

Tap drill diameter and the thread engagement it actually produces, by thread series.

UNC (coarse)

THREAD	TAP DRILL	INCH	MM	ENGAGEMENT	CLEARANCE
#2-56	#50	0.0700	1.78	69%	#43
#4-40	#43	0.0890	2.26	71%	#33
#6-32	#36	0.1065	2.71	78%	#28
#8-32	#29	0.1360	3.45	69%	#19
#10-24	#25	0.1495	3.80	75%	#11
#12-24	#16	0.1770	4.50	72%	#2
1/4-20	#7	0.2010	5.11	75%	17/64
5/16-18	F	0.2570	6.53	77%	21/64
3/8-16	5/16	0.3125	7.94	77%	25/64
7/16-14	U	0.3680	9.35	75%	29/64
1/2-13	27/64	0.4219	10.72	78%	33/64
9/16-12	31/64	0.4844	12.30	72%	37/64
5/8-11	17/32	0.5312	13.49	79%	41/64
3/4-10	21/32	0.6562	16.67	72%	49/64
7/8-9	49/64	0.7656	19.45	76%	57/64
1-8	7/8	0.8750	22.23	77%	1-1/32

UNF (fine)

THREAD	TAP DRILL	INCH	MM	ENGAGEMENT	CLEARANCE
#0-80	3/64	0.0469	1.19	81%	#51
#10-32	#21	0.1590	4.04	76%	#11
1/4-28	#3	0.2130	5.41	80%	17/64
5/16-24	I	0.2720	6.91	75%	21/64
3/8-24	Q	0.3320	8.43	79%	25/64
7/16-20	25/64	0.3906	9.92	72%	29/64
1/2-20	29/64	0.4531	11.51	72%	33/64
5/8-18	37/64	0.5781	14.68	65%	41/64
3/4-16	11/16	0.6875	17.46	77%	49/64

Metric coarse

THREAD	TAP DRILL	INCH	MM	ENGAGEMENT	CLEARANCE
M2 × 0.4	1.6 mm	0.0630	1.60	92%	2.2 mm
M3 × 0.5	2.5 mm	0.0984	2.50	92%	3.2 mm
M4 × 0.7	3.3 mm	0.1299	3.30	93%	4.3 mm
M5 × 0.8	4.2 mm	0.1654	4.20	92%	5.3 mm
M6 × 1.0	5.0 mm	0.1969	5.00	92%	6.4 mm
M8 × 1.25	6.8 mm	0.2677	6.80	89%	8.4 mm
M10 × 1.5	8.5 mm	0.3346	8.50	92%	10.5 mm
M12 × 1.75	10.2 mm	0.4016	10.20	95%	13.0 mm
M14 × 2.0	12.0 mm	0.4724	12.00	92%	15.0 mm
M16 × 2.0	14.0 mm	0.5512	14.00	92%	17.0 mm