

DEPARTMENT OF COMMERCE
BUREAU OF STANDARDS

STEEL PIPE NIPPLES

COMMERCIAL STANDARD CS5-29



ELIMINATION OF WASTE
Through
SIMPLIFIED COMMERCIAL PRACTICE

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1929

Below are described some of the series of publications of the Department of Commerce which deal with various phases of waste elimination.

Simplified Practice Recommendations.

These present in detail the development of programs to eliminate unnecessary variety in sizes, dimensions, styles, and types of over 100 commodities. They also contain lists of associations and individuals who have indicated their intention to adhere to the recommendations. These simplified schedules, as formulated and approved by the industries, are indorsed by the Department of Commerce.

Commercial Standards.

These are developed by various industries under a procedure similar to that of simplified practice recommendations. They are, however, primarily concerned with considerations of grade, quality, and such other characteristics as are outside the scope of dimensional simplification.

American Marine Standards.

These are promulgated by the American Marine Standards Committee, which is controlled by the marine industry and administered as a unit of the division of simplified practice. Their object is to promote economy in construction, equipment, maintenance, and operation of ships. In general, they provide for simplification and improvement of design, interchangeability of parts, and minimum requisites of quality for efficient and safe operation.

Lists of the publications in each of the above series can be obtained by applying to the Commercial Standards Group, Bureau of Standards, Washington, D. C.

DEPARTMENT OF COMMERCE
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STEEL PIPE NIPPLES.

COMMERCIAL STANDARD CS5-29
ELIMINATION OF WASTE SERIES

Effective Date January 1, 1929



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COMMERCIAL STANDARD CS5-29

ACCEPTED BY

ASSOCIATIONS

American Farm Bureau Federation.
American Hospital Association.
American Oil Burner Association (Inc.).
Building Officials' Conference of America.
Central Supply Association.
Eastern Supply Association.
Heating and Piping Contractors National Association.
National Association of Master Plumbers.
National Pipe and Supplies Association.
Pipe Nipple Standards Corporation, Chicago, Ill.

INDIVIDUALS

Atkins Manufacturing Co., H. C., St. Louis, Mo.
Baker Plumbing Co., Beaumont, Tex.
Baltimore Pipe & Nipple Co. (Inc.), Baltimore, Md.
Case & Son Manufacturing Co., W. A., Erie, Pa.
Central Steel Products Co., Clinton, Iowa.
Central Supply Co., Minneapolis, Minn.
Central Tube Co., Pittsburgh, Pa.
Chicago Nipple Manufacturing Co., Chicago, Ill.
Clow & Sons, James B., Chicago, Ill.
Fretz & Co., S. S., jr., Philadelphia, Pa.
Grabler Manufacturing Co., Cleveland, Ohio.
Illinois Malleable Iron Co., Chicago, Ill.
Iroquois Nipple Works, Buffalo, N. Y.
Jackwill Nipple Corporation, New York, N. Y.
Lansdale Nipple Co., Lansdale, Pa.
Lloyd's Register of Shipping, New York, N. Y.
Malitz & Son, R. C., Beaumont, Tex.
Messer Co. (Inc.), James A., Washington, D. C.

National Nipple Manufacturing Corporation, Chicago, Ill.
Nelson Manufacturing Co., N. O., St. Louis, Mo.
Norman & Co., Percy A., Tacoma, Wash.
Norwell Wilder Hardware Co., Beaumont, Tex.
Olson Co., Ben., Tacoma, Wash.
Pabst Co., Fred, Milwaukee, Wis.
Reid Plumbing Co., Tacoma, Wash.
Schafer Co., E. G., Washington, D. C.
Shoe-Letcher Co., Jersey City, N. J.
Smith Bros. Nipple Works, Hamburg, Pa.
Spang, Chalfant & Co. (Inc.), Pittsburgh, Pa.
Star Nipple Co., North Chicago, Ill.
Thompson, Roy E., Tacoma, Wash.
Vogel & Sons Co., P. A., Louisville, Ky.
Walworth Co., New York, N. Y.
Ware Coupling & Nipple Co., Ware, Mass.
Waynesboro Nipple Works (Inc.), Waynesboro, Pa.
Wilson Hardware Co., E. L., Beaumont, Tex.
Woodrow Nipple Manufacturing Co., Chicago, Ill.

GOVERNMENT

Department of Interior, Washington, D. C.
General Supply Committee, Washington, D. C.
Government of the District of Columbia, Washington, D. C.
National Home for Disabled Volunteer Soldiers, Dayton, Ohio.
Navy Department, Washington, D. C.
United States Department of Labor, Washington, D. C.
United States Shipping Board Merchant Fleet Corporation, Washington, D. C.
United States Treasury Department, Washington, D. C.

THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

BY SAMUEL JOHNSON

IN SEVEN VOLUMES

LONDON: Printed by A. MILLAR, in Pall-mall, 1742.



STEEL PIPE NIPPLES

COMMERCIAL STANDARD CS5-29

On June 29, 1928, a joint committee of representative manufacturers, general interests, and users accepted a commercial standard for steel pipe nipples. The industry has since adopted and approved for promulgation by the Department of Commerce the standard as shown herein.

This recommendation is effective from January 1, 1929, and is subject to regular annual revision by the standing committee.

Promulgation recommended.

R. M. HUDSON,
Assistant Director, Commercial Standards.

Promulgated.

GEORGE K. BURGESS,
Director, Bureau of Standards.

APPROVED November 19, 1928.

WILLIAM F. WHITING,
Secretary of Commerce.

GENERAL

Pipe nipples shall be made only from tested new, full, or short length and full weight steel pipe free from buckles, bends, kinks, cracks, laminations, imperfect welds, rust, injurious sand marks, or any other defects which might affect its strength or serviceability. Pipe shall also conform in all respects to A. S. T. M. tentative specification A120-28T for welded and seamless steel pipe for ordinary purposes.

Outside diameter variations of the pipe from which the nipples are made shall be in accordance with A. S. T. M. tentative specification of above reference as follows:

For pipe $1\frac{1}{2}$ inches or under in nominal size, the outside diameter at any point shall not vary more than $\frac{1}{4}$ inch over nor more than $\frac{1}{2}$ inch under the standard outside diameter. For pipe 2 inches or over in nominal size, the outside diameter shall not vary more than 1 per cent over or under the standard outside diameter. The wall thickness shall not be more than $12\frac{1}{2}$ per cent under the nominal wall thickness at any point.

Weight variations of the pipe from which the nipples are made shall be as follows:

The weight of black pipe shall not vary more than 5 per cent over or under that specified in Tables 1 (type A standard weight) and 2 (type B, extra strong), nor more than 10 per cent over or under that specified in Table 3 (type C, double extra strong).

The weight of galvanized pipe shall not vary more than 3 per cent under that given in Tables 1 (type A, standard weight) and 2 (type B, extra strong), nor more than 8 per cent under that specified in Table 3 (type C, double extra strong).

TABLE 1.—*Dimensions for type A, standard weight pipe*

Diameter			Thick- ness	Nominal weight per foot (plain ends)
Nominal	Actual outside	Actual inside		
<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inch</i>	<i>Pounds</i>
$\frac{1}{8}$	0.405	0.269	0.068	0.24
$\frac{1}{4}$	.540	.364	.088	.42
$\frac{3}{8}$	.675	.493	.091	.57
$\frac{1}{2}$	.840	.622	.109	.85
$\frac{3}{4}$	1.050	.824	.113	1.13
1	1.315	1.049	.133	1.68
$1\frac{1}{4}$	1.660	1.380	.140	2.27
$1\frac{1}{2}$	1.900	1.610	.145	2.72
2	2.375	2.067	.154	3.65
$2\frac{1}{2}$	2.875	2.469	.203	5.79
3	3.500	3.068	.216	7.58
$3\frac{1}{2}$	4.000	3.548	.226	9.11
4	4.500	4.026	.237	10.79
5	5.563	5.047	.258	14.62
6	6.625	6.065	.280	18.97
8	8.625	7.981	.322	28.55
10	10.750	10.020	.365	40.48
12	12.750	12.000	.375	49.56

TABLE 2.—*Dimensions for type B, extra strong pipe*

Diameter			Thick- ness	Nominal weight per foot (plain ends)
Nominal	Actual outside	Actual inside		
<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inch</i>	<i>Pounds</i>
$\frac{1}{8}$	0.405	0.215	0.095	0.31
$\frac{1}{4}$	.540	.302	.119	.54
$\frac{3}{8}$	.675	.423	.126	.74
$\frac{1}{2}$	.840	.546	.147	1.09
$\frac{3}{4}$	1.050	.742	.154	1.47
1	1.315	.957	.179	2.17
$1\frac{1}{4}$	1.660	1.278	.191	3.00
$1\frac{1}{2}$	1.900	1.500	.200	3.63
2	2.375	1.939	.218	5.02
$2\frac{1}{2}$	2.875	2.323	.276	7.66
3	3.500	2.900	.300	10.25
$3\frac{1}{2}$	4.000	3.364	.318	12.51
4	4.500	3.826	.337	14.98
5	5.563	4.813	.375	20.78
6	6.625	5.761	.432	28.57
8	8.625	7.625	.500	43.39
10	10.750	9.750	.500	54.74
12	12.750	11.750	.500	65.42

TABLE 3.—*Dimensions for type C, double extra strong pipe*

Diameter			Thick- ness	Nominal weight per foot (plain ends)
Nominal	Actual outside	Actual inside		
<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inch</i>	<i>Pounds</i>
$\frac{1}{8}$	0.840	0.252	0.294	1.71
$\frac{3}{4}$	1.050	.434	.308	2.44
1	1.315	.599	.358	3.66
$1\frac{1}{4}$	1.660	.896	.382	5.21
$1\frac{1}{2}$	1.900	1.100	.400	6.41
2	2.375	1.503	.436	9.03
$2\frac{1}{2}$	2.875	1.771	.552	13.70
3	3.500	2.300	.600	18.58
$3\frac{1}{2}$	4.000	2.728	.636	22.85
4	4.500	3.152	.674	27.54
5	5.563	4.063	.750	38.55
6	6.625	4.897	.864	53.16
8	8.625	6.875	.875	72.42

Pipe nipples shall be threaded on both ends in accordance with the latest issue of American standard for pipe thread B-2 of the American Standards Association.

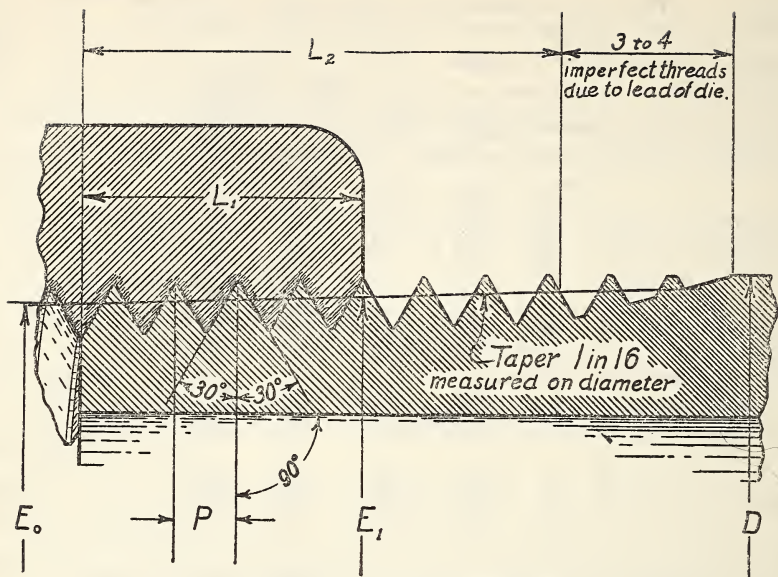


FIGURE 1.—Taper pipe threads

E_0 = pitch diameter of thread at end of pipe.

$= D - (0.05D + 1.1) P$.

D = outside diameter of pipe.

L_2 = length of effective thread (threads perfect at root)

$= (0.8 D + 6.8) P$.

Depth of thread $= 0.8P$.

E_1 = pitch diameter of thread at gaging notch.

$= E_0 + 0.0625L_1$.

L_1 = normal engagement by hand between external and internal threads.

P = pitch of thread.

TABLE 4.—Taper pipe thread dimensions

Nominal size of pipe	Number of threads per inch	Depth of thread	D	L_1	L_2	E_0	E_1
1	2	3	4	5	6	7	8
<i>Inches</i>		<i>Inch</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>
$\frac{1}{8}$	27	0.02963	0.405	0.180	0.26385	0.36351	0.37476
$\frac{1}{4}$	18	.04444	.540	.200	.40178	.47739	.48989
$\frac{3}{8}$	18	.04444	.675	.240	.40778	.61201	.62701
$\frac{1}{2}$	14	.05714	.840	.320	.53371	.75843	.77843
$\frac{3}{4}$	14	.05714	1.050	.339	.54371	.96768	.98887
1	$11\frac{1}{2}$	.06957	1.315	.400	.68278	1.21363	1.23863
$1\frac{1}{4}$	$11\frac{1}{2}$	.06957	1.660	.420	.70678	1.55713	1.58338
$1\frac{1}{2}$	$11\frac{1}{2}$	.06957	1.900	.420	.72348	1.79009	1.82234
2	$11\frac{1}{2}$	.06957	2.375	.436	.75652	2.26902	2.29627
$2\frac{1}{2}$	8	.10000	2.875	.682	1.13750	2.71953	2.76216
3	8	.10000	3.500	.766	1.20000	3.34062	3.38850
$3\frac{1}{2}$	8	.10000	4.000	.821	1.25000	3.83750	3.88881
4	8	.10000	4.500	.844	1.30000	4.33438	4.38712
5	8	.10000	5.563	.937	1.40630	5.39073	5.44923
6	8	.10000	6.625	.958	1.51250	6.44609	6.50597
8	8	.10000	8.625	1.063	1.71250	8.43359	8.50003
10	8	.10000	10.750	1.210	1.92560	10.54531	10.62094
12	8	.10000	12.750	1.360	2.12560	12.53281	12.61781

NOTE.—The dimensions of American standard pipe threads are expressed in inches to one one-hundred thousandth (0.00001) of an inch. While this is a greater degree of accuracy than is ordinarily used, the dimensions are so expressed in order to eliminate errors which might result from less accurate dimensions.

Where straight pipe threads are specified, the following shall apply.

(a) The sizes and basic dimensions of straight pipe threads shall be as given in columns 1, 2, 3, and 8 of Table 4.

(b) *Diameters of straight threads.*—The basic pitch diameter of the straight thread shall be equal to the diameter at the gaging notch of taper pipe thread plug gage and shall be determined by the following formula. (See symbols above.)

$$E_1 = D - (0.05 D + 1.1) P + 0.0625 L_1$$

Gages used for inspection shall not vary from the basic dimensions more than one-half turn either way.

Inspection tolerances.—The maximum allowable variation in the commercial product is one turn plus or one turn minus from the gaging notch when using gages. This is equivalent to a maximum allowable variation of one and one-half turns from the basic dimensions on account of the tolerance of one-half turn on gages.

Nipples shall be reamed and chamfered at an angle of 25° to 45° to the central axis.

Nipples shall not exceed one-sixteenth of an inch under or over the specified length.

Steel pipe nipples are regularly made and stocked in the sizes given in Tables 5 to 9, inclusive. These sizes conform, as regards pipe diameters, to the United States Department of Commerce Simplified Practice Recommendation No. 57.

TABLE 5.—Stock sizes and lengths of standard weight black pipe nipples

Diameter	Close	Special short	Short	Long	Extra long
<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>
$\frac{1}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2, 2 $\frac{1}{2}$, 3, and 3 $\frac{1}{2}$ -----	4, 4 $\frac{1}{2}$, 5, 5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
$\frac{1}{4}$	$\frac{7}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	2, 2 $\frac{1}{2}$, 3, and 3 $\frac{1}{2}$ -----	4, 4 $\frac{1}{2}$, 5, 5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
$\frac{3}{8}$	1	-----	$1\frac{1}{2}$	2, 2 $\frac{1}{2}$, 3, and 3 $\frac{1}{2}$ -----	4, 4 $\frac{1}{2}$, 5, 5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
$\frac{1}{2}$	$1\frac{1}{8}$	-----	$1\frac{1}{2}$	2, 2 $\frac{1}{2}$, 3, and 3 $\frac{1}{2}$ -----	4, 4 $\frac{1}{2}$, 5, 5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
$\frac{5}{8}$	$1\frac{3}{8}$	$1\frac{1}{2}$	2	2 $\frac{1}{2}$, 3, 3 $\frac{1}{2}$, and 4-----	4 $\frac{1}{2}$, 5, 5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
1	$1\frac{1}{2}$	-----	2	2 $\frac{1}{2}$, 3, 3 $\frac{1}{2}$, and 4-----	4 $\frac{1}{2}$, 5, 5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
$1\frac{1}{4}$	$1\frac{5}{8}$	2	2 $\frac{1}{2}$	3, 3 $\frac{1}{2}$, 4, and 4 $\frac{1}{2}$ -----	5, 5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
$1\frac{1}{2}$	$1\frac{3}{4}$	2	2 $\frac{1}{2}$	3, 3 $\frac{1}{2}$, 4, and 4 $\frac{1}{2}$ -----	5, 5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
2	2	-----	2 $\frac{1}{2}$	3, 3 $\frac{1}{2}$, 4, and 4 $\frac{1}{2}$ -----	5, 5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
2 $\frac{1}{2}$	2 $\frac{1}{2}$	-----	3	3 $\frac{1}{2}$, 4, 4 $\frac{1}{2}$, and 5-----	5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
3	2 $\frac{5}{8}$	-----	3	3 $\frac{1}{2}$, 4, 4 $\frac{1}{2}$, and 5-----	5 $\frac{1}{2}$, 6, 7, 8, 9, 10, 11, and 12.
3 $\frac{1}{2}$	2 $\frac{3}{4}$	-----	4	4 $\frac{1}{2}$, 5, 5 $\frac{1}{2}$, and 6-----	7, 8, 9, 10, 11, and 12.
4	2 $\frac{7}{8}$	-----	4	4 $\frac{1}{2}$, 5, 5 $\frac{1}{2}$, and 6-----	7, 8, 9, 10, 11, and 12.
5	3	4	4 $\frac{1}{2}$	5, 5 $\frac{1}{2}$, and 6-----	7, 8, 9, 10, 11, and 12.
6	3 $\frac{1}{8}$	4	4 $\frac{1}{2}$	5, 5 $\frac{1}{2}$, and 6-----	7, 8, 9, 10, 11, and 12.
8	3 $\frac{3}{8}$	-----	5	6, 7, and 8-----	10, and 12.
10	3 $\frac{7}{8}$	-----	5	6, 7, and 8-----	10, and 12.
12	4 $\frac{1}{2}$	-----	6	8-----	10, and 12.

TABLE 6.—*Stock sizes and lengths of extra heavy weight black pipe nipples*

Diam-eter	Close	Special short	Short	Long	Extra long
<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>
$\frac{1}{8}$	$\frac{3}{4}$	-----	$1\frac{1}{2}$	2, $2\frac{1}{2}$, 3, and $3\frac{1}{2}$ -----	4, 5, and 6.
$\frac{1}{4}$	$\frac{1}{8}$	-----	$1\frac{1}{2}$	2, $2\frac{1}{2}$, 3, and $3\frac{1}{2}$ -----	4, 5, and 6.
$\frac{3}{8}$	1	-----	$1\frac{1}{2}$	2, $2\frac{1}{2}$, 3, and $3\frac{1}{2}$ -----	4, $4\frac{1}{2}$, 5, and 6.
$\frac{1}{2}$	$1\frac{1}{8}$	-----	$1\frac{1}{2}$	2, $2\frac{1}{2}$, 3, and $3\frac{1}{2}$ -----	4, $4\frac{1}{2}$, 5, and 6.
$\frac{3}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$, 3, $3\frac{1}{2}$, and 4-----	$4\frac{1}{2}$, 5, and 6.
1	$1\frac{1}{2}$	-----	2	$2\frac{1}{2}$, 3, $3\frac{1}{2}$, and 4-----	$4\frac{1}{2}$, 5, and 6.
$1\frac{1}{4}$	$1\frac{5}{8}$	2	$2\frac{1}{2}$	3, $3\frac{1}{2}$, 4, and $4\frac{1}{2}$ -----	5 and 6.
$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	3, $3\frac{1}{2}$, 4, and $4\frac{1}{2}$ -----	5 and 6.
2	2	-----	$2\frac{1}{2}$	3, $3\frac{1}{2}$, 4, and $4\frac{1}{2}$ -----	5 and 6.
$2\frac{1}{2}$	$2\frac{1}{2}$	-----	3	$3\frac{1}{2}$, 4, $4\frac{1}{2}$, and 5-----	6.
3	$2\frac{5}{8}$	-----	3	$3\frac{1}{2}$, 4, $4\frac{1}{2}$, and 5-----	6.
$3\frac{1}{2}$	$2\frac{3}{4}$	-----	4	5 and 6-----	
4	$2\frac{7}{8}$	-----	4	5 and 6-----	

TABLE 7.—*Stock sizes and lengths of standard weight galvanized pipe nipples*

Diam-eter	Close	Special short	Short	Long	Extra long
<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>
$\frac{1}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2, $2\frac{1}{2}$, 3, and $3\frac{1}{2}$ -----	4, 5, and 6.
$\frac{1}{4}$	$\frac{1}{8}$	-----	$1\frac{1}{2}$	2, $2\frac{1}{2}$, 3, and $3\frac{1}{2}$ -----	4, 5, and 6.
$\frac{3}{8}$	1	-----	$1\frac{1}{2}$	2, $2\frac{1}{2}$, 3, and $3\frac{1}{2}$ -----	4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6, 8, 10, and 12.
$\frac{1}{2}$	$1\frac{1}{8}$	-----	$1\frac{1}{2}$	2, $2\frac{1}{2}$, 3, and $3\frac{1}{2}$ -----	4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6, 8, 10, and 12.
$\frac{3}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$, 3, $3\frac{1}{2}$, and 4-----	$4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6, 8, 10, and 12.
1	$1\frac{1}{2}$	-----	2	$2\frac{1}{2}$, 3, $3\frac{1}{2}$, and 4-----	$4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6, 8, 10, and 12.
$1\frac{1}{4}$	$1\frac{5}{8}$	2	$2\frac{1}{2}$	3, $3\frac{1}{2}$, 4, and $4\frac{1}{2}$ -----	5, $5\frac{1}{2}$, 6, 8, 10, and 12.
$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	3, $3\frac{1}{2}$, 4, and $4\frac{1}{2}$ -----	5, $5\frac{1}{2}$, 6, 8, 10, and 12.
2	2	-----	$2\frac{1}{2}$	3, $3\frac{1}{2}$, 4, and $4\frac{1}{2}$ -----	5, $5\frac{1}{2}$, 6, 8, 10, and 12.
$2\frac{1}{2}$	$2\frac{1}{2}$	-----	3	$3\frac{1}{2}$, 4, and 5-----	6, 8, 10, and 12.
3	$2\frac{5}{8}$	-----	3	$3\frac{1}{2}$, 4, $4\frac{1}{2}$, and 5-----	6.
$3\frac{1}{2}$	$2\frac{3}{4}$	-----	4	5 and 6-----	
4	$2\frac{7}{8}$	-----	4	$4\frac{1}{2}$, 5, $5\frac{1}{2}$, and 6-----	

TABLE 8.—*Packing of standard weight black or galvanized steel nipples*

(Number contained in carton)

Diam-eter	Close	Sizes in inches										Total	
		Short	Long					Extra long					
			1½	2	2½	3	3½	4	4½	5	5½		6
<i>Inch</i>													
¾	20	10	15	10	10	5	10	5	5	5	5	100	
½	20	10	15	10	10	5	10	5	5	5	5	100	
¼	20	10	15	10	10	5	10	5	5	5	5	100	
⅓	20	10	15	10	10	5	10	5	5	5	5	100	
⅔	20	10	15	10	10	5	10	5	5	5	5	100	
1	15	-----	12	5	12	3	12	3	5	3	5	75	

TABLE 9.—*Stock sizes and lengths of right and left standard weight black pipe nipples*

Diam-eter	Short	Long	Extra long
<i>Inches</i>			
$\frac{1}{8}$			
$\frac{1}{4}$			
$\frac{3}{8}$		2 and 3	4, 5, and 6.
$\frac{1}{2}$		2, $2\frac{1}{2}$, 3, and $3\frac{1}{2}$	4, 5, and 6.
$\frac{3}{4}$	2	$2\frac{1}{2}$, 3, $3\frac{1}{2}$, and 4	5 and 6.
1	2	$2\frac{1}{2}$, 3, $3\frac{1}{2}$, and 4	5 and 6.
$1\frac{1}{4}$	$2\frac{1}{2}$	3, $3\frac{1}{2}$, 4, and $4\frac{1}{2}$	5 and 6.
$1\frac{1}{2}$	$2\frac{1}{2}$	3, $3\frac{1}{2}$, 4, and $4\frac{1}{2}$	5 and 6.
2	$2\frac{1}{2}$	3, $3\frac{1}{2}$, 4, and $4\frac{1}{2}$	5 and 6.

GENERAL CONFERENCE

Pursuant to request of a preliminary conference of interested producers, a general conference of representative interests was held on June 29, 1928, at the Department of Commerce, Washington, D. C. The following individuals were present:

- ARMSTRONG, JULIAN, Pipe Nipple Standards Corporation, Chicago, Ill.
 BADGER, A. C., Youngstown Sheet & Tube Co., Youngstown, Ohio.
 BIHLMAN, V. W., Wheeling Steel Corporation, Wheeling, W. Va.
 BRADY, J. F., Plumbers and Heating Contractors Trade Journal, 239 West Thirty-ninth Street, New York, N. Y.
 CHASNOFF, A., Jackwill Nipple Corporation, 723 East One hundred and fortieth Street, New York, N. Y.
 COOKE, E. L., National Nipple Manufacturing Co., 1400 West Fortieth Street, Chicago, Ill.
 ENGLAR, CHARLES L., Waynesboro Nipple Works (Inc.), Waynesboro, Pa.
 GEORGE, O. H., Government Printing Office, Washington, D. C.
 GRINDLAY, L. B., Republic Iron & Steel Co., Youngstown, Ohio.
 GROFF, RAYMOND, S. S. Fretz, jr., & Co., Twenty-third and Sedgley Avenue, Philadelphia, Pa.
 HAMPTON, W. J., Spang, Chalfant & Co., Pittsburgh, Pa.
 HARVEY, CHARLES D., Department of Agriculture, Washington, D. C.
 HOWE, DONALD W., Ware Coupling & Nipple Co., Ware, Mass.
 JEFFRIES, W. J., Bureau of Construction and Repair, Navy Department, Washington, D. C.
 KLEINMAN, H. J., Smith Bros. Nipple Works, Morris Building, Philadelphia, Pa.
 KNAPP, H. F., National Tube Co., 1512 H Street NW., Washington, D. C.
 LEVIN, MAX, Woodrow Nipple Manufacturing Co., 816 North Spaulding Avenue, Chicago, Ill.
 MCBROOM, WALTER, Chicago Nipple Manufacturing Co., 1966 Southport Street, Chicago, Ill.
 MCCRAY, WILLIAM V., War Department, Office of Chief of Engineers, Washington, D. C.
 RESSLER, C. T., Reading Iron Co., Baer Building, Reading, Pa.; A. M. Byers Co., Pittsburgh, Pa.
 SHAPIRO, J. S., Baltimore Pipe Nipple Co., Baltimore, Md.
 SHOE, R. B., Shoe-Letcher Co., Jersey City, N. J.
 SMITH, NEVIN B., Smith Bros. Nipple Works, Hamburg, Pa.

SPELLER, F. N., American Society for Testing Materials; American Society of Mechanical Engineers; and National Tube Co., Frick Building, Pittsburgh, Pa.
 STRICKLAND, O. I., Wheeling Steel Corporation, Wheeling, W. Va.
 WIEDEMAN, F. M., Fred Pabst Co., Milwaukee, Wis.

DEPARTMENT OF COMMERCE:

Fairchild, I. J., commercial standards unit, Bureau of Standards.
 Miller, D. R., Bureau of Standards.

The proposed commercial standard for steel pipe nipples recommended by the preliminary conference was considered in detail with the result that a few changes were agreed upon, and the standard as revised was adopted by the conference.

The conference set January 1, 1929, as the effective date both for new production and for clearance of existing stocks.

STANDING COMMITTEE

The following standing committee was appointed to consider annually any comments or suggestions as to changes in the existing standard in order that it may be kept continuously in accord with the desires of the industry and the advance in the art:

Raymond Groff, Pipe Nipple Standards Corporation.
 Crane Co.
 Association of American Steel Manufacturers.
 James A. Messer, James A. Messer Co. (Inc.).
 Standard Sanitary Manufacturing Co.
 James B. Clow & Sons.
 National Association of Master Plumbers.
 Central Supply Association.
 American Society of Heating and Ventilating Engineers.

CERTIFICATION

The following illustrates how an important group of producers has arranged to certify complete compliance with the specification. Pipe nipples found by this group to conform to this standard may be readily identified by the trade-mark (registered at the United States Patent Office) stamped into the outer surface of the nipples, on the labels of packaged nipples and on labels and tags only of packages of short and close nipples where the threading leaves no space for such marking.

The use of this trade-mark is governed by a license agreement with the Pipe Nipple Standards Corporation, an association whose request led to the establishment of this standard through the United States Department of Commerce. Any manufacturer, whether a member of the "corporation" or not, who subscribes to the license agreement, which entitles him to use the trade-mark, agrees to follow the commercial standard in full detail, and to accept a periodic inspection provided under this license agreement whereby quality, work-

manship, and adherence to the standard are carefully checked. Pipe nipples bearing this trade-mark, or "seal of certainty" as it is called, carry with them the individual producer and the group guaranty that they meet the commercial standard in every detail.

While other methods may be employed by producers to certify strict conformity to the requirements and tests of the commercial standard for steel pipe nipples, it is claimed by the Pipe Nipple Standards Corporation that this inspection service and group plan is more substantial than assurances or guaranties signed only by an individual producer.

COMMERCIAL STANDARDS PROCEDURE

Industry has long sensed the need for a wider application and use of specifications developed and approved by nationally recognized organizations. To assist these bodies and the producers and consumers in securing this result and as a natural outgrowth of the movement toward elimination of waste through simplified practice, the Bureau of Standards has set up a procedure under which specifications, properly indorsed, may be printed as official publications of the Department of Commerce and promulgated as "commercial standards." This service parallels that of simplified practice in many respects and is available only upon request.

Broadly speaking, the aim is to continue the same character of cooperative service in this field that is being rendered in simplification. The commercial standards unit is not designed to act as a standardizing body, nor will it engage in the preparation of specifications. Its service is mainly promotional in character, since its chief mission is to get behind a standard or a specification which any industry or its related groups may want to promulgate on a nation-wide basis; to determine its eligibility for promulgation; to publish and broadcast it in the event the prerequisites of procedure have been met, including a satisfactory majority acceptance; to facilitate the application of the certification plan for the assurance and convenience of the small purchaser; to provide means for periodical audits of adherence; and to cooperate with the Bureau of Foreign and Domestic Commerce in determining the desire of industry relative to translation and promulgation of such specifications as a basis for foreign commerce.

In general, it may be said that a simplification covers types, sizes, and varieties of a commodity which are retained by industry on the basis of demand, whereas a commercial standard establishes definite requirements as to grade, quality, or dimensional tolerances in addition to any limitation of variety desired and accepted by the industry.

ORGANIZATION AND DUTIES OF STANDING COMMITTEE

At the close of its session each general conference appoints a permanent standing committee, composed of not more than three representatives from each phase of the industry; for example, producers, distributors, and consumers.

The proper functioning of the committee requires that its members be able to attend in person meetings held at some central place. They must also be prepared to devote the necessary time and to accept such assignments and responsibilities as may be found requisite to the success of the program.

Because the department in no case assumes the prerogative of taking final action in connection with a commercial standard, it is essential that there be some avenue through which the industry can be consulted promptly and can, in turn, make known its wishes. This function is best performed by a representative standing committee. For this reason, the chairman, in accepting his appointment, places his services and those of his committee at the disposal of the Bureau of Standards for the prompt and careful consideration of all questions which may arise when the program is put into actual use.

A committee that quickly and accurately reflects the wishes of the majority of its industry, and, through its chairman, promptly disposes of matters referred to it is a practical insurance against any serious difficulty in the adoption of a commercial standard.

The standing committee must recognize that the Department of Commerce has no "police powers" to compel the acceptors to adhere strictly to the letter of the recommendation. Unanimous adoption by the general conference indicates a recognition of the benefits inherent in standardization. If this fact is properly emphasized, the acceptors should be equally willing to follow the program in all cases where it is applicable.

While the recommendation is in effect, the standing committee is to receive all information showing departures and to apply such corrective measures as appear to be in the best interest of all concerned.

YOUR COOPERATION

As a producer, distributor, or consumer of some of the commodities which have already been simplified or standardized, you are in a position to add impetus to this method of eliminating waste. The first step in that direction is to record your intention to adhere, as closely as circumstances will allow, to one or more of the existing recommendations.

You will, of course, want to examine the schedule before signing.

The commercial standards group will, therefore, furnish a copy of any recommendation which you wish to consider with a view to its adoption. Publications no longer available in this manner can be purchased, for a few cents each, from the Superintendent of Documents, Government Printing Office, Washington, D. C. (We will furnish detailed price list on request.)

When you have reached a decision, fill out the acceptance form on page 13, check the proper items on page 14, detach the sheet, and mail it to the Commercial Standards Group, Bureau of Standards, Washington, D. C. In making your selection, remember that commercial standards apply not only to the things you sell but to the things you buy. On the support accorded by the consumer depends, in a large measure, the success of these waste-elimination programs.

The receipt of your signed acceptance will permit the listing of your organization in new editions of the recommendations you have checked. Any proposed revisions will be submitted to you for approval prior to publication.

This support is entirely voluntary and applies to stock items. It is not meant to interfere with the purchase or sale of such special sizes and types as are sometimes required to meet unusual conditions.

Trade associations and individual companies often distribute large numbers of the printed booklets for the information and guidance of their business contacts. In such cases it is possible to extend the scope and degree of adherence by urging each recipient to send in an acceptance. Bear in mind that the practical value of any simplification or standardization is measured by the observance it receives. A number of the simplified practice recommendations have already secured an adherence of more than 90 per cent, by volume, of annual output. If each producer, distributor, and consumer will do his part toward discarding nonessentials and specify simplified or standardized lines when buying, adherence will approach 100 per cent. Obviously, the higher the adherence to each specific simplification or standardization the greater will be the benefits therefrom to all concerned.



Note.—The information requested in footnotes 1 and 2 is essential to the proper listing of your organization in future editions of the printed bulletins.

ACCEPTANCE OF COMMERCIAL STANDARDS

Date -----

The DEPARTMENT OF COMMERCE,

Washington, D. C.

SIRS: We, the undersigned, hereby accept the commercial standards checked on the reverse side hereof ¹ as our standards of practice beginning -----

(Date)

in the production,² distribution,² and consumption ² of the standardized lines.

We will use our best effort to secure their general adoption.

Signed -----

Title -----

Company ³ -----

Street address ³ -----

City and State ³ -----

¹ Be particular to indicate which commercial standards you are accepting by checking the list on the reverse side of this form.

² Please designate by drawing lines through those which do not apply.

³ Kindly typewrite or print.

COMMERCIAL STANDARDS

CS No.	Item	CS No.	Item
1-28.	Clinical thermometers.	5-29.	Steel pipe nipples.
2-29.	Surgical gauze.	6-29.	Wrought-iron pipe nipples.
3-28.	Stoddard solvent.	7-29.	Standard weight malleable iron
4-29.	Staple porcelain plumbing fixtures.		or steel screwed unions.

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