

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