

Tapping Drill Sizes

BA (British Association)					
No.	TPI	Clearance Drill		Tap Drill	
		mm	No / Inch	mm	No / Inch
0BA	25.4	6.00	15/64	5.10	13/64
1BA	28.2	5.30	7/32	4.50	No.16
2BA	31.3	4.70	No.13	4.00	No.22
3BA	34.8	4.10	No.20	3.45	No.29
4BA	38.5	3.60	0.142	3.00	No.31
5BA	43.1	3.20	0.126	2.65	No.37
6BA	47.9	2.79	No.35	2.30	3/32
7BA	52.9	2.50	0.098	2.05	No.46
8BA	59.1	2.18	0.086	1.80	No.49
9BA	65.1	1.90	0.075	1.55	1/16
10BA	72.6	1.70	0.067	1.40	No.54
11BA	81.9	1.50	No.53	1.20	3/64
12BA	90.7	1.30	0.051	1.05	No.58
13BA	102.0	1.19	0.047	0.975	No.61
14BA	110.0	1.00	No.61	0.80	1/32
15BA	120.5	0.89	No.65	0.70	No.70
16BA	133.3	0.78	No.68	0.60	No.73

BSF (British Standard Fine)			
Size	TPI	Tap Drill	
		mm	No / Inch
3/16	32	3.97	5/32
1/4	26	5.30	No.4
5/16	22	6.80	H
3/8	20	8.30	21/64
7/16	18	9.70	W
1/2	16	11.10	7/16
9/16	16	12.70	1/2
5/8	14	14.10	35/64
11/16	14	15.60	5/8
3/4	12	16.90	43/64
7/8	11	19.90	25/32
1.00	10	22.90	29/32
1.1/8	9	25.80	1.1/64
1.1/4	9	28.90	1.9/64

BSW (British Standard Whitworth)			
Size	TPI	Tap Drill	
		mm	No / Inch
1/8	40	2.55	No.39
3/16	24	3.70	No.26
1/4	20	5.10	13/64
5/16	18	6.50	F
3/8	16	7.94	5/16
7/16	14	9.30	U
1/2	12	10.50	27/64
9/16	12	12.10	15/32
5/8	11	13.50	17/32
3/4	10	16.27	41/64
13/16	10	18.00	23/32
7/8	9	19.25	49/64
15/16	9	20.75	13/16
1	8	22.00	55/64

ME (Model Engineers)			
Size	TPI	Tap Drill	
		mm	No / Inch
1/8	40	2.40	3/32
5/32	40	3.25	No.30
3/16	40	3.90	No.23
7/32	40	4.75	3/16
1/4	32	5.60	7/32
1/4	40	5.50	7/32
9/32	32	6.60	G
9/32	40	6.50	F
5/16	32	7.00	J
5/16	40	7.30	L
3/8	32	8.60	R
3/8	40	8.90	S
7/16	32	10.30	13/32
7/16	40	10.50	Z
1/2	32	11.90	15/32
1/2	40	12.10	15/32

BSC (British Standard Cycle)		
Dia	TPI	Tap Drill mm
1/8	40	2.50
5/32	32	3.25
3/16	32	3.90
1/4	26	5.60
9/32	26	6.20
5/16	26	7.10
3/8	26	8.70
7/16	26	10.25
1/2	26	11.80
9/16	26	13.10
5/8	26	15.00
11/16	26	16.50
3/4	26	18.25
1	26	24.60

Note: Thread angle is 60°

Metric			
Thread Size	Tap Drill mm	Thread Size	Tap Drill mm
M1 x 0.20	0.80	M7 x 1.00	6.00
M1 x 0.25	0.80	M8 x 0.75	7.25
M1.2 x 0.20	1.00	M8 x 1.00	7.50
M1.2 x 0.25	0.95	M8 x 1.25	6.80
M1.6 x 0.20	1.45	M10 x 1.25	8.80
M1.6 x 0.35	1.25	M10 x 1.50	8.50
M2 x 0.25	1.80	M12 x 1.00	11.00
M2 x 0.40	1.70	M12 x 1.50	10.50
M2.5 x 0.35	2.25	M12 x 1.75	10.30
M2.5 x 0.45	2.05	M16 x 1.00	15.00
M3 x 0.35	2.75	M16 x 2.00	14.00
M3 x 0.50	2.50	M18 x 1.00	17.00
M4 x 0.50	3.50	M20 x 1.00	19.00
M4 x 0.70	3.30	M20 x 2.00	18.00
M5 x 0.50	4.50	M20 x 2.50	17.50
M5 x 0.80	4.20	M24 x 1.00	23.00
M6 x 0.75	5.40	M24 x 1.50	22.50
M6 x 1.00	5.00	M24 x 2.00	22.00
M7 x 0.75	6.25	M24 x 3.00	21.00

NPT (National Pipe Thread Taper)			
Size	TPI	Tap Drill	
		mm	Inch
1/4	18	10.90	7/16
3/8	18	14.60	37/64
1/2	14	18.25	23/32
3/4	14	23.40	59/64

Note: Thread angle is 60° (Sellers thread form)

UNF (Unified Fine)		
Thread Size	Tap Drill	
	mm	Inch
1/4	5.50	7/32
5/16	6.90	17/64
3/8	8.50	11/32
7/16	9.90	25/64
1/2	11.40	29/64

UNC (Unified Coarse)		
Thread Size	Tap Drill	
	mm	Inch
1/4	5.20	13/64
5/16	6.60	17/64
3/8	8.00	5/16
7/16	9.40	3/8
1/2	10.80	27/64

BSB (British Standard Brass)		
Dia	TPI	Tap Drill
1/8	26	5/64
1/4	26	13/64
3/8	26	21/64
1/2	26	29/64
5/8	26	37/64
3/4	26	45/64
7/8	26	53/64
1	26	61/64
1.1/8	26	1.5/64
1.1/4	26	1.13/64
1.1/2	26	1.29/64

Note: Thread angle is 55°

BSP (British Standard Pipe)					
Nominal Size	TPI	Clearance Drill		Tap Drill	
		mm	Inch	mm	Inch
1/16	28	7.70	5/16	6.60	17/64
1/8	28	9.70	25/64	8.73	11/32
1/4	19	13.20	17/32	11.80	15/32
3/8	19	16.70	21/32	15.30	39/64
1/2	14	21.00	53/64	19.10	3/4
5/8	14	22.90	29/32	21.00	53/64
3/4	14	26.50	1.3/64	24.50	31/32
7/8	14	30.20	1.3/16	28.40	1.1/8
1	11	33.20	1.5/16	30.75	1.7/32

Note: Thread angle is 55° (Whitworth thread form)

BSPT (British Standard Pipe Taper)			
Nominal Size	TPI	Tap Drill	
		mm	Inch
1/16	28	6.30	1/4
1/8	28	8.30	21/64
1/4	19	10.90	7/16
3/8	19	14.60	37/64
1/2	14	18.25	23/32
3/4	14	23.40	59/64
1	11	29.50	1.5/32

Note: Thread angle is 55° (Whitworth thread form)

ACME	
Thread Size	Tap Drill
3/8 x 12	19/64
7/16 x 12	23/64
1/2 x 10	13/32
5/8 x 8	33/64
3/4 x 6	39/64
7/8 x 6	23/32
1 x 5	13/16

Notes:
 The tapping drill sizes shown will give an approximate average 75% thread depth.
 It is suggested that a test hole is drilled and tapped in order to check that the thread depth is correct for purpose. A smaller drill will increase the thread depth and a larger drill will reduce the thread depth.
 Never try to mate a BSPT fitting with an NPT fitting as the thread angles and thread forms are different. This means that a male of one will fit in to a female of the other but they will not seal.



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