

DIMENSIONAL STANDARD · ASME B1.20.1

NPT Thread Dimensions — ASME B1.20.1

Threads per inch, pitch, engagement lengths and pitch diameters of NPT taper pipe threads.

Basic dimensions of **NPT taper pipe threads** to ASME B1.20.1 in millimetres. NPT threads have a 60° thread angle and a taper of 1 in 16 on diameter ($\frac{3}{4}$ " per foot).

NPT basic thread dimensions

NPS in	Threads per inch	Pitch mm	Pipe OD mm	L1 Hand-tight, mm	L2 Effective thread, mm	E0 Pitch dia at end, mm	E1 Pitch dia at hand-tight, mm	Tap drill mm, approx.
$\frac{1}{16}$ "	27	0.941	7.94	4.06	6.63	6.888	7.142	6.25
$\frac{1}{8}$ "	27	0.941	10.29	4.10	6.70	9.233	9.489	8.61
$\frac{1}{4}$ "	18	1.411	13.72	5.79	10.21	12.126	12.487	11.11
$\frac{3}{8}$ "	18	1.411	17.14	6.10	10.36	15.545	15.926	14.68
$\frac{1}{2}$ "	14	1.814	21.34	8.13	13.56	19.264	19.772	18.26
$\frac{3}{4}$ "	14	1.814	26.67	8.61	13.86	24.579	25.117	23.42
1"	11.5	2.209	33.40	10.16	17.34	30.826	31.461	29.37
1 $\frac{1}{4}$ "	11.5	2.209	42.16	10.67	17.95	39.551	40.218	38.10
1 $\frac{1}{2}$ "	11.5	2.209	48.26	10.67	18.38	45.621	46.287	44.05
2"	11.5	2.209	60.33	11.07	19.21	57.633	58.325	56.36
2 $\frac{1}{2}$ "	8	3.175	73.03	17.32	28.89	69.076	70.159	66.67
3"	8	3.175	88.90	19.46	30.48	84.852	86.068	82.55
3 $\frac{1}{2}$ "	8	3.175	101.60	20.85	31.75	97.472	98.776	95.25
4"	8	3.175	114.30	21.44	33.02	110.093	111.433	107.95
5"	8	3.175	141.30	23.80	35.72	136.925	138.412	134.14
6"	8	3.175	168.28	24.33	38.42	163.731	165.252	161.13
8"	8	3.175	219.07	27.00	43.50	214.213	215.901	—
10"	8	3.175	273.05	30.73	48.90	267.851	269.772	—
12"	8	3.175	323.85	34.54	53.98	318.333	320.492	—

Notes

- Millimetre values are conversions of the inch dimensions in ASME B1.20.1.
- Tap drill sizes are commonly recommended values and are not part of the standard; they depend on whether the hole is reamed.

Reference information compiled from the published standard for convenience. It does not replace the current edition of the governing standard, which takes precedence. Verify critical dimensions and properties before design, purchase or fabrication. Teshi Engineers & Sales Promoters (P) Ltd accepts no liability for errors or omissions.

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