

Tap Drill & Clearance Chart — Unified inch threads (UNC / UNF)

Tap drills ~75% engagement (Machinery's Handbook chart). Clearance drills: ASME B18.2.8 close / normal / loose fits.

UNC & UNF

THREAD	MAJOR "	TPI	TAP DRILL	TAP "	CLOSE	NORMAL	LOOSE
#0-80 UNF	0.0600	80	3/64"	0.0469	#51	#48	3/32"
#1-64 UNC	0.0730	64	#53	0.0595	#46	#43	#37
#1-72 UNF	0.0730	72	#53	0.0595	#46	#43	#37
#2-56 UNC	0.0860	56	#50	0.0700	3/32"	#38	#32
#2-64 UNF	0.0860	64	#50	0.0700	3/32"	#38	#32
#3-48 UNC	0.0990	48	#47	0.0785	#36	#32	#30
#3-56 UNF	0.0990	56	#45	0.0820	#36	#32	#30
#4-40 UNC	0.1120	40	#43	0.0890	#31	#30	#27
#4-48 UNF	0.1120	48	#42	0.0935	#31	#30	#27
#5-40 UNC	0.1250	40	#38	0.1015	9/64"	5/32"	11/64"
#5-44 UNF	0.1250	44	#37	0.1040	9/64"	5/32"	11/64"
#6-32 UNC	0.1380	32	#36	0.1065	#23	#18	#13
#6-40 UNF	0.1380	40	#33	0.1130	#23	#18	#13
#8-32 UNC	0.1640	32	#29	0.1360	#15	#9	#3
#8-36 UNF	0.1640	36	#29	0.1360	#15	#9	#3
#10-24 UNC	0.1900	24	#25	0.1495	#5	#2	B
#10-32 UNF	0.1900	32	#21	0.1590	#5	#2	B
#12-24 UNC	0.2160	24	#16	0.1770	—	—	—
#12-28 UNF	0.2160	28	#14	0.1820	—	—	—
1/4"-20 UNC	0.2500	20	#7	0.2010	17/64"	9/32"	19/64"
1/4"-28 UNF	0.2500	28	#3	0.2130	17/64"	9/32"	19/64"
5/16"-18 UNC	0.3125	18	F	0.2570	21/64"	11/32"	23/64"
5/16"-24 UNF	0.3125	24	I	0.2720	21/64"	11/32"	23/64"
3/8"-16 UNC	0.3750	16	5/16"	0.3125	25/64"	13/32"	27/64"
3/8"-24 UNF	0.3750	24	Q	0.3320	25/64"	13/32"	27/64"
7/16"-14 UNC	0.4375	14	U	0.3680	29/64"	15/32"	31/64"
7/16"-20 UNF	0.4375	20	25/64"	0.3906	29/64"	15/32"	31/64"
1/2"-13 UNC	0.5000	13	27/64"	0.4219	17/32"	9/16"	39/64"
1/2"-20 UNF	0.5000	20	29/64"	0.4531	17/32"	9/16"	39/64"
9/16"-12 UNC	0.5625	12	31/64"	0.4844	—	—	—
9/16"-18 UNF	0.5625	18	33/64"	0.5156	—	—	—
5/8"-11 UNC	0.6250	11	17/32"	0.5313	21/32"	11/16"	47/64"
5/8"-18 UNF	0.6250	18	37/64"	0.5781	21/32"	11/16"	47/64"
3/4"-10 UNC	0.7500	10	21/32"	0.6563	25/32"	13/16"	29/32"
3/4"-16 UNF	0.7500	16	11/16"	0.6875	25/32"	13/16"	29/32"
7/8"-9 UNC	0.8750	9	49/64"	0.7656	29/32"	15/16"	1-1/32"
7/8"-14 UNF	0.8750	14	13/16"	0.8125	29/32"	15/16"	1-1/32"
1"-8 UNC	1.0000	8	7/8"	0.8750	1-1/32"	1-3/32"	1-5/32"
1"-12 UNF	1.0000	12	59/64"	0.9219	1-1/32"	1-3/32"	1-5/32"

Tap Drill & Clearance Chart — ISO metric threads

Tap drill = nominal minus pitch, rounded to a stocked drill (~75% engagement). Clearance holes: ISO 273 close / normal / loose.

Metric coarse & fine

THREAD	MAJOR mm	PITCH	TAP DRILL mm	TAP "	CLOSE	NORMAL	LOOSE
M1.6x0.35	1.6	0.35	1.25	0.0492	1.7	1.8	2
M2x0.4	2	0.4	1.6	0.0630	2.2	2.4	2.6
M2.5x0.45	2.5	0.45	2.05	0.0807	2.7	2.9	3.1
M3x0.5	3	0.5	2.5	0.0984	3.2	3.4	3.6
M3.5x0.6	3.5	0.6	2.9	0.1142	3.7	3.9	4.2
M4x0.7	4	0.7	3.3	0.1299	4.3	4.5	4.8
M5x0.8	5	0.8	4.2	0.1654	5.3	5.5	5.8
M6x1	6	1	5	0.1969	6.4	6.6	7
M8x1.25	8	1.25	6.8	0.2677	8.4	9	10
M8x1 (f)	8	1	7	0.2756	8.4	9	10
M10x1.5	10	1.5	8.5	0.3346	10.5	11	12
M10x1.25 (f)	10	1.25	8.8	0.3465	10.5	11	12
M10x1 (f)	10	1	9	0.3543	10.5	11	12
M12x1.75	12	1.75	10.2	0.4016	13	13.5	14.5
M12x1.5 (f)	12	1.5	10.5	0.4134	13	13.5	14.5
M12x1.25 (f)	12	1.25	10.8	0.4252	13	13.5	14.5
M14x2	14	2	12	0.4724	15	15.5	16.5
M14x1.5 (f)	14	1.5	12.5	0.4921	15	15.5	16.5
M16x2	16	2	14	0.5512	17	17.5	18.5
M16x1.5 (f)	16	1.5	14.5	0.5709	17	17.5	18.5
M18x2.5	18	2.5	15.5	0.6102	19	20	21
M18x1.5 (f)	18	1.5	16.5	0.6496	19	20	21
M20x2.5	20	2.5	17.5	0.6890	21	22	24
M20x1.5 (f)	20	1.5	18.5	0.7283	21	22	24
M22x2.5	22	2.5	19.5	0.7677	23	24	26
M24x3	24	3	21	0.8268	25	26	28