

# Gagemakers Tolerances



NOMINAL SIZE		TOLERANCES			
ABOVE	TO AND INCLUDING	XX	X	Y	Z
.029— .740 mm	.825 20.96 mm	.00002 .00051 mm	.00004 .00102 mm	.00007 .00178 mm	.00010 .00254 mm
.825— 20.96 mm	1.510 38.35 mm	.00003 .00076 mm	.00006 .00152 mm	.00009 .00229 mm	.00012 .00305 mm
1.510— 38.35 mm	2.510 63.75 mm	.00004 .00102 mm	.00008 .00203 mm	.00012 .00305 mm	.00016 .00406 mm
2.510— 63.75 mm	4.510 114.55 mm	.00005 .00127 mm	.00010 .00254 mm	.00015 .00381 mm	.00020 .00508 mm
4.510— 114.55 mm	6.510 165.35 mm	.000065 .00165 mm	.00013 .00330 mm	.00019 .00483 mm	.00025 .00635 mm
6.510— 165.35 mm	9.010 228.85 mm	.00008 .00203 mm	.00016 .00406 mm	.00024 .00610 mm	.00032 .00813 mm
9.010— 228.85 mm	12.010 305.05 mm	.00010 .00254 mm	.00020 .00508 mm	.00030 .00762 mm	.00040 .01016 mm

## How to Order Cylindrical Plug and Ring Gages

1. Quantity and Whether Go or No Go Member
2. Exact Diameter of Member
3. Z, Y, X, XX Tolerance
4. Type Material Required — Steel — Hard Chrome — Carbide
5. Type of Gage: Reversible — Taperlock — Trilock — Progressive Ring — Master Setting Disc
6. Whether Handles are Required if Plug
7. Marking Instructions

## Direction of Tolerance:

- ▶ The following will apply to all gages unless otherwise specified:
- ▶ GO Cylindrical Plug gages — Plus tolerance (+)
- ▶ NO GO Cylindrical Plug gages — Minus tolerance (-)
- ▶ Master Cylindrical Plug gages — Bilateral tolerance (±)
- ▶ GO Cylindrical Ring gages — Minus tolerance (-)
- ▶ NO GO Cylindrical Ring gages — Plus tolerance (+)
- ▶ Master Cylindrical Ring gages — Bilateral tolerance (±)

A rule of thumb regarding tolerances on gages is to use 10% of the total manufacturing tolerance of piece part for gages, with 1/2 of the 10% to be applied against the GO and 1/2 of 10% to be applied on the NO GO.

### Example #1

Part Size = .250 + .002/- .000  
 GO = .250 NO GO = .252  
 Total Manufacturing Tolerance = .002  
 10% of .002 = .0002  
 1/2 of .0002 = .0001  
 Class Z Recommended

### Example #2

Part Size = .250 + .0005/- .0000  
 GO = .250 NO GO = .2505  
 Total Manufacturing Tolerance = .0005  
 10% of .0005 = .00005  
 1/2 of .00005 = .000025  
 Class XX Recommended

# Metric Thread Gages

## Standard Pitch Diameter Chart

NOMINAL SIZE & PITCH	FOR EXTERNAL THREAD				FOR INTERNAL THREAD			
	PITCH DIAMETER GO RING GAGE 6g TOLERANCE		PITCH DIAMETER NOT GO RING GAGE 6g TOLERANCE		PITCH DIAMETER GO PLUG GAGE 6H TOLERANCE		PITCH DIAMETER NOT GO PLUG GAGE 6H TOLERANCE	
	MM	IN. (REF)	MM	IN. (REF)	MM	IN. (REF)	MM	IN. (REF)
M 1.6 X 0.35	1.354	.05331	1.291	.05083	1.373	.05406	1.458	.05740
M 2 X 0.4	1.721	.06776	1.654	.06512	1.740	.06850	1.830	.07205
M 2.5 X 0.45	2.188	.08614	2.117	.08335	2.208	.08693	2.303	.09067
M 3 X 0.5	2.655	.10453	2.580	.10157	2.675	.10531	2.775	.10925
M 3.5 X 0.6	3.089	.12161	3.004	.11827	3.110	.12244	3.222	.12685
M 4 X 0.7	3.523	.13870	3.433	.13516	3.545	.13957	3.663	.14421
M 5 X 0.8	4.456	.17543	4.361	.17169	4.480	.17638	4.605	.18130
M 6 X 1.0	5.324	.20961	5.212	.20520	5.350	.21063	5.500	.21654
M 8 X 1.25	7.160	.28189	7.042	.27724	7.188	.28299	7.348	.28929
M 8 X 1.0	7.324	.28835	7.212	.28394	7.350	.28937	7.500	.29528
M 10 X 1.5	8.994	.35409	8.862	.34890	9.026	.35535	9.206	.36244
M 10 X 1.25	9.160	.36063	9.042	.35598	9.188	.36173	9.348	.36803
M 10 X 1.0	9.324	.36709	9.212	.36268	9.350	.36811	9.500	.37402
M 10 X 0.75	9.491	.37366	9.391	.36972	9.513	.37453	9.645	.37972
M 12 X 1.75	10.829	.42634	10.679	.42043	10.863	.42768	11.063	.43555
M 12 X 1.5	10.994	.43283	10.854	.42732	11.026	.43409	11.216	.44157
M 12 X 1.25	11.160	.43937	11.028	.43417	11.188	.44047	11.368	.44756
M 12 X 1.0	11.324	.44583	11.206	.44118	11.350	.44685	11.510	.45315
M 14 X 2.0	12.663	.49854	12.503	.49224	12.701	.50004	12.913	.50839
M 14 X 1.5	12.994	.51157	12.854	.50606	13.026	.51283	13.216	.52031
M 15 X 1.0	14.324	.56394	14.206	.55929	14.350	.56496	14.510	.57126
M 16 X 2.0	14.663	.57728	14.503	.57098	14.701	.57878	14.913	.58713
M 16 X 1.5	14.994	.59031	14.854	.58480	15.026	.59157	15.216	.59906
M 17 X 1.0	16.324	.64268	16.206	.63803	16.350	.64370	16.510	.65000
M 18 X 1.5	16.994	.66906	16.854	.66354	17.026	.67031	17.216	.67780
M 20 X 2.5	18.334	.72181	18.164	.71512	18.376	.72346	18.600	.73228
M 20 X 1.5	18.994	.74780	18.854	.74228	19.026	.74906	19.216	.75654
M 20 X 1.0	19.324	.76079	19.206	.75614	19.350	.76181	19.510	.76811
M 22 X 2.5	20.334	.80055	20.164	.79386	20.376	.80220	20.600	.81102
M 22 X 1.5	20.994	.82654	20.854	.82102	21.026	.82780	21.216	.83528
M 24 X 3.0	22.003	.86626	21.803	.85839	22.051	.86815	22.316	.87858
M 24 X 2.0	22.663	.89224	22.493	.88555	22.701	.89374	22.925	.90256
M 25 X 1.5	23.994	.94465	23.844	.93874	24.026	.94591	24.226	.95378
M 27 X 3.0	25.003	.98437	24.803	.97650	25.051	.98626	25.316	.99669
M 27 X 2.0	25.663	1.01035	25.493	1.00366	25.701	1.01185	25.925	1.02067
M 30 X 3.5	27.674	1.08953	27.642	1.08118	27.727	1.09161	28.007	1.10264
M 30 X 2.0	28.663	1.12846	28.493	1.12177	28.701	1.12996	28.925	1.13878
M 30 X 1.5	28.994	1.14150	28.844	1.13559	29.026	1.14276	29.226	1.15063
M 33 X 2.0	31.663	1.24657	31.493	1.23988	31.701	1.24807	31.925	1.25689
M 35 X 1.5	33.994	1.33835	33.844	1.33244	34.026	1.33961	34.226	1.34748
M 36 X 4.0	33.342	1.31268	33.118	1.30386	33.402	1.31504	33.702	1.32685
M 36 X 2.0	34.663	1.36469	34.493	1.35799	34.701	1.36618	34.925	1.37500
M 39 X 2.0	37.663	1.48280	37.493	1.47610	37.701	1.48429	37.925	1.49311

ANSI / ASME B1.13M, METRIC SCREW THREADS—M PROFILE

# Standard Pitch Diameter Chart

## Plug Thread Gages

NOMINAL SIZE	GO BASIC ALL CLASSES ALL SERIES	UNIFIED PITCH DIAMETERS				
		NOT GO		X TOL. GO =+ NO GO =-	X LEAD TOL.	X ± HALF ANGLE TOL.
		CL.ASS 2B	CLASS 3B			
#0-80 UNF	.0519	.0542	.0536	.0002	.0002	0°30'
#1-64 UNC	.0629	.0655	.0648	.0002	.0002	0°30'
#1-72 UNF	.0640	.0665	.0659	.0002	.0002	0°30'
#2-56 UNC	.0744	.0772	.0765	.0002	.0002	0°30'
#2-64 UNF	.0759	.0786	.0779	.0002	.0002	0°30'
#3-48 UNC	.0855	.0885	.0877	.0002	.0002	0°30'
#3-56 UNF	.0874	.0902	.0895	.0002	.0002	0°30'
#4-40 UNC	.0958	.0991	.0982	.0002	.0002	0°20'
#4-48 UNF	.0985	.1016	.1008	.0002	.0002	0°30'
#5-40 UNC	.1088	.1121	.1113	.0002	.0002	0°20'
#5-44 UNF	.1102	.1134	.1126	.0002	.0002	0°20'
#6-32 UNC	.1177	.1214	.1204	.0003	.0003	0°15'
#6-40 UNF	.1218	.1252	.1243	.0002	.0002	0°20'
#8-32 UNC	.1437	.1475	.1465	.0003	.0003	0°15'
#8-36 UNF	.1460	.1496	.1487	.0002	.0002	0°20'
#10-24 UNC	.1629	.1672	.1661	.0003	.0003	0°15'
#10-32 UNF	.1697	.1736	.1726	.0003	.0003	0°15'
#12-24 UNC	.1889	.1933	.1922	.0003	.0003	0°15'
#12-28 UNF	.1928	.1970	.1959	.0003	.0003	0°15'
#12-32 UNEF	.1957	.1998	.1988	.0003	.0003	0°15'
¼-20 UNC	.2175	.2224	.2211	.0003	.0003	0°15'
¼-28 UNF	.2268	.2311	.2300	.0003	.0003	0°15'
¼-32 UNEF	.2297	.2339	.2328	.0003	.0003	0°15'
⅕-18 UNC	.2764	.2817	.2803	.0003	.0003	0°10'
⅕-24 UNF	.2854	.2902	.2890	.0003	.0003	0°15'
⅕-32 UNEF	.2922	.2964	.2953	.0003	.0003	0°15'
⅜-16 UNC	.3344	.3401	.3387	.0003	.0003	0°10'
⅜-24 UNF	.3479	.3528	.3516	.0003	.0003	0°15'
⅜-32 UNEF	.3547	.3591	.3580	.0003	.0003	0°15'
⅞-14 UNC	.3911	.3972	.3957	.0003	.0003	0°10'
⅞-20 UNF	.4050	.4104	.4091	.0003	.0003	0°15'
⅞-28 UNEF	.4143	.4189	.4178	.0003	.0003	0°15'
½-13 UNC	.4500	.4565	.4548	.0003	.0003	0°10'
½-20 UNF	.4675	.4731	.4717	.0003	.0003	0°15'
½-28 UNEF	.4768	.4816	.4804	.0003	.0003	0°15'
⅝-12 UNC	.5084	.5152	.5135	.0003	.0003	0°10'
⅝-18 UNF	.5264	.5323	.5308	.0003	.0003	0°10'

NOMINAL SIZE	GO BASIC ALL CLASSES ALL SERIES	UNIFIED PITCH DIAMETERS				
		NOT GO		X TOL. GO =+ NO GO =-	X LEAD TOL.	X ± HALF ANGLE TOL.
		CL.ASS 2B	CLASS 3B			
⅙-24 UNEF	.5354	.5405	.5392	.0003	.0003	0°15'
⅝-11 UNC	.5660	.5732	.5714	.0003	.0003	0°10'
⅝-18 UNF	.5889	.5949	.5934	.0003	.0003	0°10'
⅝-24 UNEF	.5979	.6031	.6018	.0003	.0003	0°15'
1 1/16-24 UNEF	.6604	.6656	.6643	.0003	.0003	0°15'
¾-10 UNC	.6850	.6927	.6907	.0003	.0003	0°10'
¾-16 UNF	.7094	.7159	.7143	.0003	.0003	0°10'
¾-20 UNEF	.7175	.7232	.7218	.0003	.0003	0°15'
1 1/16-20 UNEF	.7800	.7857	.7843	.0003	.0003	0°15'
7/8-9 UNC	.8028	.8110	.8089	.0003	.0003	0°10'
7/8-14 UNF	.8286	.8356	.8339	.0003	.0003	0°10'
7/8-20 UNEF	.8425	.8482	.8468	.0003	.0003	0°15'
1 5/16-20 UNEF	.9050	.9109	.9094	.0003	.0003	0°15'
1"-8 UNC	.9188	.9276	.9254	.0004	.0004	0°05'
1"-12 UNF	.9459	.9535	.9516	.0003	.0003	0°10'
1"-14 UNS	.9536	.9609	.9590	.0003	.0003	0°10'
1"-20 UNEF	.9675	.9734	.9719	.0003	.0003	0°15'
1 1/16-12 UN	1.0084	1.0158	1.0139	.0003	.0003	0°10'
1 1/16-18 UNEF	1.0264	1.0326	1.0310	.0003	.0003	0°10'
1 1/8-7 UNC	1.0322	1.0416	1.0393	.0004	.0004	0°05'
1 1/8-12 UNF	1.0709	1.0787	1.0768	.0003	.0003	0°10'
1 1/8-18 UNEF	1.0889	1.0951	1.0935	.0003	.0003	0°10'
1 3/16-12 UN	1.1334	1.1409	1.1390	.0003	.0003	0°10'
1 3/16-18 UNEF	1.1514	1.1577	1.1561	.0003	.0003	0°10'
1 1/4-7 UNC	1.1572	1.1668	1.1644	.0004	.0004	0°05'
1 1/4-12 UNF	1.1959	1.2039	1.2019	.0003	.0003	0°10'
1 1/4-18 UNEF	1.2139	1.2202	1.2186	.0003	.0003	0°10'
1 5/16-12 UN	1.2584	1.2659	1.2640	.0003	.0003	0°10'
1 5/16-18 UNEF	1.2764	1.2827	1.2811	.0003	.0003	0°10'
1 3/8-6 UNC	1.2667	1.2771	1.2745	.0004	.0004	0°05'
1 3/8-12 UNF	1.3209	1.3291	1.3270	.0003	.0003	0°10'
1 3/8-18 UNEF	1.3389	1.3452	1.3436	.0003	.0003	0°10'
1 7/16-12 UN	1.3834	1.3910	1.3891	.0003	.0003	0°10'
1 7/16-18 UNEF	1.4014	1.4079	1.4062	.0003	.0003	0°10'
1 1/2-6 UNC	1.3917	1.4022	1.3996	.0004	.0004	0°05'
1 1/2-12 UNF	1.4459	1.4542	1.4522	.0003	.0003	0°10'
1 1/2-18 UNEF	1.4639	1.4704	1.4687	.0003	.0003	0°10'

# Standard Pitch Diameter Chart

## Ring Thread Gages and Setting Plugs

NOMINAL SIZE	UNIFIED PITCH DIAMETERS				X TOL. GO == NO GO ==+
	CLASS 2A		CLASS 3A		
	GO	NOT GO	GO	NOT GO	
#0-80 UNF	.0514	.0496	.0519	.0506	.0002
#1-64 UNC	.0623	.0603	.0629	.0614	.0002
#1-72 UNF	.0634	.0615	.0640	.0626	.0002
#2-56 UNC	.0738	.0717	.0744	.0728	.0002
#2-64 UNF	.0753	.0733	.0759	.0744	.0002
#3-48 UNC	.0848	.0825	.0855	.0838	.0002
#3-56 UNF	.0867	.0845	.0874	.0858	.0002
#4-40 UNC	.0950	.0925	.0958	.0939	.0002
#4-48 UNF	.0978	.0954	.0985	.0967	.0002
#5-40 UNC	.1080	.1054	.1088	.1069	.0002
#5-44 UNF	.1095	.1070	.1102	.1083	.0002
#6-32 UNC	.1169	.1141	.1177	.1156	.0003
#6-40 UNF	.1210	.1184	.1218	.1198	.0002
#8-32 UNC	.1428	.1399	.1437	.1415	.0003
#8-36 UNF	.1452	.1424	.1460	.1439	.0002
#10-24 UNC	.1619	.1586	.1629	.1604	.0003
#10-32 UNF	.1688	.1658	.1697	.1674	.0003
#12-24 UNC	.1879	.1845	.1889	.1863	.0003
#12-28 UNF	.1918	.1886	.1928	.1904	.0003
#12-32 UNEF	.1948	.1917	.1957	.1933	.0003
1/4-20 UNC	.2164	.2127	.2175	.2147	.0003
1/4-28 UNF	.2258	.2225	.2268	.2243	.0003
1/4-32 UNEF	.2287	.2255	.2297	.2273	.0003
5/16-18 UNC	.2752	.2712	.2764	.2734	.0003
5/16-24 UNF	.2843	.2806	.2854	.2827	.0003
5/16-32 UNEF	.2912	.2880	.2922	.2898	.0003
3/8-16 UNC	.3331	.3287	.3344	.3311	.0003
3/8-24 UNF	.3468	.3430	.3479	.3450	.0003
3/8-32 UNEF	.3537	.3503	.3547	.3522	.0003
7/16-14 UNC	.3897	.3850	.3911	.3876	.0003
7/16-20 UNF	.4037	.3995	.4050	.4019	.0003
7/16-28 UNEF	.4132	.4096	.4143	.4116	.0003
1/2-13 UNC	.4485	.4435	.4500	.4463	.0003
1/2-20 UNF	.4662	.4619	.4675	.4643	.0003
1/2-28 UNEF	.4757	.4720	.4768	.4740	.0003
9/16-12 UNC	.5068	.5016	.5084	.5045	.0003
9/16-18 UNF	.5250	.5205	.5264	.5230	.0003

NOMINAL SIZE	UNIFIED PITCH DIAMETERS				X TOL. GO == NO GO ==+
	CLASS 2A		CLASS 3A		
	GO	NOT GO	GO	NOT GO	
1/16-24 UNEF	.5342	.5303	.5354	.5325	.0003
5/8-11 UNC	.5644	.5589	.5660	.5619	.0003
5/8-18 UNF	.5875	.5828	.5889	.5854	.0003
5/8-24 UNEF	.5967	.5927	.5979	.5949	.0003
1 1/16-24 UNEF	.6592	.6552	.6604	.6574	.0003
3/4-10 UNC	.6832	.6773	.6850	.6806	.0003
3/4-16 UNF	.7079	.7029	.7094	.7056	.0003
3/4-20 UNEF	.7162	.7118	.7175	.7142	.0003
1 3/16-20 UNEF	.7787	.7743	.7800	.7767	.0003
7/8-9 UNC	.8009	.7946	.8028	.7981	.0003
7/8-14 UNF	.8270	.8216	.8286	.8245	.0003
7/8-20 UNEF	.8412	.8368	.8425	.8392	.0003
1 5/16-20 UNEF	.9036	.8991	.9050	.9016	.0003
1"-8 UNC	.9168	.9100	.9188	.9137	.0004
1"-12 UNF	.9441	.9382	.9459	.9415	.0003
1"-14 UNS	.9519	.9463	.9536	.9494	.0003
1"-20 UNEF	.9661	.9616	.9675	.9641	.0003
1 1/16-12 UN	1.0067	1.0010	1.0084	1.0042	.0003
1 1/16-18 UNEF	1.0250	1.0203	1.0264	1.0228	.0003
1 1/8-7 UNC	1.0300	1.0228	1.0322	1.0268	.0004
1 1/8-12 UNF	1.0691	1.0631	1.0709	1.0664	.0003
1 1/8-18 UNEF	1.0875	1.0828	1.0889	1.0853	.0003
1 3/16-12 UN	1.1317	1.1259	1.1334	1.1291	.0003
1 3/16-18 UNEF	1.1499	1.1450	1.1514	1.1478	.0003
1 1/4-7 UNC	1.1550	1.1476	1.1572	1.1517	.0004
1 1/4-12 UNF	1.1941	1.1879	1.1959	1.1913	.0003
1 1/4-18 UNEF	1.2124	1.2075	1.2139	1.2103	.0003
1 5/16-12 UN	1.2567	1.2509	1.2584	1.2541	.0003
1 5/16-18 UNEF	1.2749	1.2700	1.2764	1.2728	.0003
1 3/8-6 UNC	1.2643	1.2563	1.2667	1.2607	.0004
1 3/8-12 UNF	1.3190	1.3127	1.3209	1.3162	.0003
1 3/8-18 UNEF	1.3374	1.3325	1.3389	1.3353	.0003
1 7/16-12 UN	1.3816	1.3757	1.3834	1.3790	.0003
1 7/16-18 UNEF	1.3999	1.3949	1.4014	1.3977	.0003
1 1/2-6 UNC	1.3893	1.3812	1.3917	1.3856	.0004
1 1/2-12 UNF	1.4440	1.4376	1.4459	1.4411	.0003
1 1/2-18 UNEF	1.4624	1.4574	1.4639	1.4602	.0003

# Standard Pitch Diameter Chart

## Helical Coil Plug Gages

NOMINAL SIZE	PITCH DIAMETERS			X TOL. GO =+ NO GO =-
	GO	2B NOT GO	3B NOT GO	
(.086) #2-56 UNC	.0976	.0996	.0989	.0002
(.086) #2-64 UNF	.0962	.0981	.0974	.0002
(.099) #3-48 UNC	.1126	.1148	.1140	.0002
(.099) #3-56 UNF	.1106	.1126	.1119	.0002
(.112) #4-40 UNC	.1283	.1308	.1299	.0002
(.112) #4-48 UNF	.1256	.1279	.1271	.0002
(.125) #5-40 UNC	.1413	.1438	.1430	.0002
(.138) #6-32 UNC	.1583	.1611	.1601	.0003
(.138) #6-40 UNF	.1543	.1569	.1560	.0002
(.164) #8-32 UNC	.1843	.1872	.1862	.0003
(.164) #8-36 UNF	.1821	.1849	.1840	.0002
(.190) #10-24 UNC	.2170	.2203	.2192	.0003
(.190) #10-32 UNF	.2103	.2133	.2123	.0003
(.216) #12-24 UNC	.2430	.2464	.2453	.0003
1/4-20 UNC	.2825	.2864	.2851	.0003
1/4-28 UNF	.2732	.2765	.2754	.0003
5/16-18 UNC	.3486	.3529	.3515	.0003
5/16-24 UNF	.3395	.3433	.3421	.0003
3/8-16 UNC	.4156	.4203	.4189	.0003
3/8-24 UNF	.4020	.4059	.4047	.0003
7/16-14 UNC	.4839	.4890	.4875	.0003
7/16-20 UNF	.4700	.4744	.4731	.0003
1/2-13 UNC	.5499	.5554	.5537	.0003
1/2-20 UNF	.5325	.5371	.5357	.0003
9/16-12 UNC	.6167	.6225	.6208	.0003
9/16-18 UNF	.5986	.6035	.6020	.0003
5/8-11 UNC	.6841	.6903	.6885	.0003
5/8-18 UNF	.6611	.6661	.6646	.0003
3/4-10 UNC	.8149	.8216	.8196	.0003
3/4-16 UNF	.7906	.7961	.7945	.0003

# Standard Pitch Diameter Chart

## Straight Pipe Pitch Diameter Chart

NOMINAL SIZE	NPSM				NPSC		NPSL			
	INTERNAL 2B		EXTERNAL 2A		INTERNAL		INTERNAL		EXTERNAL	
	GO	NOT GO	GO	NOT GO	GO	NOT GO	GO	NOT GO	GO	NOT GO
1/8 — 27	.3736	.3783	.3725	.3689	.3701	.3771	.3863	.3898	.3840	.3805
1/4 — 18	.4916	.4974	.4903	.4859	.4864	.4968	.5073	.5125	.5038	.4986
3/8 — 18	.6270	.6329	.6256	.6211	.6218	.6322	.6444	.6496	.6409	.6357
1/2 — 14	.7784	.7851	.7769	.7718	.7717	.7851	.8008	.8075	.7963	.7896
3/4 — 14	.9889	.9958	.9873	.9820	.9822	.9956	1.0112	1.0179	1.0067	1.0000
1 — 11-1/2	1.2386	1.2462	1.2369	1.2311	1.2305	1.2468	1.2658	1.2739	1.2604	1.2523
1-1/4 — 11-1/2	1.5834	1.5912	1.5816	1.5756	1.5752	1.5915	1.6106	1.6187	1.6051	1.5970
1-1/2 — 11-1/2	1.8223	1.8302	1.8205	1.8144	1.8142	1.8305	1.8495	1.8576	1.8441	1.8360
2 — 11-1/2	2.2963	2.3044	2.2944	2.2882	2.2881	2.3044	2.3234	2.3315	2.3180	2.3099
2-1/2 — 8	2.7622	2.7720	2.7600	2.7526	2.7504	2.7739	2.8012	2.8129	2.7934	2.7817
3 — 8	3.3885	3.3984	3.3862	3.3786	3.3768	3.4002	3.4276	3.4393	3.4198	3.4081