



TAP RECOMMENDATIONS FOR CLASSES OF THREAD - INCH

Internal Screw Thread Classes and Tap Recommendations

Size	Threads per Inch		Recommended Tap for Class of Thread				Pitch Diameter Limits for Class of Thread				
	UNC	UNF	Unified Class of Thread		American National Class of Thread		Min. All Class (Basic)	Unified Class of Thread		American National Class of Thread	
			Class 2	Class 3	Class 2B	Class 3B		Max. Class 2	Max. Class 3	Max. Class 2B	Max. Class 3B
#0	-	80	GH1	GH1	GH2	GH1	.0519	.0536	.0532	.0542	.0536
#1	64	-	GH1	GH1	GH2	GH1	.0629	.0648	.0643	.0655	.0648
#1	-	72	GH1	GH1	GH2	GH1	.0640	.0658	.0653	.0665	.0659
#2	56	-	GH1	GH1	GH2	GH1	.0744	.0764	.0759	.0772	.0765
#2	-	64	GH1	GH1	GH2	GH1	.0759	.0778	.0773	.0786	.0779
#3	48	-	GH1	GH1	GH2	GH1	.0855	.0877	.0871	.0885	.0877
#3	-	56	GH1	GH1	GH2	GH1	.0874	.0894	.8890	.0902	.0895
#4	40	-	GH2	GH1	GH2	GH2	.0958	.0982	.0975	.0991	.0982
#4	-	48	GH1	GH1	GH2	GH1	.0985	.1007	.1001	.1016	.1008
#5	40	-	GH2	GH1	GH2	GH2	.1088	.1112	.1105	.1121	.1113
#5	-	44	GH1	GH1	GH2	GH1	.1102	.1125	.1118	.1134	.1126
#6	32	-	GH2	GH1	GH3	GH2	.1177	.1204	.1196	.1214	.1204
#6	-	40	GH2	GH1	GH2	GH2	.1218	.1242	.1235	.1252	.1243
#8	32	-	GH2	GH1	GH3	GH2	.1437	.1464	.1456	.1475	.1465
#8	-	36	GH2	GH1	GH2	GH2	.1460	.1485	.1478	.1496	.1487
#10	24	-	GH3	GH1	GH3	GH3	.1629	.1662	.1653	.1672	.1661
#10	-	32	GH2	GH1	GH3	GH2	.1697	.1724	.1716	.1736	.1726
#12	24	-	GH3	GH1	GH3	GH3	.1889	.1922	.1913	.1933	.1922
#12	-	28	GH3	GH1	GH3	GH3	.1928	.1959	.1950	.1970	.1959
1/4	20	-	GH3	GH2	GH5	GH3	.2175	.2211	.2201	.2223	.2211
1/4	-	28	GH3	GH1	GH4	GH3	.2268	.2299	.2290	.2311	.2300
5/16	18	-	GH3	GH2	GH5	GH3	.2764	.2805	.2794	.2817	.2803
5/16	-	24	GH3	GH1	GH4	GH3	.2854	.2887	.2878	.2902	.2890
3/8	16	-	GH3	GH2	GH5	GH3	.3344	.3389	.3376	.3401	.3387
3/8	-	24	GH3	GH1	GH4	GH3	.3479	.3512	.3503	.3528	.3516
7/16	14	-	GH5	GH3	GH5	GH3	.3911	.3960	.3947	.3972	.3957
7/16	-	20	GH3	GH1	GH5	GH3	.4050	.4086	.4076	.4104	.4091
1/2	13	-	GH5	GH3	GH5	GH3	.4500	.4552	.4537	.4565	.4548
1/2	-	20	GH3	GH1	GH5	GH3	.4675	.4711	.4701	.4731	.4717
9/16	12	-	GH5	GH3	GH5	GH3	.5084	.5140	.5124	.5152	.5135
9/16	-	18	GH3	GH2	GH5	GH3	.5264	.5305	.5294	.5323	.5308
5/8	11	-	GH5	GH3	GH5	GH3	.5660	.5719	.5702	.5732	.5714
5/8	-	18	GH3	GH2	GH5	GH3	.5889	.5930	.5919	.5949	.5934
3/4	10	-	GH5	GH3	GH5	GH3	.6850	.6914	.6895	.6927	.6907
3/4	-	16	GH3	GH2	GH5	GH3	.7094	.7139	.7126	.7159	.7143
7/8	9	-	GH6	GH4	GH6	GH4	.8028	.8098	.8077	.8110	.8089
7/8	-	14	GH4	GH2	GH6	GH4	.8286	.8335	.8322	.8356	.8339
1	8	-	GH6	GH4	GH6	GH4	.9188	.9264	.9242	.9276	.9254
1	-	12	GH4	GH2	GH6	GH4	.9459	.9515	.9499	.9535	.9516

The above recommended taps normally produce the Class of Thread indicated in average materials when used with reasonable care. However, if the tap specified does not give a satisfactory gage fit in the work, a choice of some other limit tap will be necessary.

12 TAP RECOMMENDATIONS FOR CLASSES OF THREAD - METRIC

Size	Pitch	Recommended Tap for Class of Thread		Pitch Diameter Limits for Class of Thread (mm)			Pitch Diameter Limits for Class of Thread (inch)		
		4H	6H	Min. (Basic)	Max. 4H	Max. 6H	Min. (Basic)	Max. 4H	Max. 6H
M1.6	0.35	D1	D3	1.373	1.426	1.458	.05406	.05614	.05740
M2	0.40	D1	D3	1.740	1.796	1.830	.06850	.07071	.07205
M2.5	0.45	D1	D3	2.208	2.268	2.303	.08693	.08929	.09067
M3	0.50	D1	D3	2.675	2.738	2.775	.10531	.10780	.10925
M3.5	0.60	D1	D4	3.110	3.181	3.222	.12244	.12524	.12685
M4	0.70	D2	D4	3.545	3.620	3.663	.13957	.14252	.14421
M4.5	0.75	D2	D4	4.013	4.088	4.131	.15789	.16094	.16264
M5	0.80	D2	D4	4.480	4.560	4.605	.17638	.17953	.18130
M6	1.00	D3	D5	5.350	5.445	5.500	.21063	.21437	.21654
M7	1.00	D3	D5	6.350	6.445	6.500	.25000	.25374	.25591
M8	1.25	D3	D5	7.188	7.288	7.348	.28299	.28693	.28929
M10	1.50	D3	D6	9.026	9.138	9.206	.35535	.35976	.36244
M12	1.75	D3	D6	10.863	10.988	11.063	.42768	.43260	.43555
M14	2.00	D3	D7	12.701	12.833	12.913	.50004	.50524	.50839
M16	2.00	D4	D7	14.701	14.833	14.913	.57878	.58398	.58713
M20	2.50	D4	D7	18.376	18.516	18.600	.72346	.72898	.73228
M24	3.00	D4	D8	22.051	22.221	22.316	.86815	.87484	.87858
M30	3.50	D5	D9	27.727	27.907	28.007	1.09161	1.0987	1.10264
M36	4.00	D5	D9	33.402	33.592	33.702	1.31504	1.32252	1.32685

13 TOLERANCE CHART - USCTI

Element	Nominal Diameter Range in Inches		Direction	Tolerance (Inches)
	Over	To (Inc.)		
Overall Length - L	.0520	1.0100	Plus or Minus	.031
	1.0100	4.0100	Plus or Minus	.063
Thread Length - L1	.0520	.2230	Plus or Minus	.047
	.2230	.5100	Plus or Minus	.063
	.5100	1.5100	Plus or Minus	.094
Square Length - L3	1.5100	4.0100	Plus or Minus	.125
	.0520	1.0100	Plus or Minus	.031
	1.0100	4.0100	Plus or Minus	.063
Shank Diameter - D	.0520	.2230	Minus	.0015
	.2230	.6350	Minus	.0015
	.6350	1.0100	Minus	.0020
	1.0100	1.5100	Minus	.0020
	1.5100	2.0100	Minus	.0030
	2.0100	4.0100	Minus	.0030
Square Size - a	.0520	.5100	Minus	.004
	.5100	1.0100	Minus	.006
	1.0100	2.0100	Minus	.008
	2.0100	4.0100	Minus	.010