

CS17-42

Drill-fittings; diamond-core

U. S. DEPARTMENT OF COMMERCE

JESSE H. JONES, Secretary

NATIONAL BUREAU OF STANDARDS

LYMAN J. BRIGGS, Director

# DIAMOND CORE DRILL FITTINGS

(THIRD EDITION)

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COMMERCIAL STANDARD CS17-42

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Effective Date for New Production from January 1, 1942



A RECORDED VOLUNTARY STANDARD  
OF THE TRADE

UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1941

U. S. DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

PROMULGATION  
of  
COMMERCIAL STANDARD CS17-42  
for  
DIAMOND CORE DRILL FITTINGS  
(THIRD EDITION)

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On May 27, 1929, at the instance of the Diamond Core Drill Manufacturers Association, a joint conference of representative manufacturers, drilling contractors, and general interests adopted a commercial standard for diamond core drill fittings which was accepted by the industry and published as Commercial Standard CS17-30. In 1932, upon recommendation of the standing committee to keep the standard abreast of progress, a revision was adopted and issued as CS17-32.

On March 25, 1941, with the endorsement of the standing committee, a revision of CS17-32, drafted by the Diamond Core Drill Manufacturers Association, was circulated for acceptance. Those concerned have since accepted and approved for promulgation by the United States Department of Commerce, through the National Bureau of Standards, the revised standard as shown herein.

The standard is effective for new production from January 1, 1942.

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.*

U. S. DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

WASHINGTON

ADDRESS REPLY TO  
NATIONAL BUREAU OF STANDARDS  
IJF:np

October 22, 1942

IN YOUR REPLY  
REFER TO FILE  
XI-2/spc  
TS-3359

To Manufacturers, Inspectors,  
and Users of Diamond Core  
Drill Fittings.

Subject: Diamond Core Drill Fittings, CS17-42 -  
Second Extension of Effective Date

Gentlemen:

Under date of September 25, 1942, the Diamond Core Drill Manufacturers Association requested a second extension of the effective date for new production of diamond core drill fittings in accordance with the new parts of Commercial Standard CS17-42 for the following reasons:

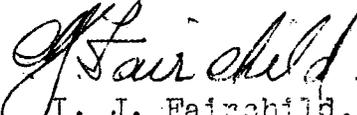
"The new standards do not so much result in the simplification of the present standards as specified in CS17-32 as to set up new standards of thinner wall bits. These thin wall bits are not greatly used in the United States at the present time, although they have come into extensive use in Canada, where they have already been standardized.

"It is expected that eventually CS17-42 will completely replace CS17-32, but from the nature of the art, it will take months to effect this replacement."

Agreeable to the above request in the war emergency, and with the approval of the Standing Committee, the effective date for new production of diamond core drill fittings, according to Commercial Standard CS17-42, is hereby extended from January 1, 1943, to six months after official announcement of cessation of actual hostilities, or to such earlier date as may be recommended by the Standing Committee.

In the meantime, the existing Commercial Standard CS17-32 will remain in effect.

Cordially yours,

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

U. S. DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

WASHINGTON

ADDRESS REPLY TO  
NATIONAL BUREAU OF STANDARDS

IN YOUR REPLY  
REFER TO FILE

IJF:RB

December 4, 1941

XI-2/spc  
TS-3159

To Manufacturers, Inspectors, and Users  
of Diamond Core Drill Fittings.

Subject: Diamond Core Drill Fittings, CS17-42 -  
Extension of Effective Date to  
January 1, 1943

Gentlemen:

Under date of November 10, the Diamond Core Drill  
Manufacturers Association recommended that the effective  
date for Diamond Core Drill Fittings, Commercial Standard  
CS17-42, be extended one year for the following reasons:

"As you know, there is considerable difficulty  
in securing raw materials because of the prior-  
ity situation, which is likely to become worse,  
particularly if the trend toward allocation  
continues. This undoubtedly means that the  
members would be unable, or would find it ex-  
tremely difficult, to begin production of the  
new EXT and AXT sizes.

"In addition, the changeover in shop pro-  
duction will certainly slow up manufacturing  
during this critical period."

Agreeable to the above request and with the approval  
of the Standing Committee, the effective date for new  
production of diamond core drill fittings according to  
Commercial Standard CS17-42 is hereby extended from  
January 1, 1942 to January 1, 1943.

Cordially yours,



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

# DIAMOND CORE DRILL FITTINGS

(THIRD EDITION)

## COMMERCIAL STANDARD CS17-42

### PURPOSE

1. The purpose of this commercial standard is to provide dimensional interchangeability in essential diamond core drill fittings as made by American manufacturers. The difficulty of replacing parts in the field should therefore be minimized, since sizes and size designations are identical for all manufacturers.

### SCOPE

2. This standard covers standard designs and tolerances with controlling dimensions for rod couplings, drill rods, core-barrel bits, reaming shells, core-barrel outer tubes, core-barrel inner tubes, casing couplings, flush-coupled casings, flush-joint casings, and casing bits. Dimensions of core-barrel bits and reaming shells apply to these items as machine-shop products prior to being set with drilling diamonds.

### GENERAL

3. The following nomenclature, symbols, dimensions, tolerances, and types are recommended as standard for diamond core drill fittings.

4. The four sizes of diamond core drill casing shall be known as EX, AX, BX, and NX. The corresponding sizes of bits, core barrels, and core-barrel parts shall be known as EXT, AXT, BX, and NX. Rod and rod coupling sizes are known as E, A, B, and N. Nominal dimensions are given in table 1 and illustrated in figure 2.

TABLE 1.—Nominal dimensions

Casing, casing coupling, casing bits	Core barrels, core-barrel bits, reaming shells	Rod, rod couplings	Casing		Casing bit, O. D.	Core-barrel bit, O. D.	Core-barrel bit, I. D.	Reaming shell, O. D.	Drill rod, O. D.	Approx. diam. of hole made by core-barrel bit and shell <sup>2</sup>	Approx. diam. of core <sup>3</sup>
			O. D.	I. D. <sup>1</sup>							
EX	EXT	E	$\frac{1\frac{1}{2}}{16}$ in.	$\frac{1}{2}$ in.	$\frac{15}{64}$ in.	$\frac{127}{64}$ in.	$\frac{15}{16}$ in.	$\frac{129}{64}$ in.	$\frac{15}{16}$ in.	$\frac{1}{2}$ in.	$\frac{15}{16}$ in.
AX	AXT	A	$\frac{2}{4}$	$\frac{129}{32}$	$\frac{221}{64}$	$\frac{153}{64}$	$\frac{19}{16}$	$\frac{159}{64}$	$\frac{15}{8}$	$\frac{1}{2}$	$\frac{15}{16}$
BX	BX	B	$\frac{2}{8}$	$\frac{29}{8}$	$\frac{261}{64}$	$\frac{219}{64}$	$\frac{111}{16}$	$\frac{221}{64}$	$\frac{129}{32}$	$\frac{1}{2}$	$\frac{15}{16}$
NX	NX	N	$\frac{3}{2}$	3	$\frac{337}{64}$	$\frac{259}{64}$	$\frac{29}{16}$	$\frac{261}{64}$	$\frac{29}{8}$	3	$\frac{1}{2}$

<sup>1</sup> Inside diameter of flush-joint casing, and of coupling of flush-coupled casing.

<sup>2</sup> Assuming hole  $\frac{1}{32}$  inch larger than reaming shell and listing diameters to nearest  $\frac{1}{16}$  inch.

<sup>3</sup> Assuming core  $\frac{1}{32}$  inch smaller than I. D. of bit and listing diameters to nearest  $\frac{1}{16}$  inch.

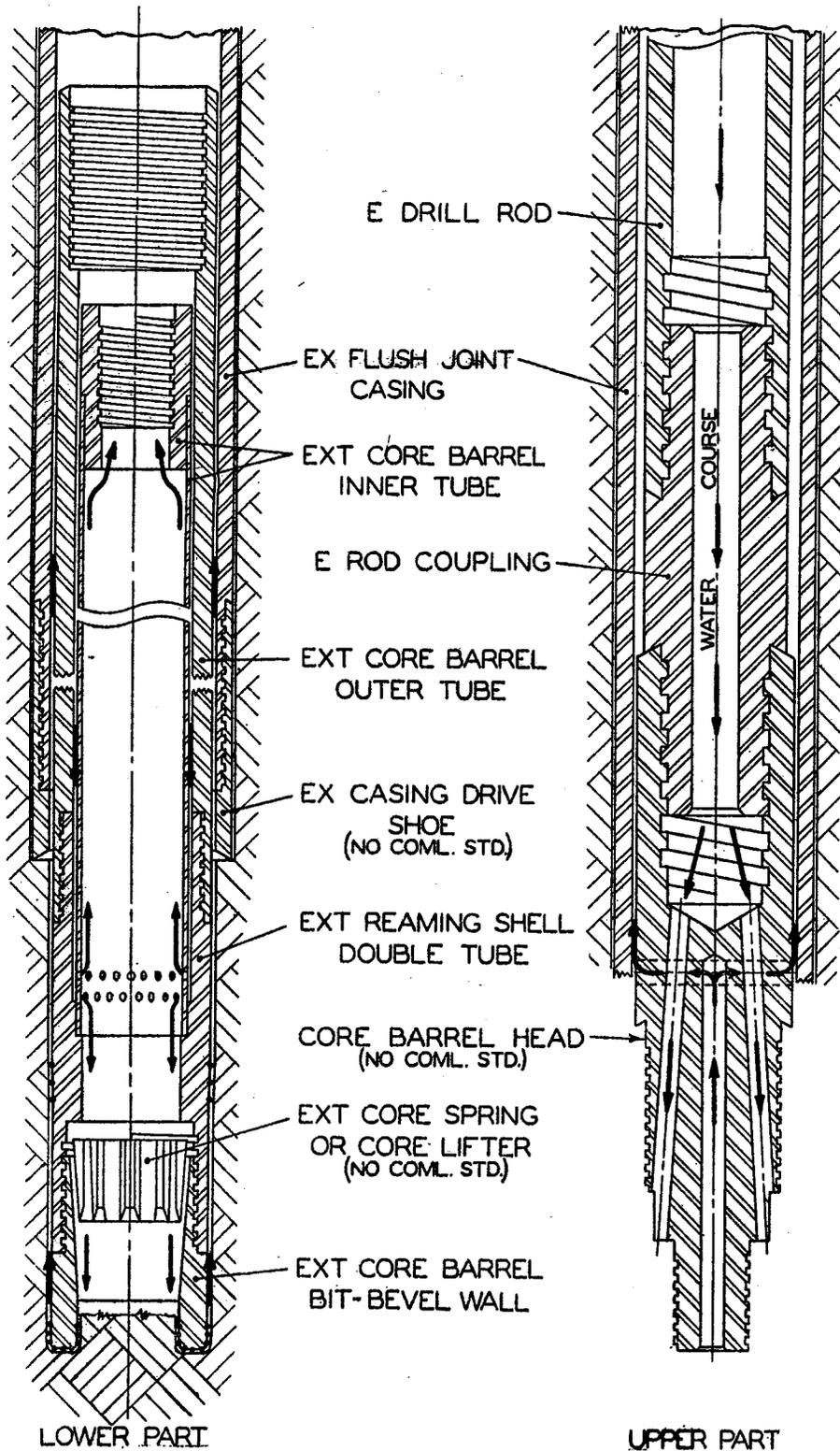


FIGURE 1.—Cross section through rigid-type double-tube core barrel assembly, EXT.

5. Casings made flush on the outside when connected with couplings shall be known as "flush-coupled casing"; when connected without couplings, shall be known as "flush-joint casing." The threads of both are identical. Unless otherwise specified by the purchaser, either type of EX and AX casing may be furnished by the manufacturer. BX and NX casing are furnished only in the flush-coupled type.

6. Core barrels shall be known as "single-tube core barrels", "rigid-type double-tube core barrels", or "swivel-type double-tube core barrels", as the case may be.

7. Single-tube and double-tube core-barrel bits shall be identical.

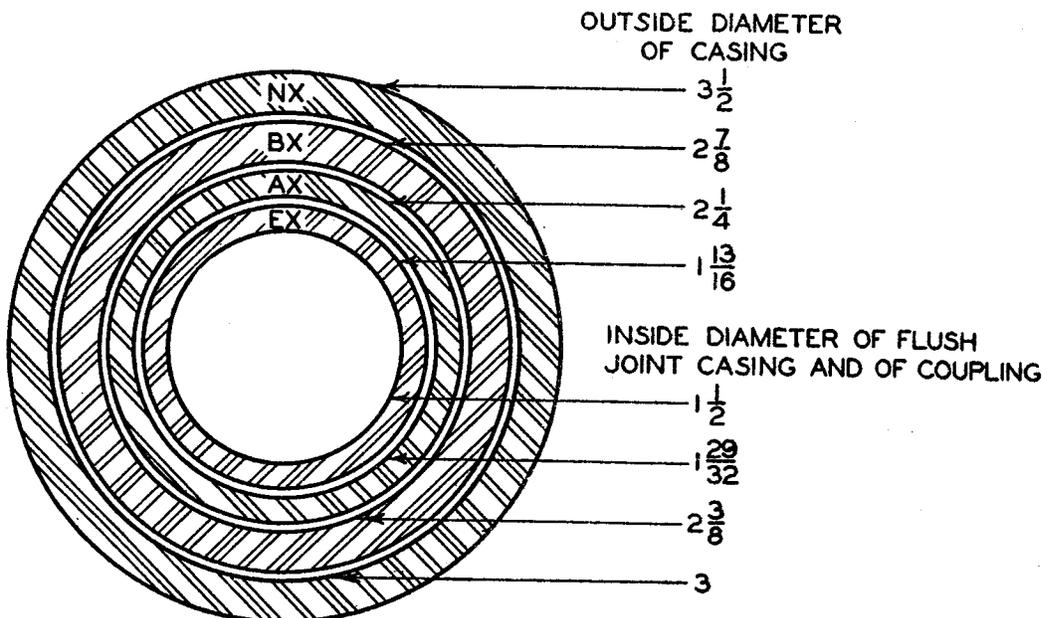


FIGURE 2.—Section through casing couplings.

8. The term "reaming shell" shall be used in preference to "swell coupling." The bit thread of reaming shells and core shells shall conform to the standard bit thread.

9. Single-tube reaming shells are not standardized except that the lower threads and the external diameters shall be identical with those of the corresponding double-tube reaming shell.

10. The approximate sizes of standard cores are: NX,  $2\frac{1}{8}$  inches; BX,  $1\frac{5}{8}$  inches; AXT,  $1\frac{5}{16}$  inches; EXT,  $1\frac{5}{16}$  inch. Larger cores are obtainable with special fittings.

### DETAIL REQUIREMENTS

11. The dimensions and tolerances for rod couplings, drill rods, core-barrel bits, reaming shells, core-barrel outer tubes, core-barrel inner tubes, casing couplings, flush-coupled casings, flush-joint casings and casing bits are given in tables 2 to 12, inclusive, and in the drawings which accompany them.

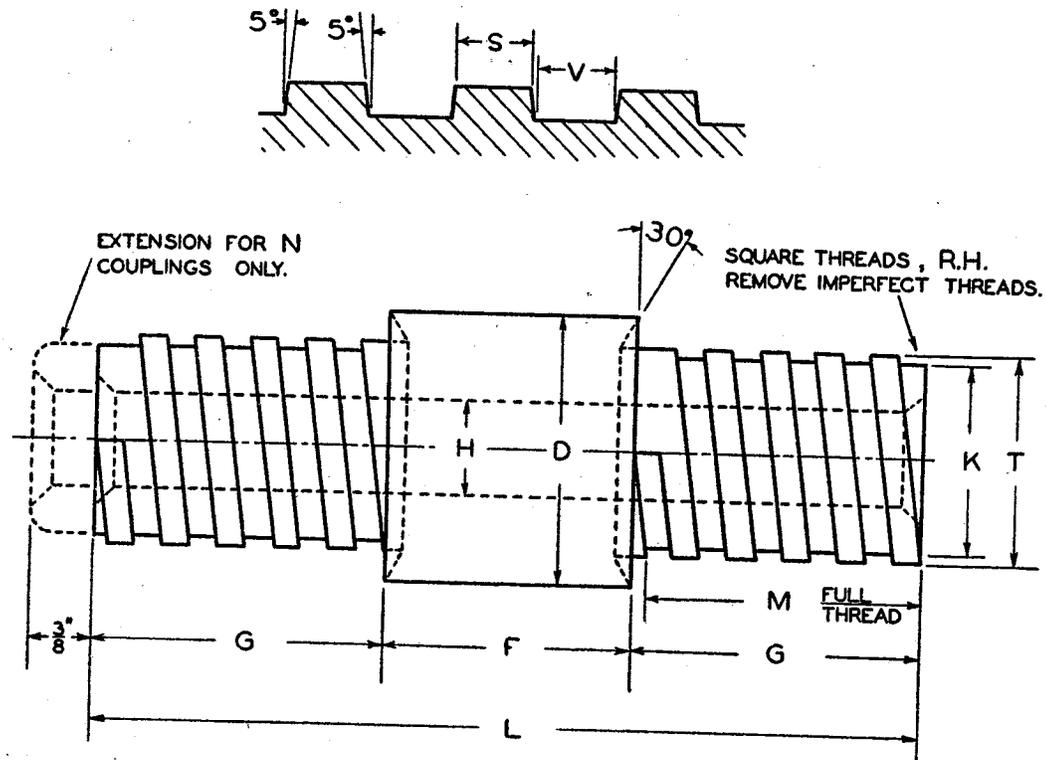
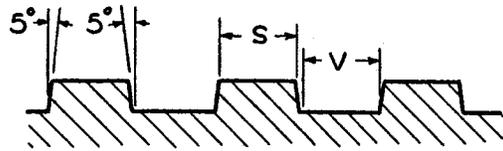


TABLE 2.—Rod couplings

Designating symbol	D	F	G	H	Threads per inch	K	
						max	min
E.....	<i>in.</i> 1 5/16	<i>in.</i> 1 1/2	<i>in.</i> 1 1/2	<i>in.</i> 7/16	3	<i>in.</i> 0.874	<i>in.</i> 0.870
A.....	1 5/8	1 1/2	1 3/4	9/16	3	1.139	1.134
B.....	1 29/32	1 1/2	1 7/8	5/8	5	1.280	1.275
N.....	2 3/8	1 1/2	2 3/8	1	4	1.686	1.681

Designating symbol	L	M	S		T		V	
			max	min	max	min	max	min
E.....	<i>in.</i> 4 1/2	<i>in.</i> 1 7/16	<i>in.</i> 0.1608	<i>in.</i> 0.1563	<i>in.</i> 0.999	<i>in.</i> 0.998	<i>in.</i> 0.1657	<i>in.</i> 0.1617
A.....	5	1 11/16	.1608	.1563	1.264	1.263	.1657	.1617
B.....	5 1/4	1 13/16	.0941	.0897	1.405	1.404	.0990	.0950
N.....	6 1/4	2 1/16	.1164	.1120	1.874	1.873	.1212	.1173



SQUARE THREAD, R.H. REMOVE IMPERFECT THREADS.

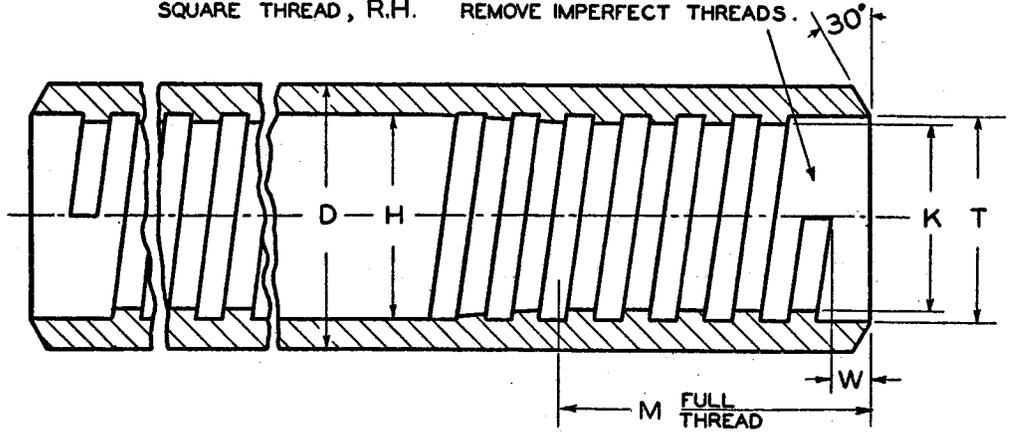
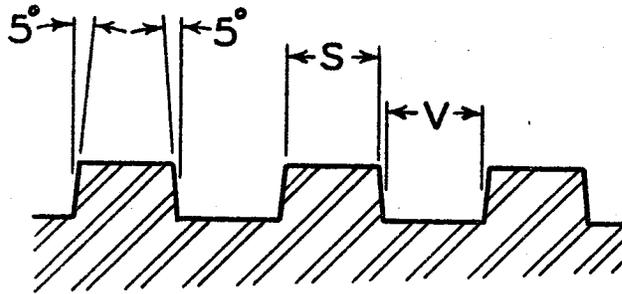


TABLE 3.—Drill rod

Designating symbol	D	H	K		M	S		T		Threads per inch	V		W
			max	min		max	min	max	min		max	min	
E.....	<i>in.</i> 1 5/16	<i>in.</i> 2 7/32	<i>in.</i> 0.877	<i>in.</i> 0.876	<i>in.</i> 1 5/8	<i>in.</i> 0.1608	<i>in.</i> 0.1544	<i>in.</i> 1.002	<i>in.</i> 1.001	3	<i>in.</i> 0.1680	<i>in.</i> 0.1617	<i>in.</i> 1 1/4
A.....	1 5/8	1 11/64	1.142	1.141	1 7/8	.1608	.1544	1.287	1.266	3	.1680	.1617	1 1/4
B.....	1 29/32	1 13/32	1.283	1.282	2	.0941	.0877	1.408	1.407	5	.1014	.0950	1 1/4
N.....	{max. 2.385 min. 2.375}	2	1.689	1.688	2 1/2	.1163	.1099	1.877	1.876	4	.1238	.1173	5/16



8-SQUARE THREADS  
PER INCH-R.H.

ON BEVEL BITS THE INCLUDED  
ANGLE OF BEVEL IS TO BE 10 DEGREES

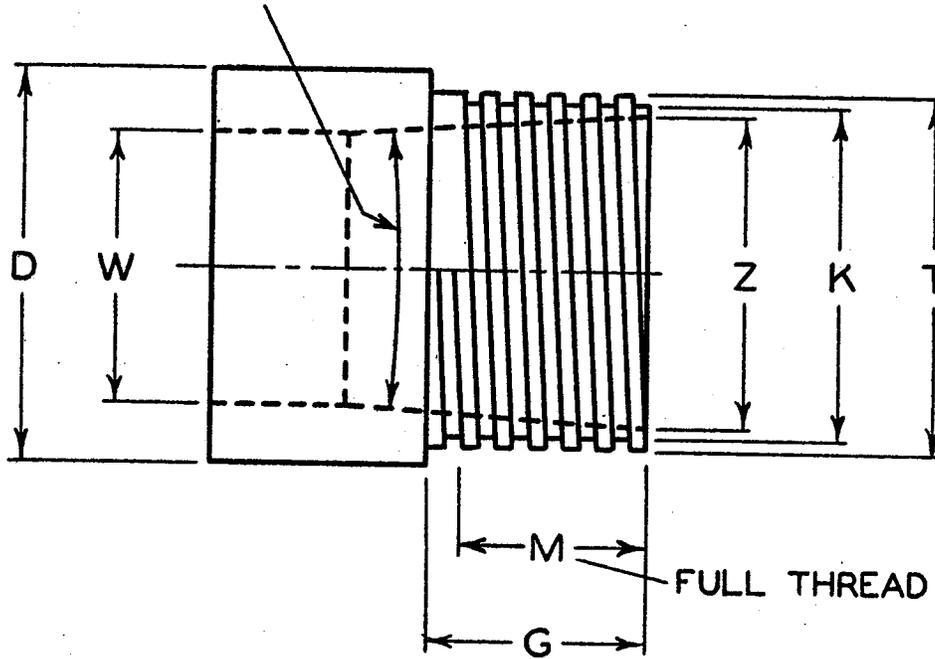
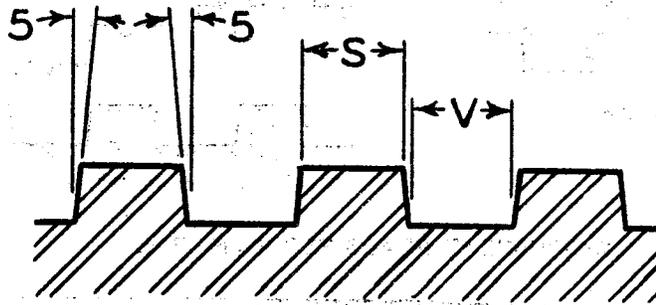


TABLE 4.—Core-barrel bits, bevel wall

[8 threads per inch R. H.]

Designating symbol	D		G	K		M <sup>1</sup>	S		T		V		W		Z	
	max	min		max	min		max	min	max	min	max	min	max	min	max	min
EXT	1.423	1.419	$\frac{7}{8}$	1.186	1.181	$\frac{3}{4}$	0.0594	0.0550	1.249	1.248	0.0642	0.0602	0.9390	0.9350	1.130	1.120
AXT	1.830	1.826	1	1.592	1.587	$\frac{7}{8}$	.0594	.0550	1.655	1.654	.0642	.0602	1.314	1.310	1.536	1.526
BX	2.298	2.294	$1\frac{1}{8}$	1.967	1.962	1	.0594	.0550	2.030	2.029	.0642	.0602	1.689	1.685	1.895	1.885
NX	2.923	2.919	$1\frac{1}{4}$	2.592	2.587	$1\frac{1}{8}$	.0594	.0550	2.655	2.654	.0642	.0602	2.189	2.185	2.510	2.500

<sup>1</sup> Threads shall be full form to within  $\frac{1}{8}$  inch of shoulder.



8-SQUARE THREADS  
PER INCH-R.H.

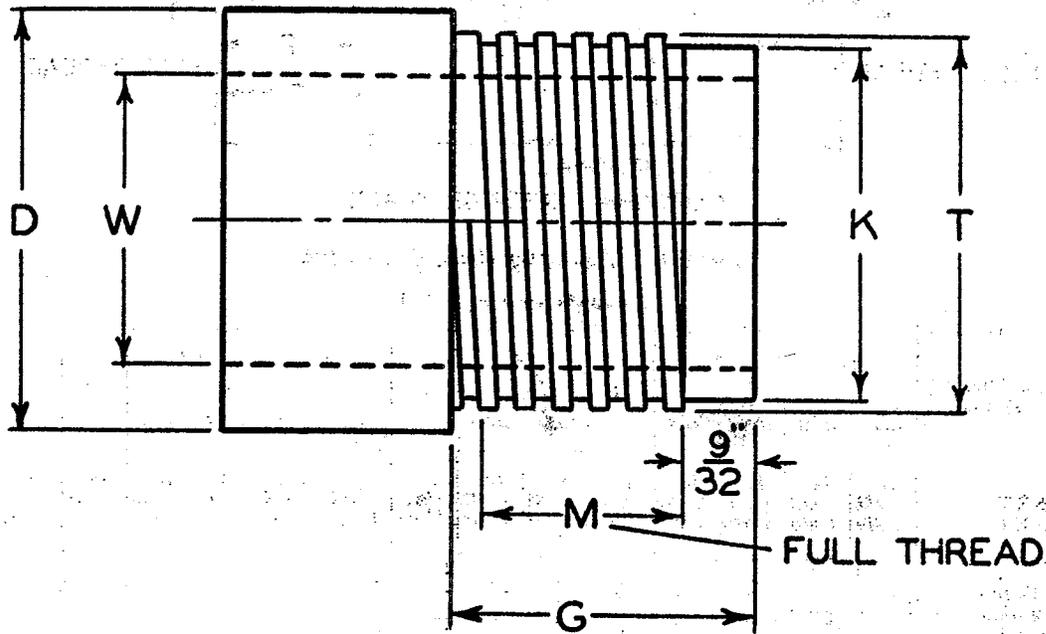
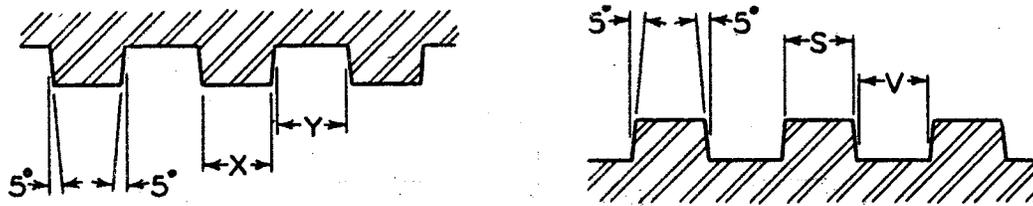


TABLE 5.—Core-barrel bits, straight wall  
[8 threads per inch R. H.]

Designating symbol	D		G	K		M	S		T		V		W	
	max	min		max	min		max	min	max	min	max	min	max	min
EXT.....	1.423	1.419	1 <sup>1</sup> / <sub>2</sub>	1.186	1.181	<sup>3</sup> / <sub>4</sub>	0.0594	0.0550	1.249	1.248	0.0642	0.0602	0.939	0.935
AXT.....	1.830	1.826	1 <sup>1</sup> / <sub>2</sub>	1.592	1.587	<sup>3</sup> / <sub>4</sub>	0.0594	0.0550	1.655	1.654	0.0642	0.0602	1.314	1.310
BX.....	2.298	2.294	1 <sup>1</sup> / <sub>2</sub>	1.967	1.962	1	0.0594	0.0550	2.030	2.029	0.0642	0.0602	1.689	1.685
NX.....	2.923	2.919	1 <sup>1</sup> / <sub>2</sub>	2.592	2.587	1 <sup>1</sup> / <sub>2</sub>	0.0594	0.0550	2.655	2.654	0.0642	0.0602	2.189	2.185



8-SQUARE THREADS PER INCH - R.H.

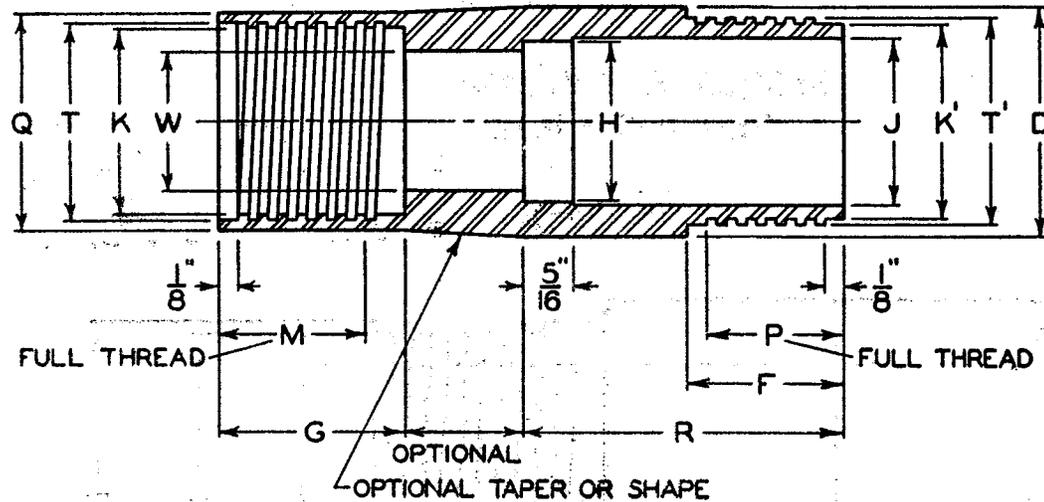


TABLE 6.—Reaming shell, double tube

[8 threads per inch R. H.]

Designating symbol	D		F		G	H			J	K		K'		M	P
	max	min	max	min		max	min	max		min	max	min			
EXT.....	1.455	1.451	1.000	0.992	1 <sup>3</sup> / <sub>16</sub>	1.083	1.073	1 <sup>7</sup> / <sub>64</sub>	1.189	1.188	1.249	1.244	1 <sup>5</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>8</sub>	
AXT.....	1.861	1.857	1.250	1.242	1 <sup>5</sup> / <sub>16</sub>	1.458	1.448	1 <sup>3</sup> / <sub>64</sub>	1.595	1.594	1.624	1.619	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	

Designating symbol	Q		R	S		T		T'		V		W	X		Y	
	max	min		max	min	max	min	max	min	max	min		max	min	max	min
EXT.....	1.423	1.419	2 <sup>1</sup> / <sub>32</sub>	0.0594	0.0550	1.252	1.251	1.311	1.310	0.0642	0.0602	3 <sup>1</sup> / <sub>32</sub>	0.0593	0.0529	0.0667	0.0602
AXT.....	1.830	1.826	2 <sup>3</sup> / <sub>32</sub>	0.0594	0.0550	1.658	1.657	1.688	1.685	0.0642	0.0602	1 <sup>1</sup> / <sub>32</sub>	0.0593	0.0529	0.0667	0.0602

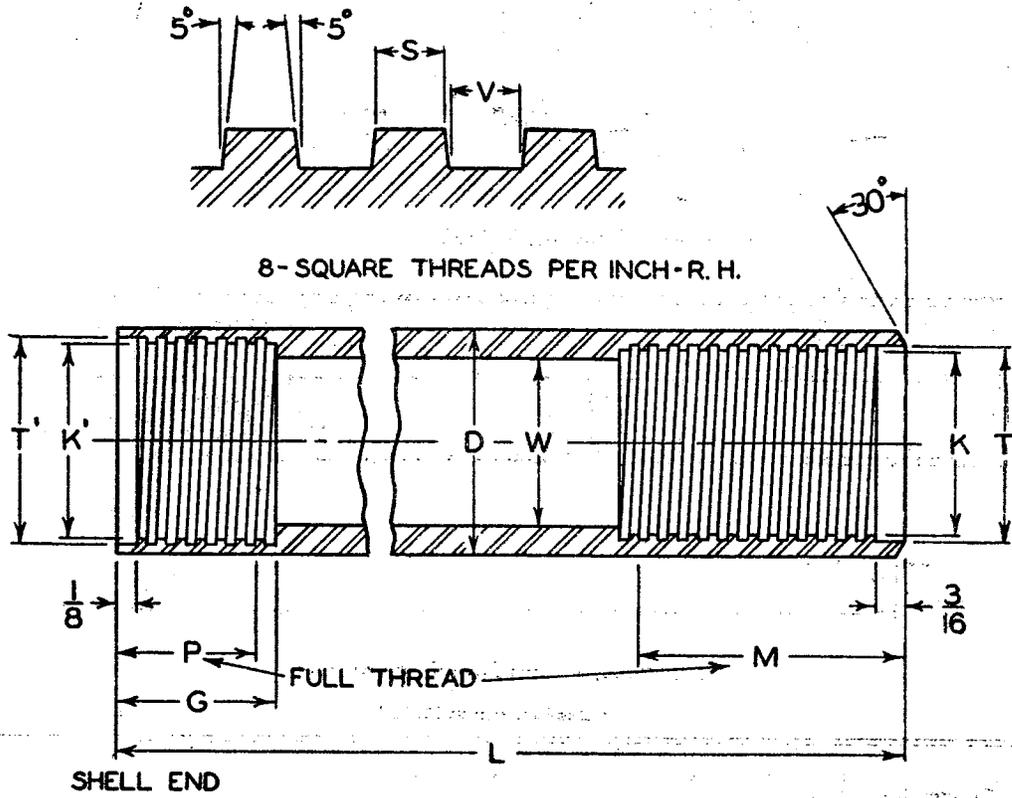
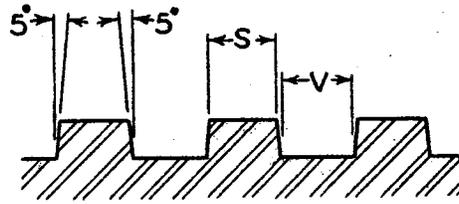


TABLE 7.—Core-barrel outer tube  
[8 threads per inch R. H.]

Designating symbol	D	G		K		K'		L	M
		max	min	max	min	max	min		
EXT.....	in. 1 1/16	in. 1.008	in. 1.000	in. 1.158	in. 1.157	in. 1.252	in. 1.251	ft. and in. 9'-11 1/2"	in. 1 1/16
AXT.....	1 27/32	1.258	1.250	1.504	1.503	1.627	1.628	10'-0" ± 1/64"	1 1/16 ± 1/64"

Designating symbol	P	S		T		T'		V		W
		max	min	max	min	max	min	max	min	
EXT.....	in. 7/8	in. 0.0593	in. 0.0529	in. 1.220	in. 1.219	in. 1.314	in. 1.313	in. 0.0667	in. 0.0602	in. 1 9/16
AXT.....	1 1/8	.0593	.0529	1.627	1.626	1.689	1.688	.0667	.0602	1 7/8



8-SQUARE THREADS PER INCH-R.H.

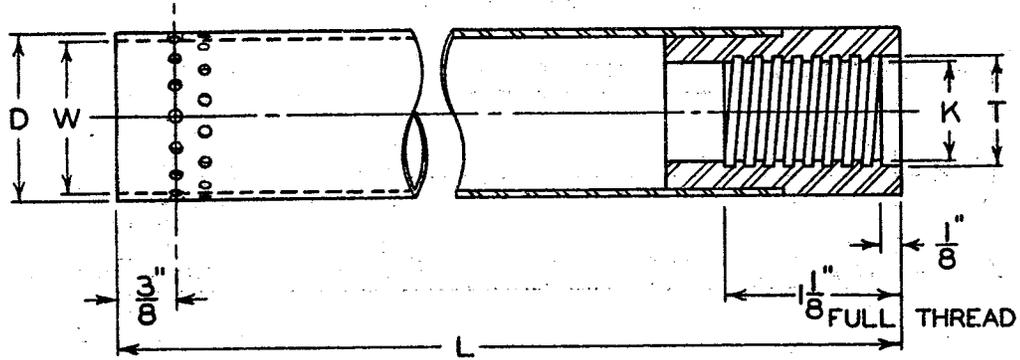


TABLE 8.—Core-barrel inner tube

[8 threads per inch R. H.]

Designating symbol	D	K		L	S		T		V		W
		max	min		max	min	max	min	max	min	
EXT.....	in. 1 1/16	in. 0.627	in. 0.628	ft and in. 9'-10 1/2"	in. 0.0593	in. 0.0529	in. 0.689	in. 0.688	in. 0.0667	in. 0.0602	in. 3 1/2
AXT.....	1 3/16	.939	.938	9'-10 1/4" ± 1/64"	.0593	.0529	1.002	1.001	.0667	.0602	1 1/2

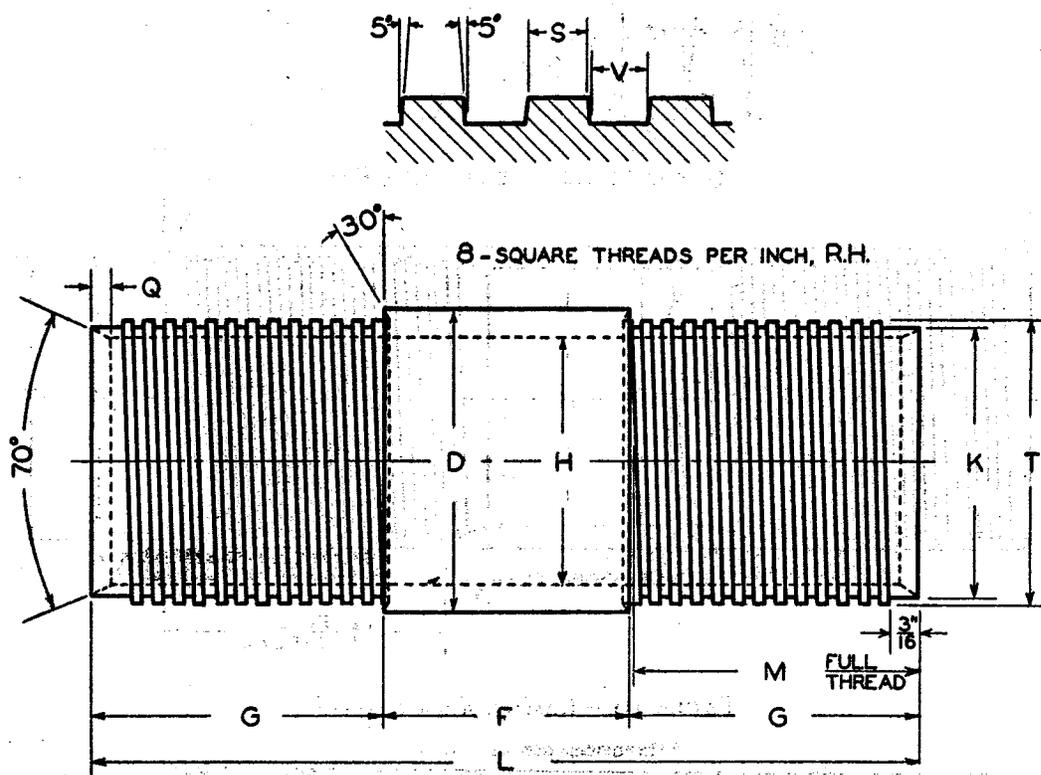


TABLE 9.—Casing couplings.

[8 threads per inch R. H.]

Designating symbol	D	F	G	H		K		L	M
				max	min	max	min		
EX.....	1 13/16	1 1/2	1 3/4	1.500	1.490	1.655	1.650	5	1 5/8
AX.....	2 1/4	3	2	1.906	1.896	2.061	2.056	7	1 7/8
BX.....	2 7/8	3 1/2	2 1/2	2.375	2.365	2.592	2.587	7 3/4	2
NX.....	3 1/2	3 1/2	2 3/8	3.000	2.990	3.217	3.212	8 1/4	2 1/4

Designating symbol	Q	S		T		V	
		max	min	max	min	max	min
EX.....	1/8	0.0594	0.0550	1.717	1.716	0.0642	0.0602
AX.....	3/16	.0593	.0549	2.124	2.123	.0642	.0602
BX.....	1/4	.0580	.0536	2.686	2.685	.0629	.0588
NX.....	1/4	.0580	.0536	3.311	3.310	.0629	.0588

<sup>1</sup> Threads shall be full form to within 1/8 inch of shoulder.

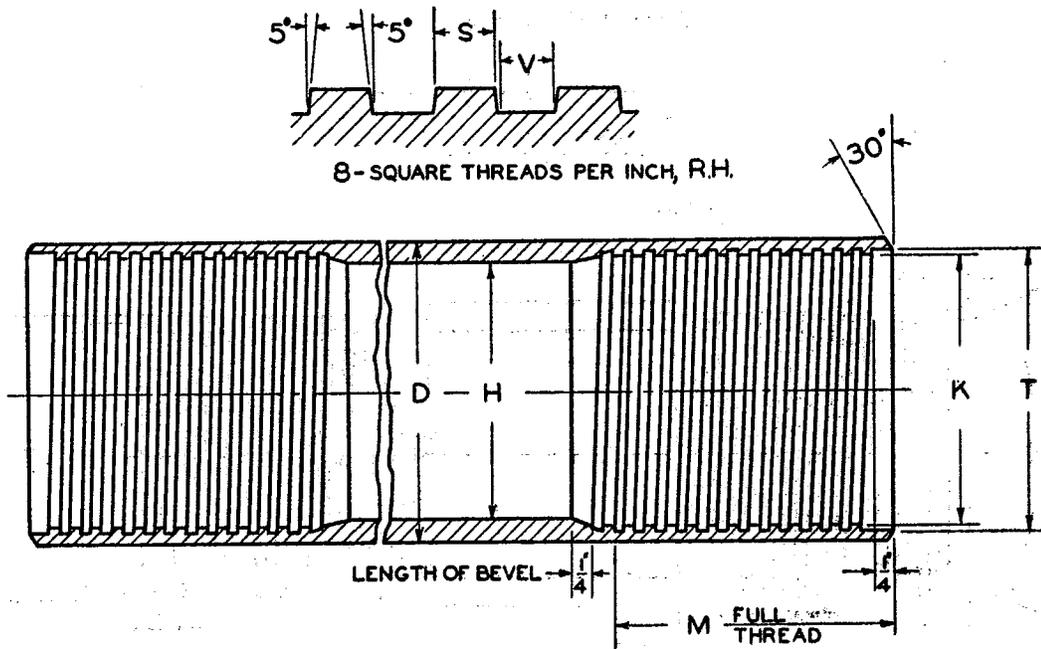


TABLE 10.—Casing, flush-coupled

[8 threads per inch R. H.]

Designating symbol	D	H	K		M <sup>1</sup>	S		T		V	
			max	min		max	min	max	min	max	min
EX.....	1 <sup>3</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>8</sub>	1.658	1.657	1 <sup>7</sup> / <sub>8</sub>	0.0593	0.0529	1.720	1.719	0.0667	0.0602
AX.....	2 <sup>1</sup> / <sub>4</sub>	2	2.064	2.063	2 <sup>1</sup> / <sub>4</sub>	.0593	.0529	2.127	2.126	.0665	.0602
BX.....	2 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	2.595	2.594	2 <sup>3</sup> / <sub>4</sub>	.0579	.0515	2.689	2.688	.0652	.0589
NX.....	3 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>8</sub>	3.220	3.219	2 <sup>1</sup> / <sub>2</sub>	.0579	.0515	3.314	3.313	.0652	.0589

<sup>1</sup> Threads shall be recessed <sup>1</sup>/<sub>4</sub>-inch.

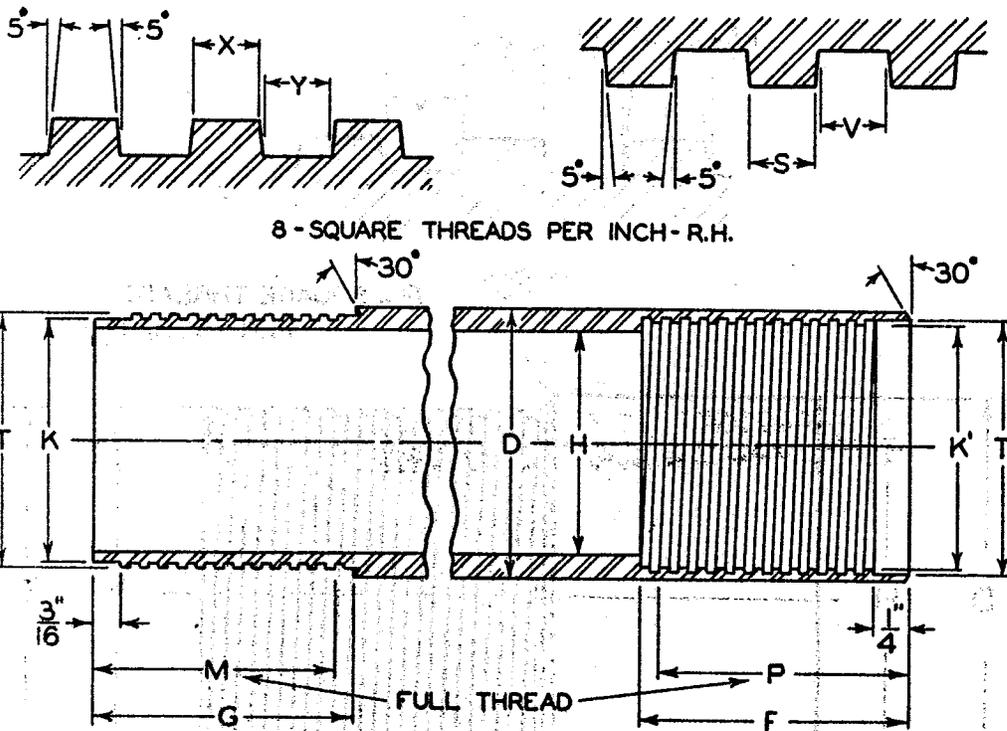


TABLE 11.—Casing, flush-joint (EX and AX)

[8 threads per inch R. H.]

Designating symbol <sup>1</sup>	D	F		G	H		K		K'		M	P
		max	min		max	min	max	min	max	min		
EX	in. 1 <sup>11</sup> / <sub>16</sub>	in. 1.817	in. 1.812	in. 1 <sup>3</sup> / <sub>4</sub>	in. 1.500	in. 1.490	in. 1.655	in. 1.650	in. 1.658	in. 1.657	in. 1 <sup>3</sup> / <sub>4</sub>	in. 1 <sup>11</sup> / <sub>16</sub>
AX	in. 2 <sup>1</sup> / <sub>4</sub>	in. 2.067	in. 2.062	in. 2	in. 1.906	in. 1.896	in. 2.061	in. 2.056	in. 2.064	in. 2.063	in. 1 <sup>3</sup> / <sub>4</sub>	in. 1 <sup>11</sup> / <sub>16</sub>

Designating symbol <sup>1</sup>	S		T		T'		V		X		Y	
	max	min	max	min	max	min	max	min	max	min	max	min
EX	in. 0.0593	in. 0.0529	in. 1.717	in. 1.716	in. 1.720	in. 1.719	in. 0.0667	in. 0.0602	in. 0.0594	in. 0.0550	in. 0.0642	in. 0.0602
AX	in. 0.0593	in. 0.0529	in. 2.124	in. 2.123	in. 2.127	in. 2.126	in. 0.0667	in. 0.0602	in. 0.0594	in. 0.0550	in. 0.0642	in. 0.0602

<sup>1</sup> Flush joint casing is not made in BX and NX sizes.

Designating symbol	D	F	G	H	K	K'	M	P	S	T	T'	V	X	Y										
EX	1 11/16	1.817	1.812	1 3/4	1.500	1.490	1.655	1.650	1.658	1.657	1 3/4	1 11/16	0.0593	0.0529	1.717	1.716	1.720	1.719	0.0667	0.0602	0.0594	0.0550	0.0642	0.0602
AX	2 1/4	2.067	2.062	2	1.906	1.896	2.061	2.056	2.064	2.063	1 3/4	1 11/16	0.0593	0.0529	2.124	2.123	2.127	2.126	0.0667	0.0602	0.0594	0.0550	0.0642	0.0602

<sup>1</sup> These are the outside diameters of the casing and the diameter of the hole in the casing.

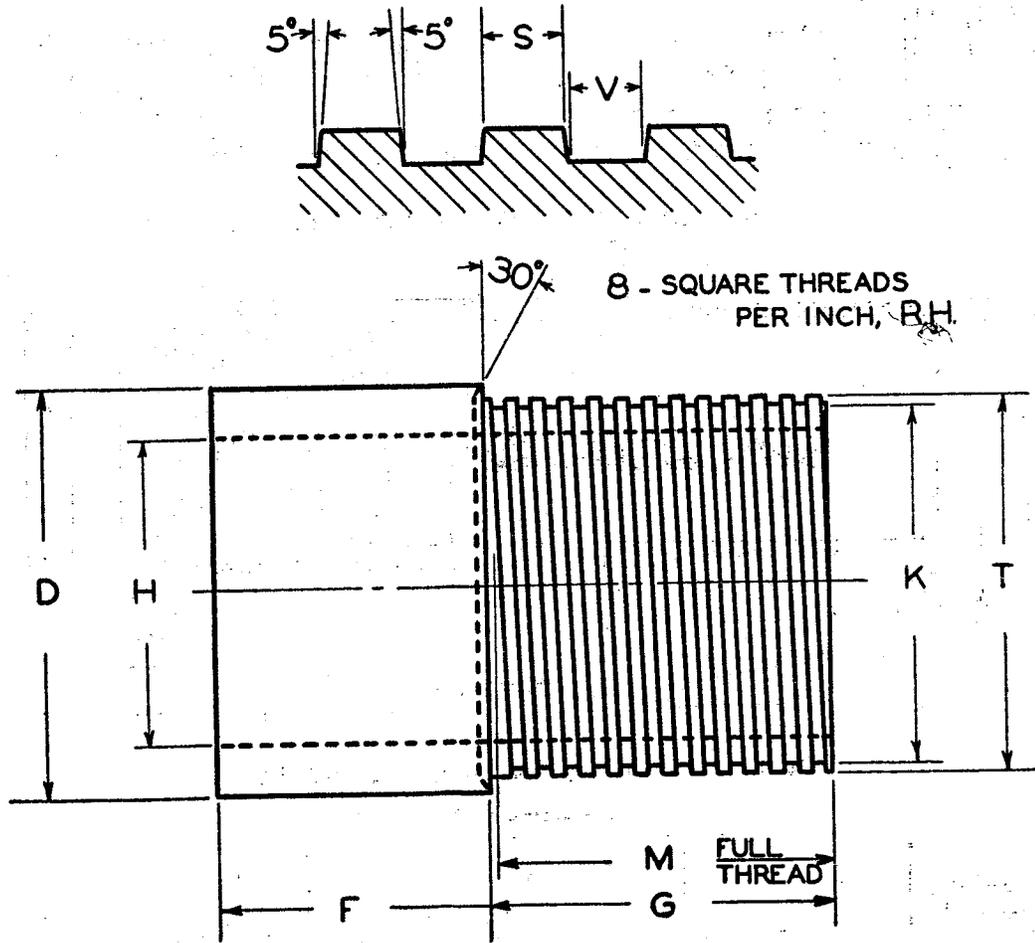


TABLE 12.—Casing bit  
[8 threads per inch R. H.]

Designating symbol	D		F	G	H (approximate)	K	
	max.	min.				max.	min.
EX.....	1.861	1.857	1 1/4	1 9/16	1 1/16	1.655	1.650
AX.....	2.330	2.326	1 1/2	1 13/16	1 13/16	2.061	2.056
BX.....	2.955	2.951	1 3/4	1 15/16	2 1/4	2.592	2.587
NX.....	3.580	3.576	2	1 5/8	2 7/8	3.217	3.212

Designating symbol	M <sup>1</sup>	S		T		V	
		max.	min.	max.	min.	max.	min.
EX.....	1 7/16	0.0594	0.0550	1.717	1.716	0.0642	0.0602
AX.....	1 11/16	.0593	.0549	2.124	2.123	.0642	.0602
BX.....	1 13/16	.0580	.0536	2.686	2.685	.0629	.0588
NX.....	1 15/16	.0580	.0536	3.311	3.310	.0629	.0588

<sup>1</sup> Threads shall be full form to within 1/8 inch of shoulder.

**MARKING**

12. The following symbol or seal is used in trade literature and advertisements by members of the Diamond Core Drill Manufacturers' Association to indicate equipment manufactured according to this commercial standard.

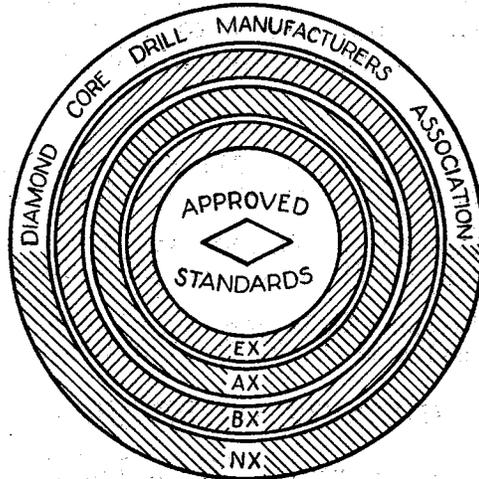


FIGURE 3.—Seal.

13. Figure 4 illustrates insignia adopted by the Diamond Core Drill Manufacturers' Association for marking items of diamond core drill equipment conforming to this standard. The significance of the insignia as marked on the equipment is explained in the certificate of compliance below, which should accompany each contract and shipment.



FIGURE 4.—Insignia.

**CERTIFICATE OF COMPLIANCE**

Date .....

The diamond core drill equipment marked with the above insignia has been manufactured by a member of the DIAMOND CORE DRILL MANUFACTURERS' ASSOCIATION and is guaranteed by the undersigned to conform to COMMERCIAL STANDARD CS17-42 issued by the NATIONAL BUREAU OF STANDARDS, UNITED STATES DEPARTMENT OF COMMERCE.

COMMERCIAL STANDARD CS17-42

.....  
Name of manufacturer

**EFFECTIVE DATE**

The standard is effective for new production from January 1, 1942.

**STANDING COMMITTEE**

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Each organization nominated its own representative. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Division of Trade Standards, National Bureau of Standards, which acts as secretary for the committee.

*Manufacturers:*

H. C. JOHANSEN (chairman), Sullvian Machinery Co., Michigan City, Ind.  
 R. D. LONGYEAR, E. J. Longyear Manufacturing Co., 1701 Foshay Tower, Minneapolis, Minn.  
 B. H. MOTT, Mott Core Drilling Co., 8th Ave. & 9th St., Huntington, W. Va.  
 WM. J. SCHANK, Sprague & Henwood, Inc., 221 Olive St., Scranton, Pa.

*Users:*

E. L. DERBY, JR., Cleveland Cliffs Iron Co., Ishpeming, Mich.  
 T. B. STURGES, Pennsylvania Drilling Co., 1201 Chartiers Ave., Pittsburgh, Pa.

**HISTORY OF PROJECT**

On May 27, 1929, at the request of the Diamond Core Drill Manufacturers' Association a general conference of manufacturers, drilling contractors, and general interests was held at Chicago, Ill., to which approximately 1,100 interested organizations had been invited. Following acceptance by a satisfactory majority, the recommended standard was issued as Commercial Standard CS17-30, being effective for new production on January 1, 1930, and for clearance of existing stocks on July 1, 1930.

**FIRST REVISION**

On the recommendation of the standing committee, a revised draft was circulated to the industry for written acceptance on March 5, 1932. The revised draft included the new tolerances adopted by the Diamond Core Drill Manufacturers' Association. In general, the changes constitute minor refinements which have developed as a result of experience with the standards and which do not change the important nominal dimensions as set forth in the first edition of the pamphlet. As announced to the trade under date of May 14, 1932, the revised standard was accepted and authorized by the industry for publication as Commercial Standard CS17-32. It was effective for new production and clearance of existing stocks from August 15, 1932.

**SECOND REVISION**

Pursuant to a request of the Diamond Core Drill Manufacturers' Association dated December 18, 1940, and following approval by the Standing Committee, the second revision was circulated on March 25, 1941, to all concerned for written acceptance. Its chief purpose is to reduce the area of the kerf cut by the two smaller sizes of core-barrel bits, thereby decreasing drill costs and recovering a slightly larger core. The revision provides new, thin-wall core barrels, core-barrel bits and reaming shells designated EXT and AXT, as well as new flush-joint casings in these two sizes. Following acceptance by a preponderant majority, the second revision was announced and promulgated on May 23, 1941, as Commercial Standard CS17-42.

## 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 CS17-42 as our standard of practice in the

Production <sup>1</sup>

Inspection <sup>1</sup>

Use <sup>1</sup>

of diamond core drill fittings.

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 standards 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 standard as their standard of practice in the production and use of diamond core drill fittings. 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 conformity should be obtained where required.

### ASSOCIATIONS

American Association of Engineers,  
Chicago, Ill.  
Nevada Mine Operators Association,  
Reno, Nev.

### FIRMS

Acker Drill Co., Scranton, Pa.  
Alabama, Geological Survey of, Uni-  
versity, Ala. (In principle.)  
Alaska-Pacific Consolidated Mining Co.,  
Wasilla, Alaska.  
American Metal Co., Ltd., The, New  
York, N. Y.  
American Potash & Chemical Corpora-  
tion, Trona, Calif.  
American Zinc Co. of Tennessee, Mas-  
cot, Tenn.  
Appalachian Electric Power Co., Pu-  
laski, Va.  
Arizona, University of, Tucson, Ariz.  
Arkansas Power & Light Co., Pine  
Bluff, Ark.  
Baltimore, Bureau of Water Supply of,  
Baltimore, Md.  
Bath & Co., John, Worcester, Mass.  
Beaumont Iron Works Co., Beaumont,  
Tex. (In principle.)  
Bennett, Russell H., Minneapolis,  
Minn.  
Bicknell Manufacturing Co., Rockland,  
Maine.  
Buhl Co., The, Chicago, Ill.  
California, State Bureau of Purchases  
of, Sacramento, Calif.  
Canadian Collieries (Dunsmuir), Ltd.  
Cumberland, B. C., Canada.  
Canadian Longyear, Ltd., North Bay,  
Ont., Canada.  
Chicago Pneumatic Tool Co., New  
York, N. Y.  
Cia. Minera de Penoles S. A., Avalos,  
Zacatecas, Mexico.  
Cleary Hill Mines Co., Fairbanks,  
Alaska.  
Cleveland-Cliffs Iron Co., The, Ishpem-  
ing, Mich.  
Clinchfield Coal Corporation, Dante,  
Va.

Cochran Coal Co., Salina, Pa.  
Cohen, A. Burton, New York, N. Y.  
Cole & McDonald Exploration Co.,  
Virginia, Minn.  
Consolidated Coppermines Corpora-  
tion, Kimberly, Nev.  
Cornell University, Ithaca, N. Y. (In  
principle.)  
Crafts Co., Inc., Arthur A., Boston,  
Mass.  
Dawson Daylight Coal Co., Dawson  
Springs, Ky.  
Denver Machine Shop, Denver, Colo.  
Denver Municipal Water Works, Board  
of Water Commissioners, Denver,  
Colo.  
Diamond Drill Contracting Co., Spo-  
kane, Wash.  
Drake Drilling Co., A. W., Scranton,  
Pa.  
Drexel Institute of Technology, Phila-  
delphia, Pa.  
El Paso Testing Laboratories, El Paso,  
Tex.  
El Potosi Mining Co., Chihuahua, Chih.,  
Mexico.  
Enterprise Coal Mining Co., Inc.,  
Garrett, Pa.  
Eureka Coal Co., Athens, Ohio.  
Ford Collieries Co., Curtisville, Pa.  
France Stone Co., The, Toledo, Ohio.  
Gay Coal & Coke Co., The, Mount  
Gay, W. Va.  
Gilmore & Co., F. F., Boston, Mass.  
Golconda Diamond Products Corpora-  
tion, Chicago, Ill.  
Hawley Engineering Corporation,  
Charles B., Washington, D. C.  
Heath & Sherwood, Kirkland Lake,  
Ont., Canada.  
Homestake Mining Co., Lead, S. Dak.  
Howard-Needles-Tammen & Bergen-  
doff, Kansas City, Mo.  
Hudson Coal Co., Scranton, Pa.  
Hydraulic-Press Brick Co., St. Louis,  
Mo.  
Idaho Maryland Mines Corporation,  
Grass Valley, Calif.  
Idaho, University of, School of Mines,  
Moscow, Idaho.

- Illinois Division of Highways, Springfield, Ill.
- Ingersoll-Rand Co., New York, N. Y.
- Inland Steel Co., Ishpeming, Mich.
- Interstate Iron Co., Pittsburgh, Pa.
- Iowa State College, Department of Chemical & Mining Engr., Ames, Iowa. (In principle.)
- Isaacson Iron Works, Seattle, Wash.
- Island Creek Coal Co., Holden, W. Va.
- Kansas, University of, Lawrence, Kans.
- Karelsen, Inc., E., New York, N. Y.
- Keystone Portland Cement Co., Bath, Pa.
- Lafayette College, Easton, Pa. (In principle.)
- Laucks Laboratories, Inc., Seattle, Wash.
- Lehigh University, Bethlehem, Pa. (In principle.)
- Liberty Fuel Co., Salt Lake City, Utah.
- Longtin, Daniel G., San Francisco, Calif.
- Longyear Co., E. J., Minneapolis, Minn.
- Los Angeles Testing Laboratory, Los Angeles, Calif.
- Massachusetts Institute of Technology, Cambridge, Mass.
- McClintock, R. S., Spokane, Wash.
- Michigan, Geological Survey Division of, Department of Conservation, Lansing Mich. (In principle.)
- Middle Rio Grande Conservancy District, Albuquerque, N. Mex.
- Minas de Matahambre, S. A., Matahambre, Pinar del Rio, Cuba.
- Mississippi Lime Co., Alton, Ill.
- Mitchell Diamond Drill Co., San Francisco, Calif.
- Moffat Coal Co., Denver, Colo.
- Montana State College, Bozeman, Mont.
- Mott Core Drilling Co., Huntington, W. Va.
- Mott Machine & Manufacturing Co., Huntington, W. Va.
- Mutual Coal Co., Gallup, N. Mex.
- National Gypsum Co., Saltville Plant, North Holston, Va.
- Nebraska, University of, Lincoln, Nebr. (In principle.)
- New York, Board of Water Supply of the City of, New York, N. Y.
- New York (State Museum), University of State of, Albany, N. Y.
- New York Testing Laboratories, Inc., New York, N. Y.
- North Dakota, University of, School of Mines, Grand Forks, N. Dak. (In principle.)
- Northwestern Improvement Co., Seattle, Wash.
- Notre Dame, University of, Notre Dame, Ind.
- Nova Scotia, Department of Mines of, Halifax, Nova Scotia.
- Ogders, Ira, Crystal Falls, Mich.
- Ohio Seamless Tube Co., The, Shelby, Ohio.
- Pech Foundry & Manufacturing Co., Gus, LeMars, Iowa.
- Penn Anthracite Collieries Co., Scranton, Pa.
- Pennsylvania Drilling Co., Pittsburgh, Pa.
- Philadelphia & Reading Coal & Iron Co., Pottsville, Pa.
- Pittsburgh Steel Co., Allenport, Pa.
- Pursglove Coal Mining Co., Cleveland, Ohio.
- Reed Roller Bit Co., Houston, Tex.
- Roberts, Hugh M., Duluth, Minn.
- St. Louis, City of, St. Louis, Mo.
- Service Steel Co., Los Angeles, Calif.
- Sheffield Corporation, The, Dayton, Ohio.
- Sheridan-Wyoming Coal Co., Inc., Monarch, Wyo.
- Smit & Co., Inc., Anton, New York, N. Y.
- Smit & Sons, Inc., J. K., New York, N. Y.
- Smith & Travers Co., Ltd., Sudbury, Ont., Canada.
- South Carolina Electric & Gas Co., Columbia, S. C.
- South Carolina Geological Survey, Columbia, S. C. (In principle.)
- Southern Drilling Co., Roanoke, Va.
- Southern Pacific Co., San Francisco, Calif.
- Sprague & Henwood, Inc., Scranton, Pa.
- Stanford University, Stanford University, Calif. (In principle.)
- Sullivan Machinery Co., Michigan City, Ind.
- Tennessee Copper Co., Ducktown, Tenn.
- Tennessee Division of Geology, Nashville, Tenn. (In principle.)
- Thompson & Lichtner Co., Inc., The, Boston, Mass.
- Truax-Traer Coal Co., Chicago, Ill.
- Twining Laboratories, The, Fresno, Calif.
- Utah, University of, Salt Lake City, Utah.
- West Virginia, School of Mines of, Morgantown, W. Va. (In principle.)
- Whiteside, Fred W., Denver, Colo.
- Wisconsin, Department of Mining & Metallurgy of, Madison, Wis.
- Wisconsin Institute of Technology, Platteville, Wis.
- Wright-Hargreaves Mines, Ltd., Kirkland Lake, Ont., Canada.

## U. S. GOVERNMENT

- Geological Survey, Washington, D. C.
- Treasury Department, Washington, D. C.
- War Department, Washington, D. C.

## COMMERCIAL STANDARDS

CS No.	Item	CS No.	Items
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.