

Fastener Thread Pitch and Tapping Drill Guide

ISO Metric Coarse Thread 60° Thread Angle BS3643			
Size - Nominal Diameter	Pitch (mm)	Clearance Drill (mm)	Tap Drill (mm)
M 1.60	0.35	1.8	1.25
M 2	0.4	2.4	1.6
M 2.50	0.45	2.9	2
M 3	0.5	3.4	2.5
M 3.50	0.6	3.9	2.9
M 4	0.7	4.5	3.3
M 5	0.8	5.5	4.2
M 6	1	6.6	5
M 8	1.25	9	6.8
M 10	1.5	12	8.5
M 12	1.75	14	10.2
M 14	2	16	12
M 16	2	18	14
M 20	2.5	22	17.5
M 22	2.5	25	19.5
M 24	3	27	21
M 27	3	30	24
M 30	3.5	33	26.5
M 33	3.5	36	29.5
M 36	4	40	32
M 42	4.5	46	37.5
M 48	5	53	43
M 56	5.5	62	50.5
M 64	6	70	58
M 68	6	74	62

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Fastener Thread Pitch and Tapping Drill Guide

ISO Metric Fine Thread 60° Thread Angle BS3643							
Size - Nominal Diameter	Pitch (mm)	Clearance Drill (mm)	Tap Drill (mm)	Size - Nominal Diameter	Pitch (mm)	Clearance Drill (mm)	Tap Drill (mm)
M 1.0	0.2	1.2	0.8	M 33	1.5	36	31.5
M 1.6	0.2	1.8	1.4	M 33	2	36	31
M 2	0.25	2.4	1.75	M 33	3	36	30
M 2.2	0.25	2.3	1.95	M 36	1.5	40	34.5
M 2.5	0.35	2.9	2.1	M 36	2	40	34
M 3	0.35	3.4	2.6	M 36	3	40	33
M 3.5	0.35	3.9	3.1	M 39	1.5	43	37.5
M 4	0.5	4.5	3.5	M 39	2	43	37
M 5	0.5	5.5	4.5	M 39	3	43	36
M 6	0.75	6.6	5.2	M 42	1.5	46	40.5
M 8	0.75	9	7.2	M 42	2	46	40
M 8	1	9	7	M 42	3	46	39
M 10	0.75	12	9.2	M 42	4	50	38
M 10	1	12	9	M 45	1.5	50	43.5
M 10	1.25	12	8.8	M 45	2	50	43
M 12	1	14	11	M 45	3	50	42
M 12	1.25	14	10.8	M 45	4	50	41
M 12	1.5	14	10.5	M 48	1.5	53	46.5
M 14	1	16	13	M 48	2	53	46
M 14	1.25	16	12.8	M 48	3	53	45
M 14	1.5	16	12.5	M 48	4	53	44
M 16	1	18	15	M 52	1.5	58	50.5
M 16	1.5	18	14.5	M 52	2	58	50
M 18	1	20	17	M 52	3	58	49
M 18	1.5	20	16.5	M 52	4	58	48
M 18	2	20	16	M 56	1.5	62	54.5
M 20	1	22	19	M 56	2	62	54
M 20	1.5	22	18.5	M 56	3	62	53
M 20	2	22	18	M 56	4	62	52
M 22	1	24	21	M 64	1.5	70	62.5
M 22	1.5	24	20.5	M 64	2	70	62
M 22	2	24	20	M 64	3	70	61
M 24	1	27	23	M 64	4	70	60
M 24	1.5	27	22.5	M 68	1.5	75	66.5
M 24	2	27	22	M 68	2	75	66
M 27	1	30	26	M 68	3	75	65
M 27	1.5	30	25.5	M 68	4	75	64
M 27	2	30	25				
M 30	1	33	29				
M 30	1.5	33	28.5				
M 30	2	33	28				
M 30	3	33	27				

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UNC - Unified National Coarse Thread 60° Thread Angle ANSI B1.1			
Nominal Diameter	TPI	Pitch mm	Tapping Drill Size mm
1-64 UNC	64	0,397	1,50
2-56 UNC	56	0,453	1,80
3-48 UNC	48	0,529	2,10
4-40 UNC	40	0,635	2,35
5-40 UNC	40	0,635	2,65
6-32 UNC	32	0,794	2,85
8-32 UNC	32	0,794	3,50
10-24 UNC	24	1,058	4,00
12-24 UNC	24	1,058	4,65
1/4"-20 UNC	20	1,270	5,35
5/16"-18 UNC	18	1,411	6,80
3/8"-16 UNC	16	1,587	8,25
7/16"-14 UNC	14	1,814	9,65
1/2"-13 UNC	13	1,954	11,15
9/16"-12 UNC	12	2,117	12,60
5/8"-11 UNC	11	2,309	14,05
3/4"-10 UNC	10	2,540	17,00
7/8"-9 UNC	9	2,822	20,00
1"-8 UNC	8	3,175	22,85
1.1/8"-7 UNC	7	3,628	25,65
1.1/4"-7 UNC	7	3,628	28,85
1.3/8"-6 UNC	6	4,233	31,55
1.1/2"-6 UNC	6	4,233	34,70
1.3/4"-5 UNC	5	5,080	40,40
2"-4 1/2 UNC	4,5	5,644	46,30
2.1/4"-4 1/2 UNC	4,5	5,644	52,65
2.1/2"-4 UNC	4	6,350	58,50
2.3/4"-4 UNC	4	6,350	64,75
3"-4 UNC	4	6,350	71,10
3.1/4"-4 UNC	4	6,350	77,45
3.1/2"-4 UNC	4	6,350	83,80
3.3/4"-4 UNC	4	6,350	90,15
4" - 4 UNC	4	6,350	96,50

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Fastener Thread Pitch and Tapping Drill Guide

UNF - Unified National Fine Thread 60° Thread Angle ANSI B1.1			
Nominal Diameter	TPI	Pitch mm	Tapping Drill Size mm
0-80 UNF	80	0,317	1,25
1-72 UNF	72	0,353	1,55
2-64 UNF	64	0,397	1,90
3-56 UNF	56	0,453	2,15
4-48 UNF	48	0,529	2,40
5-44 UNF	44	0,577	2,70
6-40 UNF	40	0,635	2,95
8-36 UNF	36	0,705	3,50
10-32 UNF	32	0,794	4,10
12-28 UNF	28	0,907	4,70
1/4"-28 UNF	28	0,907	5,50
5/16"-24 UNF	24	1,058	6,90
3/8"-24 UNF	24	1,058	8,50
7/16"-20 UNF	20	1,270	9,90
1/2"-20 UNF	20	1,270	11,50
9/16"-18 UNF	18	1,411	12,90
5/8"-18 UNF	18	1,411	14,50
3/4"-16 UNF	16	1,587	17,50
7/8"-14 UNF	14	1,814	20,40
1"-12 UNF	12	2,117	23,25
1 1/8" - 12 UNF	12	2,117	26,50
1.1/4"-12 UNF	12	2,117	29,50
1.3/8"-12 UNF	12	2,117	32,75
1.1/2"-12 UNF	12	2,117	36,00

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Fastener Thread Pitch and Tapping Drill Guide

UNEF - Unified Extra Fine Thread 60° Thread Angle ANSI B1.1			
Nominal Diameter	TPI	Pitch mm	Tapping Drill Size mm
12-80 UNEF	32	0,794	4,80
1/4"-32 UNEF	32	0,794	5,70
5/16"-32 UNEF	32	0,794	7,25
3/8"-32 UNEF	32	0,794	8,85
7/16"-28 UNEF	28	0,907	10,35
1/2"-28 UNEF	28	0,907	11,80
9/16"-24 UNEF	24	1,058	13,40
5/8"-24 UNEF	24	1,058	15,00
11/16"-24 UNEF	24	1,058	16,60
3/4"-20 UNEF	20	1,270	18,00
13/16"-20 UNEF	20	1,270	19,60
7/8"-20 UNEF	20	1,270	21,15
15/16"-20 UNEF	20	1,270	22,70
1" - 20 UNEF	20	1,270	24,30
1.1/16"-18 UNEF	18	1,411	25,80
1.1/8"-18 UNEF	18	1,411	27,35
1.1/4"-18 UNEF	18	1,411	30,55
1.5/16"-18 UNEF	18	1,411	32,10
1.3/8"-18 UNEF	18	1,411	33,70
1.7/16"-18 UNEF	18	1,411	35,30
1.1/2"-18 UNEF	18	1,411	36,90
1.9/16"-18 UNEF	18	1,411	38,55
1.5/8"-18 UNEF	18	1,411	40,10
1.11/16"-18 UNEF	18	1,411	41,60

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BSW (British Standard Whitworth) Coarse Pitch 55° Thread Angle BS84			
Nominal	TPI	Pitch mm	Tapping Drill Size mm
1/16" BSW	60	0.423	1.15
3/32" BSW	48	0.529	1.9
1/8" BSW	40	0.635	2.5
5/32" BSW	32	0.793	3.2
3/16" BSW	24	1.058	3.7
7/32" BSW	24	1.058	4.5
1/4" BSW	20	1.27	5.1
5/16" BSW	18	1.411	6.5
3/8" BSW	16	1.588	7.9
7/16" BSW	14	1.814	9.2
1/2" BSW	12	2.117	10.4
9/16" BSW	12	2.117	11.89
5/8" BSW	11	2.309	13.4
3/4" BSW	10	2.54	16.25
7/8" BSW	9	2.822	19.25
1" BSW	8	3.175	22
1 1/8" BSW	7	3.629	24.5
1 1/4" BSW	7	3.629	27.25
1 3/8" BSW	6	4.233	30.25
1 1/2" BSW	6	4.233	33.5
1 5/8" BSW	5	5.08	35.5
1 3/4" BSW	5	5.08	38.5
1 7/8" BSW	4 1/2	5.645	41.25
2" BSW	4 1/2	5.645	44.5
2 1/4" BSW	4	6.35	50
2 1/2" BSW	4	6.35	56
2 3/4" BSW	3 1/2	7.257	61.5
3" BSW	3 1/2	7.257	68
3 1/4" BSW	3 1/4	7.816	73.75
3 1/2" BSW	3 1/4	7.816	80
3 3/4" BSW	3	8.467	85.5
4" BSW	3	8.467	92
4 1/4" BSW	2 7/8	8.835	98
4 1/2" BSW	2 7/8	8.835	104.2
4 3/4" BSW	2 3/4	9.237	110
5" BSW	2 3/4	9.237	116.5
5 1/4" BSW	2 5/8	9.677	122.5
5 1/2" BSW	2 5/8	9.677	128.5
5 3/4" BSW	2 1/2	10.16	134.5
6" BSW	2 1/2	10.16	141

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Fastener Thread Pitch and Tapping Drill Guide

BSF (British Standard Fine) 55° Thread Angle BS84			
Size - Nominal Diameter	Threads per inch (TPI)	Pitch (mm)	Tapping Drill Size mm
3/16" BSF	32	0.794	4.00
7/32" BSF	28	0.907	4.65
1/4" BSF	26	0.977	5.30
5/16" BSF	22	1.156	6.75
3/8" BSF	20	1.27	8.25
7/16" BSF	18	1.411	9.70
1/2" BSF	16	1.588	11.10
9/16" BSF	16	1.588	12.70
5/8" BSF	14	1.814	14.00
3/4" BSF	12	2.117	16.75
7/8" BSF	11	2.309	19.80
1" BSF	10	2.54	22.75
1 1/8" BSF	9	2.822	25.50
1 1/4" BSF	9	2.822	28.75
1 3/8" BSF	8	3.175	31.50
1 1/2" BSF	8	3.175	34.50
1 5/8" BSF	8	3.175	34.50
1 3/4" BSF	7	3.629	40.45
2" BSF	7	3.629	46.80
2 1/4" BSF	6	4.234	52.40
2 1/2" BSF	6	4.234	58.70
2 3/4" BSF	6	4.234	65.00
3" BSF	5	5.08	69.90

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BA (British Association) Miniature Series 55° Thread Angle BS84			
Size - Nominal Diameter	Pitch (mm)	Threads per inch (TPI)	Tap Drill (mm)
25 BA	0.07	363	0.18
24 BA	0.08	317	0.21
23 BA	0.09	282	0.24
22 BA	0.1	254	0.27
21 BA	0.11	230.91	0.31
20 BA	0.13	211.67	0.36
19 BA	0.14	181.43	0.4
18 BA	0.15	169.33	0.47
17 BA	0.17	149.41	0.53
16 BA	0.19	133.68	0.6
15 BA	0.21	120.95	0.7
14 BA	0.23	110.4	0.75
13 BA	0.25	101.6	0.95
12 BA	0.28	90.71	1
11 BA	0.32	81.93	1.2
10 BA	0.35	72.57	1.35
9 BA	0.39	65.12	1.5
8 BA	0.43	59.07	1.8
7 BA	0.48	52.92	2
6 BA	0.53	47.92	2.3
5 BA	0.59	43.05	2.6
4 BA	0.66	38.48	2.95
3 BA	0.73	34.79	3.4
2 BA	0.81	31.35	3.9
1 BA	0.9	28.22	4.4
0 BA	1	25.4	5

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