131-46.	Industrial mineral wool products, all types—testing and reporting.
96-41.	Lead traps and bends.	132-46.	Hardware cloth.
97-42.	Electric supplementary driving and passing lamps for vehicles (after market).	133-46.	Woven wire netting.
98-42.	Artists' oil paints.	134-46.	Cast aluminum cooking utensils (metal composition).
99-42.	Gas floor furnaces—gravity circulating type.	135-46.	Men's shirt sizes (exclusive of work shirts).
100-47.	Porcelain-enameled steel utensils (third edition).	136-46.	Blankets for hospitals (wool, and wool and cotton).
101-43.	Flue-connected oil-burning space heaters equipped with vaporizing pot-type burners.	137-46.	Size measurements for men's and boys shorts (woven fabrics).
102- .	(Reserved for Diesel and fuel-oil engines.)	138-47.	Insect wire screening.
103-48.	Rayon jacquard velour (with or without other decorative yarn) (second edition).	139-47.	Work gloves.
104-49.	Warm-air furnaces equipped with vaporizing type oil burners (third edition).	140-47.	Testing and rating convectors.
105-48.	Mineral wool insulation for low temperatures (second edition).	141-47.	Sine bars, blocks, plates, and fixtures.
106-44.	Boys' pajama sizes (woven fabrics) (second edition).	142-47.	Automotive lifts.
107-45.	Commercial electric-refrigeration condensing units (second edition). (Withdrawn as commercial standard September 4, 1947.)	143-47.	Standard strength and extra strength perforated clay pipe.
108-43.	Treading automobile and truck tires.	144-47.	Formed metal porcelain enameled sanitary ware.
109-44.	Solid-fuel-burning forced-air furnaces.	145-47.	Testing and rating hand-fired hot-water-supply boilers.
110-43.	Tire repairs—vulcanized (passenger, truck, and bus tires).	146-47.	Gowns for hospital patients.
111-43.	Earthenware (vitreous-glazed) plumbing fixtures.	147-47.	Colors for molded urea plastics.
112-43.	Homogeneous fiber wallboard.	148-48.	Men's circular flat and rib knit rayon underwear.
113-44.	Oil-burning floor furnaces equipped with vaporizing pot-type burners.	149-48.	Utility type house dress sizes.
114-43.	Hospital sheeting for mattress protection.	150-48.	Hot-rolled rail steel bars (produced from tee-section rails).
115-44.	Porcelain-enameled tanks for domestic use.	151-48.	Body measurements for the sizing of apparel for infants, babies, toddlers, and children (for the knit underwear industry).
116-44.	Bituminized-fibre drain and sewer pipe.	152-48.	Copper naphthenate wood-preserved.
117-49.	Mineral wool insulation for heated industrial equipment (second edition).	153-48.	Body measurements for the sizing of apparel for girls (for the knit underwear industry).
118-44.	Marking of jewelry and novelties of silver.	154- .	(Reserved for wire rope).
(E)119-45. ¹	Dial indicators (for linear measurements).	155-49.	Body measurements for the sizing of apparel for boys (for the knit underwear industry).
120-48.	Standard stock ponderosa pine doors (third edition).	156-49.	Colors for polystyrene plastics.
121-45.	Women's slip sizes (woven fabrics).	157-49.	Ponderosa pine and sugar pine plywood.
122-49.	Western softwood plywood (second edition).	158-49.	Model forms for girls' apparel.
123-49.	Grading of diamond powder (second edition).	159-49.	Sun-glass lenses made of ground and polished plate glass, thereafter thermally curved.
(E)124-45. ¹	Master disks.	160-49.	Wood-fiber blanket insulation (for building construction).
125-47.	Prefabricated homes (second edition).	161-49.	"Standard grade" hot-dipped galvanized ware.
126-45.	Tank-mounted air compressors.	162-49.	Tufted bedspreads.
127-45.	Self-contained mechanically refrigerated drinking water coolers.	163-49.	Standard stock ponderosa pine windows, sash, and screens.
128-49.	Men's sport shirt sizes—woven fabrics (other than those marked with regular neckband sizes) (second edition).		

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.

