

Tapping drill sizes for taps



M

Metric ISO thread

Thread size mm	Tapping drill size mm
M 1	0.75
M 1.1	0.85
M 1.2	0.95
M 1.4	1.1
M 1.6	1.25
M 1.7	1.3
M 1.8	1.45
M 2	1.6
M 2.2	1.75
M 2.3	1.9
M 2.5	2.05
M 2.6	2.1
M 3	2.5
M 3.5	2.9
M 4	3.3
M 4.5	3.7
M 5	4.2
M 6	5
M 7	6
M 8	6.8
M 9	7.8
M 10	8.5
M 11	9.5
M 12	10.2
M 14	12
M 16	14
M 18	15.5
M 20	17.5
M 22	19.5
M 24	21
M 27	24
M 30	26.5
M 33	29.5
M 36	32
M 39	35
M 42	37.5
M 45	40.5
M 48	43
M 52	47
M 56	50.5
M 60	54.5
M 64	58
M 68	62

EG MF

Metric ISO fine thread
for screw thread inserts

Thread size mm	Tapping drill size mm
EG M 8 x 1	8.3
EG M 10 x 1	10.25
EG M 10 x 1.25	10.4
EG M 12 x 1.25	12.25
EG M 12 x 1.5	12.5
EG M 14 x 1.5	14.5
EG M 16 x 1.5	16.5
EG M 18 x 1.5	18.5
EG M 20 x 1.5	20.5
EG M 18 x 2	18.5

MF

Metric ISO fine thread

Pitch mm	Subtract the pitch value from the tap dia. to give drill size mm
0.2	0.2
0.25	0.25
0.35	0.35
0.5	0.5
0.75	0.8
1	1
1.25	1.2
1.5	1.5
2	2
3	3
4	4
6	6
8	8

Example:
Tapping hole dia.
M 20 x 1.5

Formula:
Thread size - pitch =
drill size diam.
i.e. 20.0 mm - 1.5 mm =
18.5 mm

UNC

Unified Coarse thread

Thread size inch-P	Tapping drill size mm
No. 1-64	1.5
No. 2-56	1.8
No. 3-48	2.05
No. 4-40	2.25
No. 5-40	2.6
No. 6-32	2.75
No. 8-32	3.4
No. 10-24	3.8
No. 12-24	4.5
1/4 - 20	5.1
5/16 - 18	6.5
3/8 - 16	8
7/16 - 14	9.4
1/2 - 13	10.75
9/16 - 12	12.2
5/8 - 11	13.6
3/4 - 10	16.5
7/8 - 9	19.5
1 - 8	22.25
1 1/8 - 7	25
1 1/4 - 7	28.25
1 3/8 - 6	30.75
1 1/2 - 6	34
1 3/4 - 5	39.5
2 - 4 1/2	45

UNC

Unified Coarse thread (modified)

Thread size inch-P	Tapping drill size mm
No. 1-64	1.5
No. 2-56	1.8
No. 3-48	2.05
No. 4-40	2.3
No. 5-40	2.65
No. 6-32	2.8
No. 8-32	3.5
No. 10-24	3.9
No. 12-24	4.6
1/4 - 20	5.2
5/16 - 18	6.7
3/8 - 16	8.1
7/16 - 14	9.5
1/2 - 13	10.9
3/16 - 12	12.3
5/8 - 11	13.7
3/4 - 10	16.75

EG UNC

Unified Coarse thread
for screw thread inserts

Thread size inch-P	Tapping drill size mm
EG No. 6-32	3.7
EG No. 8-32	4.4
EG No. 10-24	5.1
EG No. 12-24	5.8
EG 1/4 - 20	6.7
EG 5/16 - 18	8.4
EG 3/8 - 16	10
EG 7/16 - 14	11.7
EG 1/2 - 13	13.3

EG M

Metric ISO thread
for screw thread inserts

Thread size inch-P	Tapping drill size mm
EG M 2.5	2.6
EG M 3	3.2
EG M 3.5	3.7
EG M 4	4.2
EG M 5	5.2
EG M 6	6.2
EG M 8	8.4
EG M 10	10.5
EG M 12	12.5
EG M 14	14.5
EG M 16	16.5
EG M 18	18.75
EG M 20	20.75
EG M 22	22.75
EG M 24	24.75

Tapping drill sizes for taps

UNF

Unified Fine thread

Thread size inch-P	Tapping drill size mm
No. 0-80	1.25
No. 1-72	1.55
No. 2-64	1.85
No. 3-56	2.1
No. 4-48	2.35
No. 5-44	2.65
No. 6-40	2.9
No. 8-36	3.5
No. 10-32	4.1
No. 12-28	4.6
1/4-28	5.5
5/16-24	6.9
3/8-24	8.5
7/16-20	9.9
1/2-20	11.5
9/16-18	12.9
5/8-18	14.5
3/4-16	17.5
7/8-14	20.5
1-12	23.25
1 1/8-12	26.5
1 1/4-12	29.75
1 3/8-12	33
1 1/2-12	36

EG UNF

Unified Fine thread
for screw thread inserts

Thread size inch-P	Tapping drill size mm
EG No. 6-40	3.7
EG No. 8-36	4.4
EG No. 10-32	5.1
EG 1/4-28	6.6
EG 5/16-24	8.2
EG 3/8-24	9.8
EG 7/16-20	11.5
EG 1/2-20	13.1

UNJF

Unified Fine thread
modified

Thread size inch-P	Tapping drill size mm
No. 0-80	1.25
No. 1-72	1.55
No. 2-64	1.85
No. 3-56	2.1
No. 4-48	2.4
No. 5-44	2.7
No. 6-40	2.95
No. 8-36	3.6
No. 10-32	4.15
No. 12-28	4.7
1/4-28	5.6
5/16-24	7
3/8-24	8.6
7/16-20	10.0
1/2-20	11.5
5/8-18	14.5

UNEF

Unified Extra Fine thread

Thread size inch-P	Tapping drill size mm
1/4-32	5.55
5/16-32	7.15
3/8-32	8.70
7/16-28	10.2
1/2-28	11.8
9/16-24	13.2
5/8-24	14.8
11/16-24	16.4
3/4-20	17.8
7/8-20	20.95
1-20	24.2

UN

Unified Coarse thread
8 thread series

Thread size inch-P	Tapping drill size mm
1 1/8-8	25.4
1 1/4-8	28.5
1 3/8-8	31.8
1 1/2-8	35
1 5/8-8	38.1
1 3/4-8	41.3
1 7/8-8	44.5
2-8	47.7
2 1/4-8	54

G

British Standard pipe thread
DIN ISO 228

Thread size inch-P	Tapping drill size mm
G 1/16	6.7
G 1/8	8.8
G 1/4	11.8
G 3/8	15.25
G 1/2	19
G 5/8	21
G 3/4	24.5
G 7/8	28.25
G 1	30.75
G 1 1/8	35.3
G 1 1/4	39.25
G 1 3/8	41.9
G 1 1/2	45.25
G 1 3/4	51.3
G 2	57
G 2 1/4	63.1
G 2 1/2	72.6
G 2 3/4	79.1
G 3	85.5
G 3 1/4	91.5
G 3 1/2	97.7



BSW

British Standard Whitworth thread

Thread size inch-P	Tapping drill size mm
• 1/16-60	1.15
• 3/32-48	1.8
1/8-40	2.55
• 5/32-32	3.1
3/16-24	3.6
• 7/32-24	4.4
1/4-20	5.1
5/16-18	6.5
3/8-16	7.9
7/16-14	9.2
1/2-12	10.5
• 9/16-12	12
5/8-11	13.5
3/4-10	16.25
7/8-9	19.25
1-8	21.75
1 1/8-7	24.75
1 1/4-7	27.75
1 3/8-6	30.5
1 1/2-6	33.5
1 5/8-5	35.5
1 3/4-5	39
• 1 7/8-4 1/2	41.5
2-4 1/2	44.5
2 1/4-4	50
2 1/2-4	56.5
• 2 3/4-3 1/2	62
• 3-3 1/2	68

• Whitworth-thread DIN 11 was withdrawn in 1970

BSF

British Standard Fine thread

Thread size inch-P	Tapping drill size mm
3/16-32	4
7/32-28	4.5
1/4-26	5.2
9/32-26	6
5/16-22	6.6
3/8-20	8.1
7/16-18	9.5
1/2-16	11
9/16-16	12.5
5/8-14	14
11/16-14	15.5
3/4-12	16.5
13/16-12	18.25
7/8-11	19.5
1-10	22.5
1 1/8-9	25.5
1 1/4-9	28.5
1 3/8-8	31.5
1 1/2-8	34.5
1 5/8-8	37.5

Tapping drill sizes for taps



BA

British Association
Standard thread

Thread size inch-P	Pitch P mm	Tapping drill size mm
No. 0	1	5.1
No. 1	0.9	4.5
No. 2	0.81	4
No. 3	0.73	3.4
No. 4	0.66	3
No. 5	0.59	2.6
No. 6	0.53	2.3
No. 7	0.48	2
No. 8	0.43	1.8
No. 9	0.39	1.5
No. 10	0.35	1.3
No. 11	0.31	1.2
No. 12	0.28	1
No. 13	0.25	0.95
No. 14	0.23	0.75

NPSM

American Standard straight pipe thread

Thread size inch-P	Tapping drill size mm	Max. minor D1 mm
1/8-27	9.1	9.246
1/4-18	12	12.217
3/4-18	15.5	15.545
1/2-14	19	19.279
3/4-14	24.5	24.639
1-11 1/2	30.5	30.759
1 1/4-11 1/2	39.5	39.497
1 1/2-11 1/2	45.5	45.568
2-11 1/2	57.5	57.607
2 1/2-8	69	69.266
3-8	85	85.166

Pg

Steel conduit thread DIN 40 430

Thread size inch-P	Tapping drill size mm	Max. minor diam. D1
Pg #	11.4	11.43
Pg #	14	14.01
Pg #	17.25	17.41
Pg #	19	19.21
Pg #	21.25	21.31
Pg #	26.9	27.63
Pg #	35.5	35.73
Pg #	45.5	45.73
Pg #	52.5	52.73
Pg #	58	59.03

W par

Whitworth Gas cylinder thread DIN 477

Thread size mm-P	Tapping drill size mm	Max. minor D1 mm
W 21.80-14	19.75	20.066
W 24.32-14	22.25	22.586

Tr

Metric ISO trapezoidal thread DIN 103

Thread size inch-P	Pitch P mm	Tapping drill size mm	Max. minor D1 mm
8	1.5	6.60	6.690
10	1.5	8.60	8.690
10	2	8.20	8.236
• 10	3	7.50	7.500
12	2	10.20	10.236
12	3	9.25	9.315
14	2	12.20	12.236
• 14	3	11.25	11.315
• 14	4	10.50	10.500
16	4	12.25	12.375
18	4	14.25	14.375
20	4	16.25	16.375
22	5	17.25	17.450
24	5	19.25	19.450
26	5	21.25	21.450
28	5	23.25	23.450
30	6	24.25	24.500
32	6	26.25	26.500
36	6	30.25	30.500
38	7	31.50	31.560
40	7	33.50	33.560
44	7	37.50	37.560
48	8	40.50	40.630
50	8	42.50	42.630
52	8	44.50	44.630

• Trapezoidal thread according to DIN 103.
August 1924

Rp

Whitworth Standard parallel internal pipe thread
ISO 7/1 and DIN 2999

Thread size inch-P	Tapping drill size mm	Max. minor diam. D1
Rp 1/16	6.6	6.632
Rp 1/8	8.6	8.637
Rp 1/4	11.5	11.549
Rp 3/8	15	15.054
Rp 1/2	18.5	18.773
Rp 3/4	24	24.259
Rp 1	30.25	30.471
Rp 1 1/4	39	39.132
Rp 1 1/2	44.9	45.025
Rp 2	56.6	56.836
Rp 2 1/2	72.25	72.443
Rp 3	85	85.143

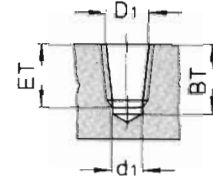
Tapping drill sizes for taps



NPT

American Standard pipe taper thread, taper 1 : 16

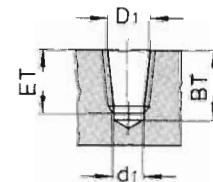
Thread size	Tapping drill size d1 parallel mm	Tapping drill size D1 tapered mm	Thread depth mm	Drill depth min. mm
1/16-27	6.25	6.4	9.29	10.7
1/8-27	8.4	8.7	9.32	10.8
1/4-18	11.1	11.4	13.52	15.6
3/8-18	14.3	14.8	13.83	16
1/2-14	17.9	18.3	18.07	20.8
3/4-14	23	23.7	18.55	21.3
1-11 1/2	29	29.7	22.29	25.6
1 1/4-11 1/2	37.7	38.4	22.8	26.1
1 1/2-11 1/2	44	44.5	22.8	26.1
2-11 1/2	56	56.6	23.2	26.5
2 1/2-8	66.7	67.6	31.57	36.3



NPTF

American Standard pipe taper thread, taper 1 : 16

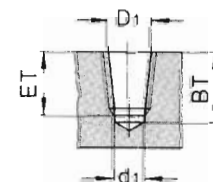
Thread size	Tapping drill size d1 parallel mm	Tapping drill size D1 tapered mm	Thread depth mm	Drill depth min. mm
1/16-27	6.25	6.4	9.29	10.3
1/8-27	8.6	8.7	9.32	10.3
1/4-18	11.1	11.4	13.52	15
3/8-18	14.7	14.8	13.83	15.3
1/2-14	17.9	18.3	18.07	19.9
3/4-14	23.4	23.6	18.55	20.4
1-11 1/2	29.4	29.7	22.29	24.5
1 1/4-11 1/2	38.1	38.4	22.8	25
1 1/2-11 1/2	44	44.5	22.8	25
2-11 1/2	56.4	56.5	23.2	25.4
2 1/2-8	67	67.6	34.75	38
3-8	83	83.5	36.88	40



Rc

British Standard taper pipe thread ISO 7/1, taper 1 : 16

Thread size inch-P	Tapping drill size d1 parallel mm	Tapping drill size D1 tapered mm	Thread depth mm	Drill depth min. mm
Rc 1/16-28	6.3	6.49	8.31	10.1
Rc 1/8-28	8.3	8.50	8.31	10.1
Rc 1/4-19	11	11.35	12.37	15
Rc 3/8-19	14.5	14.85	12.77	15.4
Rc 1/2-14	18.1	18.49	16.83	20.5
Rc 3/4-14	23.5	23.98	18.13	21.8
Rc 1-11	29.6	30.11	21.42	26
Rc 1 1/4-11	38.1	38.78	23.72	28.3
Rc 1 1/2-11	44	44.67	23.72	28.3
Rc 2-11	55.6	56.48	28.02	32.6
Rc 2 1/2-11	71.1	72	31.32	37.1
Rc 3-11	83.6	84.71	34.42	40.2



W tap

Whitworth Gas cylinder thread DIN 477, taper 3 : 25

Thread size inch-P	Tapping drill size d1 parallel mm	Tapping drill size D1 tapered mm	Thread depth mm	Drill depth min. mm
W 19.80-14	14.7	16.8	24.2	27.8
W 28.80-14	22.7	25.4	29.2	32.8
W 31.30-14	25.2	27.9	29.2	32.8

