1/4 NPT Tap Drill Chart

National Pipe Taper (NPT) · 18 threads per inch · ASME B1.20.1

TAP DRILL (NO REAMING)

7/16" = 0.4375 in = 11.11 mm

Drills near the tap drill

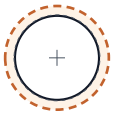
DRILL	INCH	MM	NOTE
15/32"	0.4688	11.91	larger
29/64"	0.4531	11.51	larger
7/16"	0.4375	11.11	Recommended
27/64"	0.4219	10.72	smaller
13/32"	0.4063	10.32	smaller

Pipe thread dimensions (ASME B1.20.1)

DIMENSION	INCH	MM
Pipe outside diameter (D)	0.5400	13.72
Threads per inch (pitch in mm)	18	1.41
Pitch diameter at pipe end (E0)	0.4774	12.13
Pitch diameter at gauge plane (E1)	0.4916	12.49
Hand-tight engagement (L1)	0.2278	5.79
Effective thread length (L2)	0.4018	10.21
Thread height (h = 0.8p)	0.0444	1.13
Minor diameter at gauge plane (E1 – h)	0.4472	11.36

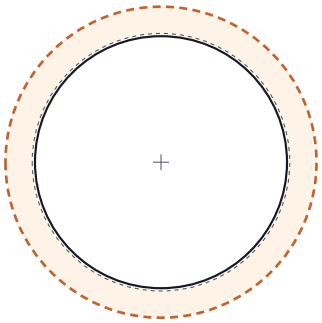
Actual size

Print at 100% scale ("Actual size", not "Fit to page"). Check with the rulers below.

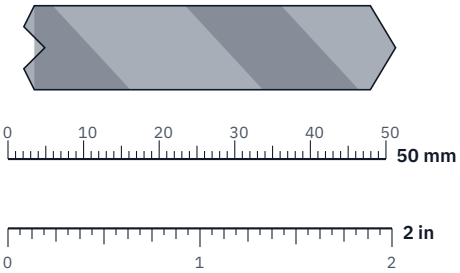


Dashed copper circle: pipe OD; solid: tap drill hole; dotted: minor diameter at the gauge plane.

Enlarged 3x:



Tap drill, actual size (11.11 mm):



Pipe tap drill charts vary by up to 1/32 in for sizes over 1 in. Reaming the drilled hole with a taper pipe reamer before tapping lowers tapping torque.

Scan for the interactive version:

whatsizeis.com/tap-drill/1-4-npt/

Values from the ASME B1.1, ISO 261/68-1 and ASME B1.20.1 thread formulas; drill sizes per ASME B94.11M; clearance holes per ISO 273. Method: whatsizeis.com/how-we-calculate/