



SUGGESTED HOLE SIZES FOR TAPPING SCREWS

Formula for Calculating hole Sizes

Mean Hole Diameter = 0.98 x mean of thread major and minor diameters. Tolerance is plus and minus 7 percent of mean hole diameter.

Thread Rolling and
Thread Cutting Types D, F, G and T

Thread Forming Types AB, B, and BP
Thread Cutting Types BF and BT

SCREW SIZE	THREAD SIZE			DRILL BIT SIZE	
	Max	Mean	Min	Drill Size	Drill Dia
2- 56	0.078	0.076	0.074	48	0.076
2-64		0.077			
3-48	0.090	0.087	0.084	44	0.086
3-56		0.089			
4- 40	0.100	0.097	0.094	41	0.096
4-48		0.100			
5-40	0.113	0.110	0.107	35	0.110
5-44		0.112			
6-32	0.123	0.119	0.115	31	0.120
6-40		0.124			
8-32	0.150	0.146	0.141	20	0.147
8-36		0.148			
10 - 24	0.170	0.165	0.160	19	0.166
10-32	0.177	0.172	0.167	11/64	0.1719
12-24	0.198	0.192	0.186	11	0.191
12-28		0.196			
1/4 - 20	0.228	0.221	0.214	2	0.221
1/4-28		0.230			
5/16 - 18	0.289	0.281	0.273	K	0.281
5/16-24		0.290			
3/8 - 16	0.349	0.339	0.329	R	0.339
3/8 - 24		0.353			
7/16 - 14	0.409	0.397	0.385	X	0.397
7/16-20		0.411			
1/2 - 13	0.471	0.457	0.443	29/64	0.4531
1/2 - 20		0.475			

SCREW SIZE	THREAD SIZE			DRILL BIT SIZE	
	Max	Mean	Min	Drill Size	Drill Dia.
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	.1065
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	0	.332
7/16-10	.413	.386	.359	w	.386
1/2 - 10	.480	.449	A18	29/64	A531

Note

As a general practice, tapping torque should equal approximately 70% of the fasteners torsional strength.

Adjust hole size to accommodate hardness and thickness of material.

Physical Properties

Fastener Diameter	Nominal Screw Diameter	Torsional (Lb-In.)	Tensile (Pounds)	Shear (Pounds)
#6-20	0.138	24	1,125	750
#8-18	0.164	42	1,575	1,000
#10-16	0.190	61	2,100	1,400
#10-24	0.190	65	3,400	2,275
#12-14	0.216	92	2,778	2,000
#12-24	0.216	100	3,188	2,100
1/4-14	0.250	150	3,850	2,600
1/4-20	0.250	156	4,275	2,700
#18-9	0.306	196	4,550	2,576
5/16-12	0.313	290	5,439	3,264

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