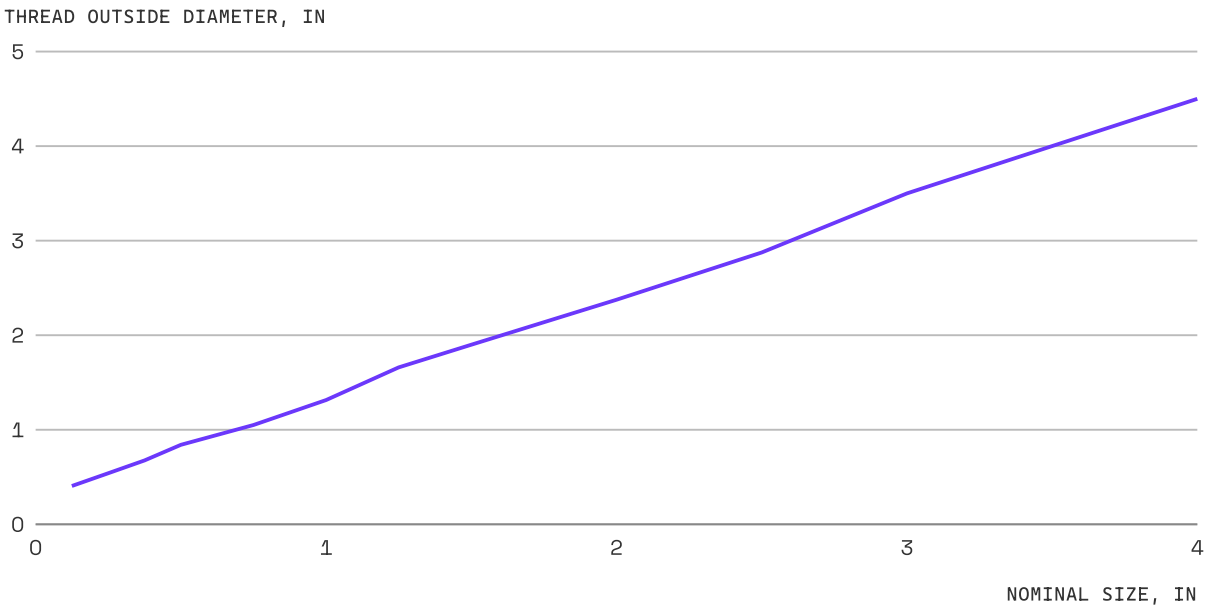
NPT pipe thread chart

1/2 inch NPT has 14 threads per inch and a 0.840 in (21.3 mm) outside diameter, and takes a 45/64 in tap drill (tapping without a reamer). NPT sizes from 1/8 to 4 inch use 5 thread counts (27, 18, 14, 11.5, 8 per inch); the outside diameter of the thread is the outside diameter of the pipe of the same nominal size.

NPT pipe threads by nominal size: threads per inch, pitch, outside diameter of the thread and tap drill for tapping without a reamer, as published; pitch and millimeters calculated; a dash where no second document confirmed the drill

NOMINAL SIZE	THREADS PER INCH	PITCH, IN	THREAD OD, IN	THREAD OD, MM	TAP DRILL, NO REAMER	TAP DRILL, IN
1/8"	27	0.037	0.405	10.3	—	—
1/4"	18	0.0556	0.540	13.7	7/16	0.4375
3/8"	18	0.0556	0.675	17.1	9/16	0.5625
1/2"	14	0.0714	0.840	21.3	45/64	0.7031
3/4"	14	0.0714	1.050	26.7	29/32	0.9063
1"	11.5	0.087	1.315	33.4	1-9/64	1.1406
1-1/4"	11.5	0.087	1.660	42.2	1-31/64	1.4844
1-1/2"	11.5	0.087	1.900	48.3	1-23/32	1.7188
2"	11.5	0.087	2.375	60.3	2-3/16	2.1875
2-1/2"	8	0.125	2.875	73.0	—	—
3"	8	0.125	3.500	88.9	—	—
3-1/2"	8	0.125	4.000	101.6	—	—
4"	8	0.125	4.500	114.3	—	—

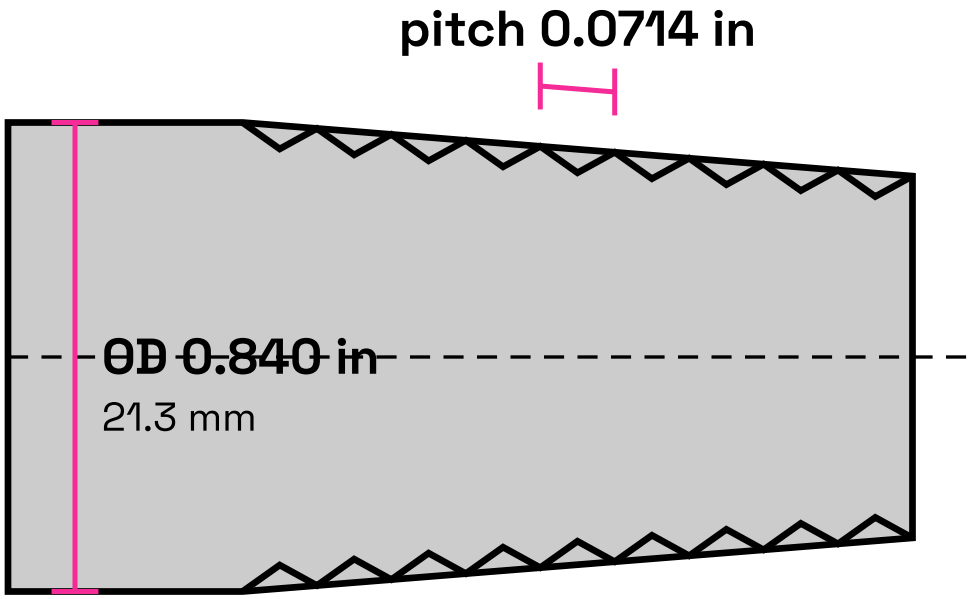


Outside diameter of the NPT thread by nominal size.

How to identify an NPT thread

Measure the outside diameter of a male thread across the crests with calipers and count the threads in one inch with a thread gauge or a ruler, then find both in the chart. A 1/2 inch NPT thread measures about 0.840 in, not 1/2 in, because the nominal size names the pipe, not the thread. A female thread opening reads a little smaller than the male thread, as the thread is tapered. The pipe size identifier matches a thread measurement for you.

SIDE VIEW, NOT TO SCALE



1/2 in NPT · 14 threads per inch

tap drill 45/64 in · thread narrows toward the pipe end

Pitch is 1 ÷ threads per inch: 0.0714 in for 1/2 inch (1.814 mm). NPT is cut on steel pipe; see 1/2 inch steel pipe dimensions for the pipe itself.

SOURCES

- ICS Cutting Tools (Catalog page 224, PDF, date not stated): Carbon Steel Taper Pipe Taps, General Purpose (catalog page 224)
- Allied Titanium, Inc. (PDF, 2008-12-02 in metadata): NPT Threads
- Wheatland Tube (a Zekelman company) (WST-042125): Standard Pipe (SureThread and ERW brochure): Standard Pipe Schedule 40 - ASTM A53 Grades A and B; Extra-Heavy Pipe Schedule 80 - ASTM A53, Type F, Grade B

Values compared with these documents, last on 2026-11-15.

Methodology. Values are the published figures of the documents above.