



Tap Drill Selection Recommended for 75% Depth of Thread

To Tap For This Size Bolt or Screw	Drill This Size Hole		
	Drill Size	Decimal Equivalent	Nearest Fraction
0-80 NF	3/64	.0469	3/64
1-64 NC	53	.0595	1/16
1-72 NF	53	.0595	1/16
2-56 NC	51	.0670	none
2-64 NF	50	.0700	none
3-48 NC	5/64	.0781	5/64
3-56 NF	45	.0820	none
4-46 NS	44	.0860	none
4-40 NC	43	.0890	3/32
4-48 NF	42	.0935	3/32
3-0.60 mm	2.5 mm	.0984	none
1/8-40 NS	38	.1015	none
5-40 NC	38	.1015	none
5-44 NF	37	.1040	none
6-32 NC	36	.1065	7/64
6-36 NS	34	.1110	none
6-40 NF	33	.1130	none
6-48 NS	31	.1200	none
4-0.70 mm	3.40 mm	.1339	none
4-0.75 mm	3.40 mm	.1339	none
8-32 NC	29	.1360	none
8-36 NF	29	.1360	9/64
8-40 NS	28	.1405	none
3/16-24 NS	26	.1470	none
10-24 NC	25	.1495	5/32
3/16-32 NS	22	.1570	none
10-32 NF	21	.1590	5/32
5-0.90 mm	4.2 mm	.1653	none
5-0.80 mm	4.3 mm	.1693	none
12-24 NC	17	.1730	11/64
12-28 NF	16	.1770	3/16
12-32 NEF	13	.1850	none
14-20 NS	10	.1935	none
1/4-20 NC	7	.2010	13/64
14-24 NS	7	.2010	none
6-1.00 mm	5.2 mm	.2047	none
1/4-24 NS	4	.2090	none
1/4-28 NF	3	.2130	7/32
1/4-32 NEF	7/32	.2188	7/32
1/4-40 NS	1	.2280	none
7-1.00 mm	6.1 mm	.2401	15/64
5/16-18 NC	F	.2570	17/64
8-1.25 mm	6.9 mm	.2716	17/64
5/16-24 NF	I	.2720	none
8-1.00 mm	7.1 mm	.2795	none
5/16-32 NEF	9/32	.2812	9/32
9-1.25 mm	7.9 mm	.3110	none
3/8-16 NC	O	.3160	5/16
9-1.00 mm	8.1 mm	.3189	none
9-0.75 mm	8.3 mm	.3268	none
3/8-24 NF	Q	.3320	21/64
10-1.50 mm	8.7 mm	.3425	none
10-1.25 mm	8.9 mm	.3503	11/32

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	Drill Size	Decimal Equivalent	Nearest Fraction
10-1.00 mm	9.1 mm	.3583	none
7/16-14 NC	23/64	.3594	23/64
11-1.50 mm	9.7 mm	.3818	none
7/16-20 NF	25/64	.3906	25/64
12-1.75 mm	10.5 mm	.4133	none
12-1/50 mm	10.7 mm	.4212	27/64
1/2-13 NC	27/64	.4219	27/64
12-1.25 mm	10.9 mm	.4219	27/64
1/2-20 NF	29/64	.4531	29/64
1/2-24 NS	12.2 mm	.4803	29/64
14-2.00 mm	12 mm	.4844	31/64
9/16-12 NC	31/64	.4844	31/64
14-1.50 mm	12.8 mm	.5039	none
9/16-18 NF	33/64	.5156	33/64
5/8-11 NC	17/32	.5312	17/32
16-2.00 mm	14.2 mm	.5590	35/64
5/8-18 NF	37/64	.5781	37/64
16-1.50 mm	14.7 mm	.5787	none
11/16-11 NS	19/32	.5938	19/32
18-2.50 mm	15.8 mm	.6220	39/64
11/16-16 NS	5/8	.6250	5/8
3/4-10 NC	21/32	.6562	21/32
18-1.50 mm	16.8 mm	.6614	none
3/4-16 NF	11/16	.6875	11/16
20-2.50 mm	17.8 mm	.7008	11/16
7/8-9 NC	49/64	.7656	49/64
22-2.50 mm	19.5	.7677	49/64
7/8-14 NF	13/16	.8125	13/16
22-1.50 mm	20.9 mm	.8228	none
7/8-18 NS	53/64	.8281	53/64
24-3.00 mm	21.4 mm	.8425	53/64
1-8 NC	7/8	.8750	7/8
24-2.00 mm	22.3 mm	.8779	none
1-12 NF	59/64	.9219	59/64
1-14 NS	15/16	.9375	15/16
1-1/8-7 NC	63/64	.9844	63/64
1-1/8-12 NF	1-3/64	1.0469	1-3/64
1-1/4-7 NC	1-7/64	1.1094	1-7/64
1-1/4-12 NF	1-11/64	1.1719	1-11/64
1-3/8-6 NC	1-7/32	1.2188	1-7/32
1-3/8-12 NF	1-19/64	1.2969	1-19/64
1-1/2-6 NC	1-11/32	1.3438	1-11/32
1-1/2-12 NF	1-27/64	1.4219	1-27/64
National Pipe Tapered Taps			
1/8-27 NPT	R	.3390	none
1/4-18 NPT	7/16	.4375	7/16
3/8-18 NPT	9/16	.5625	9/16
1/2-14 NPT	45/64	.7031	45/64
3/4-14 NPT	59/64	.9219	59/64
1-11-1/2 NPT	1-5/32	1.1562	1-5/32
1-1/4-11-1/2 NPT	1-1/2	1.5000	1-1/2
1-1/2-11-1/2 NPT	1-47/64	1.7344	1-47/64
2-11-1/2 NPT	2-7/32	2.2188	2-7/32

* For exact decimal equivalent, multiply mm times .03937
• For exact mm equipment, multiply decimal times 25.4

NC = National Coarse NF = National Fine NPT = National Pipe Thread
NS = National Standard NEF = National Extra Fine



Fastener Hole Guide

Call EBN for Drill Bits & Taps



Drill This Size Hole		To Tap For This Size Bolt Or Screw	For This Size Wood Screw Pilot In Hard Wood
Drill Size	Dec. Equiv.		
60	.0400	0 x 80	
59	.0410		
58	.0420		
57	.0430		
56	.0465		
3/64	.0469		
55	.0520		
54	.0550		
53	.0595		
1/16	.0625		
52	.0635	1 x 56 1 x 64 - 72	No. 3
51	.0670		
50	.0700	2 x 56 - 64	No. 4
49	.0730		
48	.0760		
5/64	.0781	3 x 48	No. 5
47	.0785		
46	.0810	3 x 56	No. 6
45	.0820		
44	.0860	4 x 36	No. 7
43	.0890		
42	.0935	4 x 48	No. 8
3/32	.0937		
41	.0960	5 x 36	No. 9
40	.0980		
39	.0995		
38	.1015	5 x 40	No. 10
37	.1040		
36	.1069	6 x 32	No. 11
7/64	.1094		
35	.1100	6 x 36	No. 12
34	.1110		
33	.1130	6 x 40	No. 13
32	.1160		
31	.1200	7 x 36	No. 14
1/8	.1250		
30	.1285	8 x 30	No. 15
29	.1360		
28	.1405	8 x 40	No. 16

Drill This Size Hole		To Tap For This Size Bolt Or Screw	For This Size Wood Screw Pilot In Hard Wood
Drill Size	Dec. Equiv.		
9/64	.1406	9 x 30	
27	.1440		
26	.1470	3/16 x 24	
25	.1495		
24	.1520	10 x 24	No. 14
23	.1540		
5/32	.1562	10 x 28	
22	.1570		
21	.1590	10 x 30	
20	.1610		
19	.1660	10 x 32	
18	.1695		
11/64	.1719	3/16 x 32	No. 16
17	.1730		
16	.1770	12 x 24	
15	.1800		
14	.1820	12 x 28	
13	.1850		
3/16	.1875	12 x 32	No. 18
12	.1890		
11	.1910	14 x 20	
10	.1935		
9	.1960	1/4 x 20	
8	.1990		
7	.2010	1/4 x 24	No. 20
13/64	.2031		
6	.2040	1/4 x 28	
5	.2055		
4	.2090	1/4 x 32	No. 24
3	.2130		
7/32	.2187	1/4 x 32	
2	.2210		
1	.2280	1/2 x 14	
A	.2340		
15/64	.2344	1/2 x 20	
B	.2380		
C	.2420	1/2 x 27	
D	.2460		
1/4	.2500	9/16 x 12	

Drill This Size Hole		To Tap For This Size Bolt Or Screw
Drill Size	Dec. Equiv.	
E	.2500	5/16 x 18
F	.2570	
G	.2610	
17/64	.2656	5/16 x 18*
H	.2660	
I	.2720	5/16 x 24
J	.2770	
K	.2810	5/16 x 24 - 32*
9/32	.2812	
L	.2900	
M	.2950	3/8 x 16 - 1/8" P
19/64	.2969	
N	.3020	3/8 x 20 - 24
5/16	.3125	
O	.3160	3/8 x 20 - 24
P	.3230	
21/64	.3281	7/16 x 14
Q	.3332	
R	.3390	7/16 x 20
11/32	.3437	
S	.3480	1/2 x 12 - 13 1/4" Pipe
T	.3580	
23/64	.3594	1/2 x 20 - 24
U	.3680	
3/8	.3750	1/2 x 27
V	.3770	
W	.3860	9/16 x 12
25/64	.3906	
X	.3970	
Y	.4040	
13/32	.4062	
Z	.4130	
27/64	.4219	
7/16	.4375	
29/64	.4531	
15/32	.4687	
31/64	.4844	
1/2	.5000	

Suggested Hole Sizes For Type A

Type A



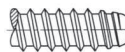
Nominal Screw Size	Closest Drill Size to Mean Hole Diameter	
	Drill Size	Hole Diam.
6-18	#32	0.1160
7-16	#30	0.1285
8-15	#29	0.1360
10-12	#21	0.1590
12-11	3/16	0.1875
14-10	5.5 mm	0.2165
20-9	L	0.2900
24-9	11/32	0.3438

Self-Tapping Screws Suggested Hole Sizes For Types AB - B - 25

Type AB



Type B



Type 25



Nominal Screw Size	Hole Diameter			Closest Drill Size to Mean Hole Diameter	
	Max	Mean	Min.	Drill Size	Drill Diam.
2-32	.077	.072	.067	49	.073
3-28	.090	.084	.078	45	.082
4-24	.103	.096	.089	41	.096
5-20	.114	.107	.100	36	.1056
6-20	.124	.116	.108	32	.116
7-19	.138	.129	.120	30	.1285
8-18	.148	.138	.128	29	.136
10-16	.170	.159	.148	21	.159
12-14	.194	.182	.169	14	.182
1/4-14	.226	.211	.196	4	.209
5/16-12	.289	.270	.251	I	.272
3/8-12	.356	.333	.310	Q	.332

Notes Regarding Hole Preparation:

- Preformed holes can be drilled, cored, punched, pierced or extruded. If edge burrs can cause assembly difficulty, they should be removed. Wall ovality and/or taper can affect load carrying ability
- "Minimum torsional strength" is the torque that free standing screws must accept without evidence of damage or failure