

Here are the sizes of drill required to produce the required size for tapping the required thread. For each line the first part is the size of screw followed by the threads per inch or in metric the pitch. For example 4 40 is a size 4 screw with 40 threads per inch. While M 2 0.40 is a metric 2mm with a 0.40mm pitch, the distances between one peak to the next. Depending on what kind of material being tapped the size of hole will vary. When tapping by hand use 90% to 50% and when using power tools use 80% through 50%. The most common used size drill is 75%. For sheet brass, sheet nickel, babbitt, white metal, hard rubber use 75% to 80%. For mild steel, aluminum, cast iron, and cast brass use 70% to 75%. For bronze, tool steel, drop forging, stainless steel, cast steel, nickel, and copper use 65% to 70%. This table list the actual size of drill wanted there may not be an exact match use the next large drill you can purchase.

	Size	diam.	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	
	00	90	.0470	.0326	.0333	.0340	.0347	.0355	.0362	.0369	.0376	.0383	.0391	.0398
	0	80	.0600	.0438	.0446	.0454	.0462	.0470	.0478	.0486	.0494	.0503	.0511	.0519
	1	72	.0730	.0550	.0559	.0568	.0577	.0586	.0595	.0604	.0613	.0622	.0631	.0640
	2	64	.0860	.0657	.0667	.0677	.0687	.0698	.0708	.0718	.0728	.0738	.0748	.0759
	3	56	.0990	.0758	.0770	.0781	.0793	.0804	.0816	.0828	.0839	.0851	.0862	.0874
	4	40	.1120	.0795	.0811	.0828	.0844	.0860	.0876	.0893	.0909	.0925	.0941	.0958
	6	32	.1380	.0974	.0994	.1015	.1035	.1055	.1076	.1096	.1116	.1136	.1157	.1177
	8	32	.1640	.1234	.1254	.1275	.1295	.1315	.1336	.1356	.1376	.1396	.1417	.1437
	10	24	.1900	.1359	.1386	.1413	.1440	.1467	.1494	.1521	.1548	.1575	.1602	.1629
	10	32	.1900	.1494	.1514	.1535	.1555	.1575	.1596	.1616	.1636	.1656	.1677	.1697
	12	24	.2160	.1619	.1646	.1673	.1700	.1727	.1754	.1781	.1808	.1835	.1862	.1889
	12	28	.2160	.1696	.1719	.1742	.1766	.1789	.1812	.1835	.1858	.1882	.1905	.1928
	1/ 4	20	.2500	.1850	.1883	.1915	.1948	.1980	.2013	.2045	.2078	.2110	.2143	.2175
	1/ 4	28	.2500	.2036	.2059	.2082	.2106	.2129	.2152	.2175	.2198	.2222	.2245	.2268
	5/16	18	.3125	.2403	.2439	.2475	.2512	.2548	.2584	.2620	.2656	.2692	.2728	.2764
	5/16	24	.3125	.2584	.2611	.2638	.2665	.2692	.2719	.2746	.2773	.2800	.2827	.2854
	3/ 8	16	.3750	.2938	.2979	.3019	.3060	.3100	.3141	.3182	.3222	.3263	.3303	.3344
	3/ 8	24	.3750	.3209	.3236	.3263	.3290	.3317	.3344	.3371	.3398	.3425	.3452	.3479
	7/16	14	.4375	.3447	.3494	.3540	.3586	.3633	.3679	.3725	.3772	.3818	.3865	.3911
	7/16	20	.4375	.3725	.3758	.3790	.3823	.3855	.3888	.3920	.3953	.3985	.4018	.4050
	1/ 2	13	.5000	.4001	.4051	.4101	.4151	.4201	.4251	.4301	.4350	.4400	.4450	.4500
	1/ 2	20	.5000	.4350	.4383	.4415	.4448	.4480	.4513	.4545	.4578	.4610	.4643	.4675
	5/ 8	11	.6250	.5069	.5128	.5187	.5246	.5305	.5364	.5423	.5482	.5541	.5600	.5660
	5/ 8	18	.6250	.5528	.5564	.5600	.5637	.5673	.5709	.5745	.5781	.5817	.5853	.5889
	M 2	0.40	.0787	.0583	.0593	.0603	.0614	.0624	.0634	.0644	.0654	.0665	.0675	.0685
	M 2	0.25	.0787	.0660	.0666	.0672	.0679	.0685	.0692	.0698	.0704	.0711	.0717	.0723
	M 3	0.50	.1181	.0925	.0938	.0951	.0964	.0977	.0989	.1002	.1015	.1028	.1040	.1053
	M 3	0.35	.1181	.1002	.1011	.1020	.1029	.1038	.1047	.1056	.1065	.1074	.1083	.1092
	M 4	0.70	.1575	.1217	.1235	.1253	.1271	.1288	.1306	.1324	.1342	.1360	.1378	.1396
	M 4	0.50	.1575	.1319	.1332	.1345	.1357	.1370	.1383	.1396	.1409	.1421	.1434	.1447
	M 5	0.80	.1969	.1559	.1580	.1600	.1621	.1641	.1662	.1682	.1703	.1723	.1743	.1764
	M 5	0.50	.1969	.1713	.1726	.1738	.1751	.1764	.1777	.1790	.1802	.1815	.1828	.1841
	M 6	1.00	.2362	.1851	.1876	.1902	.1927	.1953	.1979	.2004	.2030	.2055	.2081	.2106
	M 6	0.75	.2362	.1979	.1998	.2017	.2036	.2055	.2075	.2094	.2113	.2132	.2151	.2170
	M 7	1.00	.2756	.2244	.2270	.2296	.2321	.2347	.2372	.2398	.2423	.2449	.2475	.2500
	M 7	0.75	.2756	.2372	.2392	.2411	.2430	.2449	.2468	.2487	.2507	.2526	.2545	.2564
	M 8	1.25	.3150	.2510	.2542	.2574	.2606	.2638	.2670	.2702	.2734	.2766	.2798	.2830
	M 8	1.00	.3150	.2638	.2664	.2689	.2715	.2740	.2766	.2792	.2817	.2843	.2868	.2894
	M 8	0.75	.3150	.2766	.2785	.2804	.2824	.2843	.2862	.2881	.2900	.2919	.2939	.2958
	M 10	1.50	.3937	.3170	.3208	.3247	.3285	.3323	.3362	.3400	.3438	.3477	.3515	.3553
	M 10	1.25	.3937	.3298	.3330	.3362	.3394	.3426	.3458	.3490	.3521	.3553	.3585	.3617
	M 10	1.00	.3937	.3426	.3451	.3477	.3502	.3528	.3553	.3579	.3605	.3630	.3656	.3681
	M 10	0.75	.3937	.3553	.3573	.3592	.3611	.3630	.3649	.3669	.3688	.3707	.3726	.3745
	M 12	1.75	.4724	.3829	.3874	.3919	.3964	.4008	.4053	.4098	.4143	.4187	.4232	.4277
	M 12	1.50	.4724	.3957	.3996	.4034	.4072	.4111	.4149	.4187	.4226	.4264	.4302	.4341
	M 12	1.25	.4724	.4085	.4117	.4149	.4181	.4213	.4245	.4277	.4309	.4341	.4373	.4405
	M 12	1.00	.4724	.4213	.4239	.4264	.4290	.4315	.4341	.4366	.4392	.4418	.4443	.4469

Here are the sizes of drill required to produce the required size for tapping the required thread. For each line the first part is the size of screw followed by the threads per inch or in metric the pitch. For example 4 40 is a size 4 screw with 40 threads per inch. While M 2 0.40 is a metric 2mm with a 0.40mm pitch, the distances between one peak to the next. Depending on what kind of material being tapped the size of hole will vary. When tapping by hand use 90% to 50% and when using power tools use 80% through 50%. The most common used size drill is 75%. For sheet brass, sheet nickel, babbitt, white metal, hard rubber use 75% to 80%. For mild steel, aluminum, cast iron, and cast brass use 70% to 75%. For bronze, tool steel, drop forging, stainless steel, cast steel, nickel, and copper use 65% to 70%. This table lists the next available American drill except for the letter drills use the next larger size.

	Size	diam.	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	
	00	90	.0470	#66	#65	#65	#65	#64	#64	#63	#62	#61	#60	
	0	80	.0600	#56	#56	#56	#56	#55	#55	#55	#55	#55	#55	
	1	72	.0730	#54	#53	#53	#53	#53	1/16	1/16	1/16	#52	#51	
	2	64	.0860	#51	#51	#50	#50	#50	#49	#49	#48	#48	#48	
	3	56	.0990	#48	5/64	5/64	#46	#46	#45	#44	#44	#44	#43	
	4	40	.1120	#46	#46	#44	#44	#44	#43	#43	#42	#42	3/32	#41
	6	32	.1380	#40	#39	#38	#37	#36	7/64	7/64	#34	#33	#32	#31
	8	32	.1640	1/ 8	1/ 8	#30	#29	#29	#29	#29	#28	#28	#27	#27
	10	24	.1900	#29	#28	#28	#27	#26	#25	#24	#23	#22	#20	#19
	10	32	.1900	#25	#24	#23	5/32	#22	#21	#20	#19	#19	#18	#18
	12	24	.2160	#20	#19	#18	#18	11/64	#16	#15	#15	#13	3/16	#12
	12	28	.2160	#18	11/64	#16	#16	#15	#14	#13	#13	3/16	#11	#10
	1/ 4	20	.2500	#13	3/16	#11	# 9	# 8	# 7	# 6	# 4	# 3	7/32	7/32
	1/ 4	28	.2500	13/64	# 5	# 4	# 3	# 3	7/32	7/32	7/32	# 2	# 1	# 1
	5/16	18	.3125	C	D	D	1/ 4	F	F	G	17/64	I	I	J
	5/16	24	.3125	F	G	17/64	17/64	I	I	J	J	K	9/32	L
	3/ 8	16	.3750	M	19/64	N	5/16	5/16	5/16	P	P	21/64	Q	R
	3/ 8	24	.3750	P	P	21/64	21/64	Q	R	R	R	11/32	11/32	S
	7/16	14	.4375	11/32	S	T	T	U	U	3/ 8	V	W	W	25/64
	7/16	20	.4375	3/ 8	3/ 8	V	W	W	25/64	25/64	X	X	Y	Y
	1/ 2	13	.5000	Y	Y	Z	Z	27/64	7/16	7/16	7/16	29/64	29/64	29/64
	1/ 2	20	.5000	7/16	7/16	29/64	29/64	29/64	29/64	29/64	15/32	15/32	15/32	15/32
	5/ 8	11	.6250	33/64	33/64	33/64	17/32	17/32	35/64	35/64	35/64	18/32	18/32	37/64
	5/ 8	18	.6250	18/32	18/32	18/32	18/32	37/64	37/64	37/64	37/64	19/32	19/32	19/32
	M 2	0.40	.0787	#53	#53	1/16	1/16	1/16	#52	#51	#51	#51	#50	#50
	M 2	0.25	.0787	#51	#51	#51	#50	#50	#50	#50	#49	#49	#49	#49
	M 3	0.50	.1181	#42	#42	#41	#41	#40	#39	#38	#38	#37	#37	#36
	M 3	0.35	.1181	#38	#38	#38	#37	#37	#36	#36	#36	7/64	7/64	7/64
	M 4	0.70	.1575	1/ 8	1/ 8	1/ 8	#30	#30	#29	#29	#29	#29	#28	#28
	M 4	0.50	.1575	#29	#29	#29	#29	#28	#28	#28	#28	#27	#27	#27
	M 5	0.80	.1969	5/32	#22	#20	#19	#19	#19	#18	#18	11/64	#16	#16
	M 5	0.50	.1969	11/64	11/64	#17	#16	#16	#16	#15	#15	#14	#14	#13
	M 6	1.00	.2362	#13	3/16	#11	#10	# 9	# 8	# 7	13/64	# 5	# 4	# 3
	M 6	0.75	.2362	# 8	# 8	# 7	13/64	# 5	# 4	# 4	# 3	# 3	7/32	7/32
	M 7	1.00	.2756	# 1	# 1	A	A	A	B	C	C	D	1/ 4	1/ 4
	M 7	0.75	.2756	B	B	C	C	D	D	1/ 4	1/ 4	F	F	F
	M 8	1.25	.3150	1/ 4	F	F	G	17/64	17/64	I	I	J	K	L
	M 8	1.00	.3150	17/64	17/64	I	I	J	J	K	K	L	L	L
	M 8	0.75	.3150	J	J	K	K	L	L	L	L	M	M	M
	M 10	1.50	.3937	O	P	P	21/64	Q	R	R	11/32	S	T	T
	M 10	1.25	.3937	21/64	Q	R	R	11/32	11/32	S	T	T	T	U
	M 10	1.00	.3937	11/32	11/32	S	T	T	T	T	23/64	U	U	U
	M 10	0.75	.3937	T	T	T	23/64	U	U	U	U	3/ 8	3/ 8	3/ 8
	M 12	1.75	.4724	W	W	25/64	X	Y	Y	Z	Z	27/64	27/64	7/16
	M 12	1.50	.4724	X	Y	Y	13/32	Z	Z	27/64	27/64	7/16	7/16	7/16
	M 12	1.25	.4724	13/32	Z	Z	27/64	27/64	7/16	7/16	7/16	7/16	7/16	29/64
	M 12	1.00	.4724	27/64	27/64	7/16	7/16	7/16	7/16	7/16	7/16	29/64	29/64	29/64

Here are the sizes of drill required to produce the required size for tapping the required thread. For each line the first part is the size of screw followed by the threads per inch or in metric the pitch. For example 4 40 is a size 4 screw with 40 threads per inch. While M 2 0.40 is a metric 2mm with a 0.40mm pitch, the distances between one peak to the next. Depending on what kind of material being tapped the size of hole will vary. When tapping by hand use 90% to 50% and when using power tools use 80% through 50%. The most common used size drill is 75%. For sheet brass, sheet nickel, babbitt, white metal, hard rubber use 75% to 80%. For mild steel, aluminum, cast iron, and cast brass use 70% to 75%. For bronze, tool steel, drop forging, stainless steel, cast steel, nickel, and copper use 65% to 70%. This table lists the next available American drill except for the letter drills use the next larger size.

Size	diam.	drill size and percent thread
00 90	.0470	#65 - 83%, #64 - 76%, #63 - 69%, #62 - 62%, #61 - 55%,
0 80	.0600	#56 - 83%,
1 72	.0730	#53 - 75%, 1/16 - 58%, #52 - 53%,
2 64	.0860	#50 - 79%, #49 - 64%,
3 56	.0990	#47 - 88%, #46 - 78%, #45 - 73%, #44 - 56%,
4 40	.1120	#44 - 80%, #43 - 71%, #42 - 57%, 3/32 - 56%,
6 32	.1380	#38 - 90%, #37 - 84%, #36 - 78%, 7/64 - 70%, #35 - 69%, #34 - 67%, #33 - 62%, #32 - 54%,
8 32	.1640	#30 - 87%, #29 - 69%, #28 - 58%, 9/64 - 58%,
10 24	.1900	#27 - 85%, #26 - 79%, #25 - 75%, #24 - 70%, #23 - 67%, 5/32 - 62%, #22 - 61%, #21 - 57%, #20 - 54%,
10 32	.1900	#23 - 89%, 5/32 - 83%, #22 - 81%, #21 - 76%, #20 - 71%, #19 - 59%, #18 - 50%,
12 24	.2160	#18 - 86%, 11/64 - 81%, #17 - 79%, #16 - 72%, #15 - 67%, #14 - 63%, #13 - 57%, 3/16 - 53%,
12 28	.2160	#16 - 84%, #15 - 78%, #14 - 73%, #13 - 67%, 3/16 - 61%, #12 - 58%, #11 - 54%,
1/ 4 20	.2500	#10 - 87%, # 9 - 83%, # 8 - 79%, # 7 - 75%, 13/64 - 72%, # 6 - 71%, # 5 - 69%, # 4 - 63%, # 3 - 57%,
1/ 4 28	.2500	# 4 - 88%, # 3 - 80%, 7/32 - 67%, # 2 - 63%,
5/16 18	.3125	1/ 4 - 87%, E - 87%, F - 77%, G - 71%, 17/64 - 65%, H - 64%, I - 56%,
5/16 24	.3125	17/64 - 87%, H - 86%, I - 75%, J - 66%, K - 58%, 9/32 - 58%,
3/ 8 16	.3750	N - 90%, 5/16 - 77%, O - 73%, P - 64%, 21/64 - 58%, Q - 53%,
3/ 8 24	.3750	21/64 - 87%, Q - 79%, R - 67%, 11/32 - 58%,
7/16 14	.4375	T - 86%, 23/64 - 84%, U - 75%, 3/ 8 - 67%, V - 65%, W - 56%, 25/64 - 51%,
7/16 20	.4375	W - 79%, 25/64 - 72%, X - 62%, Y - 52%,
1/ 2 13	.5000	Z - 87%, 27/64 - 78%, 7/16 - 63%,
1/ 2 20	.5000	29/64 - 72%,
5/ 8 11	.6250	17/32 - 79%, 35/64 - 66%, 18/32 - 53%,
5/ 8 18	.6250	18/32 - 87%, 37/64 - 65%,
M 2 0.40	.0787	1/16 - 79%, #52 - 74%, #51 - 57%,
M 2 0.25	.0787	#50 - 68%,
M 3 0.50	.1181	#41 - 86%, #40 - 79%, #39 - 73%, #38 - 65%, #37 - 55%,
M 3 0.35	.1181	#37 - 79%, #36 - 65%,
M 4 0.70	.1575	#30 - 81%, #29 - 60%,
M 4 0.50	.1575	#29 - 84%, #28 - 66%, 9/64 - 66%, #27 - 53%,
M 5 0.80	.1969	#20 - 88%, #19 - 75%, #18 - 67%, 11/64 - 61%, #17 - 58%,
M 5 0.50	.1969	#16 - 78%, #15 - 66%, #14 - 58%,
M 6 1.00	.2362	#11 - 88%, #10 - 84%, # 9 - 79%, # 8 - 73%, # 7 - 69%, 13/64 - 65%, # 6 - 63%, # 5 - 60%, # 4 - 53%,
M 6 0.75	.2362	13/64 - 86%, # 6 - 84%, # 5 - 80%, # 4 - 71%, # 3 - 61%,
M 7 1.00	.2756	A - 81%, 15/64 - 81%, B - 74%, C - 66%, D - 58%, 1/ 4 - 50%, E - 50%,
M 7 0.75	.2756	C - 88%, D - 77%, 1/ 4 - 67%, E - 67%,
M 8 1.25	.3150	G - 84%, 17/64 - 77%, H - 77%, I - 67%, J - 59%, K - 53%, 9/32 - 53%,
M 8 1.00	.3150	I - 84%, J - 74%, K - 66%, 9/32 - 66%,
M 8 0.75	.3150	K - 89%, 9/32 - 88%, L - 65%, M - 52%,
M 10 1.50	.3937	21/64 - 86%, Q - 80%, R - 71%, 11/32 - 65%, S - 60%,
M 10 1.25	.3937	R - 86%, 11/32 - 78%, S - 71%, T - 56%, 23/64 - 54%,
M 10 1.00	.3937	S - 89%, T - 70%, 23/64 - 67%, U - 50%,
M 10 0.75	.3937	23/64 - 89%, U - 67%,
M 12 1.75	.4724	X - 84%, Y - 76%, 13/32 - 74%, Z - 66%, 27/64 - 56%,
M 12 1.50	.4724	Y - 89%, 13/32 - 86%, Z - 77%, 27/64 - 66%,
M 12 1.25	.4724	27/64 - 79%, 7/16 - 55%,
M 12 1.00	.4724	7/16 - 68%,

Here are the sizes of drill required to produce the required size for tapping the required thread. For each line the first part is the size of screw followed by the threads per inch or in metric the pitch. For example 4 40 is a size 4 screw with 40 threads per inch. While M 2 0.40 is a metric 2mm with a 0.40mm pitch, the distances between one peak to the next. Depending on what kind of material being tapped the size of hole will vary. When tapping by hand use 90% to 50% and when using power tools use 80% through 50%. The most common used size drill is 75%. For sheet brass, sheet nickel, babbitt, white metal, hard rubber use 75% to 80%. For mild steel, aluminum, cast iron, and cast brass use 70% to 75%. For bronze, tool steel, drop forging, stainless steel, cast steel, nickel, and copper use 65% to 70%. This table lists the next available American drill except for the letter drills use the next larger size. The percent values after the drill size are the correct values for that drill.

Size	diam.	100%	95%	90%	85%	80%	75%
00 90	.0470	#66 97% #65	83% #65	83% #65	83% #65	83% #64	76% #64 76%
0 80	.0600	#56 83% #56	83% #56	83% #56	83% #56	83% #55	49% #55 49%
1 72	.0730	#54 100% #53	75% #53	75% #53	75% #53	75% #53	75% #53 75%
2 64	.0860	#51 94% #51	94% #50	79% #50	79% #50	79% #50	79% #49 64%
3 56	.0990	#48 99% 5/64	90% 5/64	90% #46	78% #46	78% #46	78% #45 73%
4 40	.1120	#46 95% #46	95% #44	80% #44	80% #44	80% #44	80% #43 71%
6 32	.1380	#40 99% #39	95% #38	90% #37	84% #36	78% 7/64	70%
8 32	.1640	1/ 8 96% 1/ 8	96% #30	87% #29	69% #29	69% #29	69% #29 69%
10 24	.1900	#29 100% #28	91% #28	91% #27	85% #26	79% #25	75%
10 32	.1900	#25 100% #24	94% #23	89% 5/32	83% #22	81% #21	76%
12 24	.2160	#20 102% #19	92% #18	86% #18	86% 11/64	81% #16	72%
12 28	.2160	#18 100% 11/64	95% #16	84% #16	84% #15	78% #14	73%
1/ 4 20	.2500	#13 100% 3/16	96% #11	91% # 9	83% # 8	79% # 7	75%
1/ 4 28	.2500	13/64 101% # 5	96% # 4	88% # 3	80% # 3	80% 7/32	67%
5/16 18	.3125	C 98% D	92% D	92% 1/ 4	87% F	77% F	77%
5/16 24	.3125	F 103% G	95% 17/64	87% 17/64	87% I	75% I	75%
3/ 8 16	.3750	M 99% 19/64	96% N	90% 5/16	77% 5/16	77% 5/16	77%
3/ 8 24	.3750	P 96% P	96% 21/64	87% 21/64	87% Q	79% R	67%
7/16 14	.4375	11/32 101% S	96% T	86% T	86% U	75% U	75%
7/16 20	.4375	3/ 8 96% 3/ 8	96% V	93% W	79% W	79% 25/64	72%
1/ 2 13	.5000	Y 96% Y	96% Z	87% Z	87% 27/64	78% 7/16	63%
1/ 2 20	.5000	7/16 96% 7/16	96% 29/64	72% 29/64	72% 29/64	72% 29/64	72%
5/ 8 11	.6250	33/64 93% 33/64	93% 33/64	93% 17/32	79% 17/32	79% 35/64	66%
5/ 8 18	.6250	18/32 87% 18/32	87% 18/32	87% 18/32	87% 37/64	65% 37/64	65%
M 2 0.40	.0787	#53 94% #53	94% 1/16	79% 1/16	79% 1/16	79% #52	74%
M 2 0.25	.0787	#51 92% #51	92% #51	92% #50	68% #50	68% #50	68%
M 3 0.50	.1181	#42 96% #42	96% #41	86% #41	86% #40	79% #39	73%
M 3 0.35	.1181	#38 93% #38	93% #38	93% #37	79% #37	79% #36	65%
M 4 0.70	.1575	1/ 8 91% 1/ 8	91% 1/ 8	91% #30	81% #30	81% #29	60%
M 4 0.50	.1575	#29 84% #29	84% #29	84% #29	84% #28	66% #28	66%
M 5 0.80	.1969	5/32 99% #22	97% #20	88% #19	75% #19	75% #19	75%
M 5 0.50	.1969	11/64 98% 11/64	98% #17	93% #16	78% #16	78% #16	78%
M 6 1.00	.2362	#13 100% 3/16	95% #11	88% #10	84% # 9	79% # 8	73%
M 6 0.75	.2362	# 8 97% # 8	97% # 7	92% 13/64	86% # 5	80% # 4	71%
M 7 1.00	.2756	# 1 93% # 1	93% A	81% A	81% A	81% B	74%
M 7 0.75	.2756	B 98% B	98% C	88% C	88% D	77% D	77%
M 8 1.25	.3150	1/ 4 102% F	91% F	91% G	84% 17/64	77% 17/64	77%
M 8 1.00	.3150	17/64 97% 17/64	97% I	84% I	84% J	74% J	74%
M 8 0.75	.3150	J 99% J	99% K	89% K	89% L	65% L	65%
M 10 1.50	.3937	O 101% P	92% P	92% 21/64	86% Q	80% R	71%
M 10 1.25	.3937	21/64 103% Q	97% R	86% R	86% 11/32	78% 11/32	78%
M 10 1.00	.3937	11/32 98% 11/32	98% S	89% T	70% T	70% T	70%
M 10 0.75	.3937	T 93% T	93% T	93% 23/64	89% U	67% U	67%
M 12 1.75	.4724	W 97% W	97% 25/64	91% X	84% Y	76% Y	76%
M 12 1.50	.4724	X 98% Y	89% Y	89% 13/32	86% Z	77% Z	77%
M 12 1.25	.4724	13/32 103% Z	93% Z	93% 27/64	79% 27/64	79% 7/16	55%
M 12 1.00	.4724	27/64 99% 27/64	99% 7/16	68% 7/16	68% 7/16	68% 7/16	68%

Here are the sizes of drill required to produce the required size for tapping the required thread. For each line the first part is the size of screw followed by the threads per inch or in metric the pitch. For example 4 40 is a size 4 screw with 40 threads per inch. While M 2 0.40 is a metric 2mm with a 0.40mm pitch, the distances between one peak to the next. Depending on what kind of material being tapped the size of hole will vary. When tapping by hand use 90% to 50% and when using power tools use 80% through 50%. The most common used size drill is 75%. For sheet brass, sheet nickel, babbitt, white metal, hard rubber use 75% to 80%. For mild steel, aluminum, cast iron, and cast brass use 70% to 75%. For bronze, tool steel, drop forging, stainless steel, cast steel, nickel, and copper use 65% to 70%. This table lists the next available American drill except for the letter drills use the next larger size. The percent values after the drill size are the correct values for that drill.

Size	diam.		75%	70%	65%	60%	55%	50%
00 90	.0470	#64	76% #63	69% #62	62% #61	55% #61	55% #60	48%
0 80	.0600	#55	49% #55	49% #55	49% #55	49% #55	49% #55	49%
1 72	.0730	#53	75% 1/16	58% 1/16	58% 1/16	58% #52	53% #51	33%
2 64	.0860	#49	64% #49	64% #49	64% #48	49% #48	49% #48	49%
3 56	.0990	#45	73% #44	56% #44	56% #44	56% #44	56% #43	43%
4 40	.1120	#43	71% #43	71% #42	57% #42	57% 3/32	56% #41	49%
6 32	.1380	7/64	70% 7/64	70% #34	67% #33	62% #32	54% #31	44%
8 32	.1640	#29	69% #29	69% #28	58% #28	58% #27	49% #27	49%
10 24	.1900	#25	75% #24	70% #23	67% #22	61% #20	54% #19	44%
10 32	.1900	#21	76% #20	71% #19	59% #19	59% #18	50% #18	50%
12 24	.2160	#16	72% #15	67% #15	67% #13	57% 3/16	53% #12	50%
12 28	.2160	#14	73% #13	67% #13	67% 3/16	61% #11	54% #10	48%
1/ 4 20	.2500	# 7	75% # 6	71% # 4	63% # 3	57% 7/32	48% 7/32	48%
1/ 4 28	.2500	7/32	67% 7/32	67% 7/32	67% # 2	63% # 1	47% # 1	47%
5/16 18	.3125	F	77% G	71% 17/64	65% I	56% I	56% J	49%
5/16 24	.3125	I	75% J	66% J	66% K	58% 9/32	58% L	42%
3/ 8 16	.3750	5/16	77% P	64% P	64% 21/64	58% Q	53% R	44%
3/ 8 24	.3750	R	67% R	67% R	67% 11/32	58% 11/32	58% S	50%
7/16 14	.4375	U	75% 3/ 8	67% V	65% W	56% W	56% 25/64	51%
7/16 20	.4375	25/64	72% 25/64	72% X	62% X	62% Y	52% Y	52%
1/ 2 13	.5000	7/16	63% 7/16	63% 7/16	63% 29/64	47% 29/64	47% 29/64	47%
1/ 2 20	.5000	29/64	72% 29/64	72% 15/32	48% 15/32	48% 15/32	48% 15/32	48%
5/ 8 11	.6250	35/64	66% 35/64	66% 35/64	66% 18/32	53% 18/32	53% 37/64	40%
5/ 8 18	.6250	37/64	65% 37/64	65% 37/64	65% 19/32	43% 19/32	43% 19/32	43%
M 2 0.40	.0787	#52	74% #51	57% #51	57% #51	57% #50	43% #50	43%
M 2 0.25	.0787	#50	68% #50	68% #49	45% #49	45% #49	45% #49	45%
M 3 0.50	.1181	#39	73% #38	65% #38	65% #37	55% #37	55% #36	45%
M 3 0.35	.1181	#36	65% #36	65% #36	65% 7/64	49% 7/64	49% 7/64	49%
M 4 0.70	.1575	#29	60% #29	60% #29	60% #29	60% #28	47% #28	47%
M 4 0.50	.1575	#28	66% #28	66% #28	66% #27	53% #27	53% #27	53%
M 5 0.80	.1969	#19	75% #18	67% #18	67% 11/64	61% #16	49% #16	49%
M 5 0.50	.1969	#16	78% #15	66% #15	66% #14	58% #14	58% #13	46%
M 6 1.00	.2362	# 8	73% # 7	69% 13/64	65% # 5	60% # 4	53% # 3	45%
M 6 0.75	.2362	# 4	71% # 4	71% # 3	61% # 3	61% 7/32	45% 7/32	45%
M 7 1.00	.2756	B	74% C	66% C	66% D	58% 1/ 4	50% 1/ 4	50%
M 7 0.75	.2756	D	77% 1/ 4	67% 1/ 4	67% F	48% F	48% F	48%
M 8 1.25	.3150	17/64	77% I	67% I	67% J	59% K	53% L	39%
M 8 1.00	.3150	J	74% K	66% K	66% L	49% L	49% L	49%
M 8 0.75	.3150	L	65% L	65% L	65% M	52% M	52% M	52%
M 10 1.50	.3937	R	71% R	71% 11/32	65% S	60% T	47% T	47%
M 10 1.25	.3937	11/32	78% S	71% T	56% T	56% T	56% U	40%
M 10 1.00	.3937	T	70% T	70% 23/64	67% U	50% U	50% U	50%
M 10 0.75	.3937	U	67% U	67% U	67% 3/ 8	49% 3/ 8	49% 3/ 8	49%
M 12 1.75	.4724	Y	76% Z	66% Z	66% 27/64	56% 27/64	56% 7/16	39%
M 12 1.50	.4724	Z	77% 27/64	66% 27/64	66% 7/16	46% 7/16	46% 7/16	46%
M 12 1.25	.4724	7/16	55% 7/16	55% 7/16	55% 7/16	55% 7/16	55% 29/64	30%
M 12 1.00	.4724	7/16	68% 7/16	68% 7/16	68% 29/64	38% 29/64	38% 29/64	38%

Here are the sizes of drill required to produce the required size for tapping the required thread. For each line the first part is the size of screw followed by the threads per inch or in metric the pitch. For example 4 40 is a size 4 screw with 40 threads per inch. While M 2 0.40 is a metric 2mm with a 0.40mm pitch, the distances between one peak to the next. Depending on what kind of material being tapped the size of hole will vary. When tapping by hand use 90% to 50% and when using power tools use 80% through 50%. The most common used size drill is group 2. For sheet brass, sheet nickel, babbitt, white metal, hard rubber use group 1. For mild steel, aluminum, cast iron, and cast brass use group 2. For bronze, tool steel, drop forging, stainless steel, cast steel, nickel, and copper use group 3. This table lists the next available American drill except for the letter drills use the next larger size. Pick the group best suited for you work pick either drill listed. Metric drills have been add as they will become more available.

Size	diam.		group 1	group 2	group 3						
		/-----\		/-----\		/-----\		/-----\		/-----\	
00 90	.0470	#64	0.9mm	#64	0.9mm	#63	0.9mm	#62	1.0mm		
0 80	.0600	#55	1.2mm	#55	1.2mm	#55	1.2mm	#55	1.3mm		
1 72	.0730	#53	1.5mm	#53	1.5mm	1/16	1.5mm	1/16	1.6mm		
2 64	.0860	#50	1.8mm	#49	1.8mm	#49	1.8mm	#49	1.8mm		
3 56	.0990	#46	2.0mm	#45	2.1mm	#44	2.1mm	#44	2.1mm		
4 40	.1120	#44	2.2mm	#43	2.2mm	#43	2.3mm	#42	2.3mm		
6 32	.1380	#36	2.7mm	7/64	2.7mm	7/64	2.8mm	#34	2.8mm		
8 32	.1640	#29	3.3mm	#29	3.4mm	#29	3.4mm	#28	3.5mm		
10 24	.1900	#26	3.7mm	#25	3.8mm	#24	3.9mm	#23	3.9mm		
10 32	.1900	#22	4.0mm	#21	4.1mm	#20	4.1mm	#19	4.2mm		
12 24	.2160	11/64	4.4mm	#16	4.5mm	#15	4.5mm	#15	4.6mm		
12 28	.2160	#15	4.5mm	#14	4.6mm	#13	4.7mm	#13	4.7mm		
1/ 4	20 .2500	# 8	5.0mm	# 7	5.1mm	# 6	5.2mm	# 4	5.3mm		
1/ 4	28 .2500	# 3	5.4mm	7/32	5.5mm	7/32	5.5mm	7/32	5.6mm		
5/16	18 .3125	F	6.5mm	F	6.6mm	G	6.7mm	17/64	6.7mm		
5/16	24 .3125	I	6.8mm	I	6.9mm	J	7.0mm	J	7.0mm		
3/ 8	16 .3750	5/16	7.9mm	5/16	8.0mm	P	8.1mm	P	8.2mm		
3/ 8	24 .3750	Q	8.4mm	R	8.5mm	R	8.6mm	R	8.6mm		
7/16	14 .4375	U	9.2mm	U	9.3mm	3/ 8	9.5mm	V	9.6mm		
7/16	20 .4375	W	9.8mm	25/64	9.9mm	25/64	10.0mm	X	10.0mm		
1/ 2	13 .5000	27/64	10.7mm	7/16	10.8mm	7/16	10.9mm	7/16	11.1mm		
1/ 2	20 .5000	29/64	11.4mm	29/64	11.5mm	29/64	11.5mm	15/32	11.6mm		
5/ 8	11 .6250	17/32	13.5mm	35/64	13.6mm	35/64	13.8mm	35/64	13.9mm		
5/ 8	18 .6250	37/64	14.4mm	37/64	14.5mm	37/64	14.6mm	37/64	14.7mm		
M 2	0.40 .0787	1/16	1.6mm	#52	1.6mm	#51	1.6mm	#51	1.7mm		
M 2	0.25 .0787	#50	1.7mm	#50	1.8mm	#50	1.8mm	#49	1.8mm		
M 3	0.50 .1181	#40	2.5mm	#39	2.5mm	#38	2.5mm	#38	2.6mm		
M 3	0.35 .1181	#37	2.6mm	#36	2.7mm	#36	2.7mm	#36	2.7mm		
M 4	0.70 .1575	#30	3.3mm	#29	3.3mm	#29	3.4mm	#29	3.4mm		
M 4	0.50 .1575	#28	3.5mm	#28	3.5mm	#28	3.5mm	#28	3.6mm		
M 5	0.80 .1969	#19	4.2mm	#19	4.2mm	#18	4.3mm	#18	4.3mm		
M 5	0.50 .1969	#16	4.5mm	#16	4.5mm	#15	4.5mm	#15	4.6mm		
M 6	1.00 .2362	# 9	5.0mm	# 8	5.0mm	# 7	5.1mm	13/64	5.2mm		
M 6	0.75 .2362	# 5	5.2mm	# 4	5.3mm	# 4	5.3mm	# 3	5.4mm		
M 7	1.00 .2756	A	6.0mm	B	6.0mm	C	6.1mm	C	6.2mm		
M 7	0.75 .2756	D	6.2mm	D	6.3mm	1/ 4	6.3mm	1/ 4	6.4mm		
M 8	1.25 .3150	17/64	6.7mm	17/64	6.8mm	I	6.9mm	I	6.9mm		
M 8	1.00 .3150	J	7.0mm	J	7.0mm	K	7.1mm	K	7.2mm		
M 8	0.75 .3150	L	7.2mm	L	7.3mm	L	7.3mm	L	7.4mm		
M 10	1.50 .3937	Q	8.4mm	R	8.5mm	R	8.6mm	11/32	8.7mm		
M 10	1.25 .3937	11/32	8.7mm	11/32	8.8mm	S	8.9mm	T	8.9mm		
M 10	1.00 .3937	T	9.0mm	T	9.0mm	T	9.1mm	23/64	9.2mm		
M 10	0.75 .3937	U	9.2mm	U	9.3mm	U	9.3mm	U	9.4mm		
M 12	1.75 .4724	Y	10.2mm	Y	10.3mm	Z	10.4mm	Z	10.5mm		
M 12	1.50 .4724	Z	10.4mm	Z	10.5mm	27/64	10.6mm	27/64	10.7mm		
M 12	1.25 .4724	27/64	10.7mm	7/16	10.8mm	7/16	10.9mm	7/16	10.9mm		
M 12	1.00 .4724	7/16	11.0mm	7/16	11.0mm	7/16	11.1mm	7/16	11.2mm		

Here are the sizes of drill required to produce the required size for tapping the required thread. For each line the first part is the size of screw followed by the threads per inch or in metric the pitch. For example 4 40 is a size 4 screw with 40 threads per inch. While M 2 0.40 is a metric 2mm with a 0.40mm pitch, the distances between one peak to the next. Depending on what kind of material being tapped the size of hole will vary. When taping by hand use 90% to 50% and when using power tools use 80% through 50%. The most common used size drill is group 2. For sheet brass, sheet nickel, babbitt, white metal, hard rubber use group 1. For mild steel, aluminum, cast iron, and cast brass use group 2. For bronze, tool steel, drop forging, stainless steel, cast steel, nickel, and copper use group 3. This table lists the next available American drill except for the letter drills use the next larger size. Pick the group best suited for you work pick either drill listed. Metric drills have been add as they will become more available. The percent values after the drill size are the correct values for that drill.

Size	diam.		80%	75%	70%	65%				
00	90 .0470	#64	0.0005	76% #64	- .0002	76% #63	0.0001	69% #62	0.0004	62%
0	80 .0600	#55	0.0050	49% #55	0.0042	49% #55	0.0034	49% #55	0.0026	49%
1	72 .0730	#53	0.0009	75% #53	0.0000	75% 1/16	0.0021	58% 1/16	0.0012	58%
2	64 .0860	#50	0.0002	79% #49	0.0022	64% #49	0.0012	64% #49	0.0002	64%
3	56 .0990	#46	0.0006	78% #45	0.0004	73% #44	0.0032	56% #44	0.0021	56%
4	40 .1120	#44	- .0000	80% #43	0.0014	71% #43	- .0003	71% #42	0.0026	57%
6	32 .1380	#36	0.0010	78% 7/64	0.0018	70% 7/64	- .0002	70% #34	- .0006	67%
8	32 .1640	#29	0.0045	69% #29	0.0024	69% #29	0.0004	69% #28	0.0029	58%
10	24 .1900	#26	0.0003	79% #25	0.0001	75% #24	- .0001	70% #23	- .0008	67%
10	32 .1900	#22	- .0005	81% #21	- .0006	76% #20	- .0006	71% #19	0.0024	59%
12	24 .2160	11/64	- .0008	81% #16	0.0016	72% #15	0.0019	67% #15	- .0008	67%
12	28 .2160	#15	0.0011	78% #14	0.0008	73% #13	0.0015	67% #13	- .0008	67%
1/ 4	20 .2500	# 8	0.0010	79% # 7	- .0003	75% # 6	- .0005	71% # 4	0.0012	63%
1/ 4	28 .2500	# 3	0.0001	80% 7/32	0.0036	67% 7/32	0.0013	67% 7/32	- .0010	67%
5/16	18 .3125	F	0.0022	77% F	- .0014	77% G	- .0010	71% 17/64	0.0000	65%
5/16	24 .3125	I	0.0028	75% I	0.0001	75% J	0.0024	66% J	- .0003	66%
3/ 8	16 .3750	5/16	0.0025	77% 5/16	- .0016	77% P	0.0048	64% P	0.0008	64%
3/ 8	24 .3750	Q	0.0003	79% R	0.0046	67% R	0.0019	67% R	- .0008	67%
7/16	14 .4375	U	0.0047	75% U	0.0001	75% 3/ 8	0.0025	67% V	- .0002	65%
7/16	20 .4375	W	0.0005	79% 25/64	0.0018	72% 25/64	- .0014	72% X	0.0017	62%
1/ 2	13 .5000	27/64	0.0018	78% 7/16	0.0124	63% 7/16	0.0074	63% 7/16	0.0025	63%
1/ 2	20 .5000	29/64	0.0051	72% 29/64	0.0018	72% 29/64	- .0014	72% 15/32	0.0110	48%
5/ 8	11 .6250	17/32	0.0008	79% 35/64	0.0105	66% 35/64	0.0046	66% 35/64	- .0013	66%
5/ 8	18 .6250	37/64	0.0108	65% 37/64	0.0072	65% 37/64	0.0036	65% 37/64	0.0000	65%
M 2	0.40 .0787	1/16	0.0001	79% #52	0.0001	74% #51	0.0026	57% #51	0.0016	57%
M 2	0.25 .0787	#50	0.0015	68% #50	0.0008	68% #50	0.0002	68% #49	0.0026	45%
M 3	0.50 .1181	#40	0.0003	79% #39	0.0006	73% #38	0.0013	65% #38	0.0000	65%
M 3	0.35 .1181	#37	0.0002	79% #36	0.0018	65% #36	0.0009	65% #36	0.0000	65%
M 4	0.70 .1575	#30	- .0003	81% #29	0.0054	60% #29	0.0036	60% #29	0.0018	60%
M 4	0.50 .1575	#28	0.0035	66% #28	0.0022	66% #28	0.0009	66% #28	- .0004	66%
M 5	0.80 .1969	#19	0.0019	75% #19	- .0002	75% #18	0.0013	67% #18	- .0008	67%
M 5	0.50 .1969	#16	0.0006	78% #16	- .0007	78% #15	0.0010	66% #15	- .0002	66%
M 6	1.00 .2362	# 9	0.0007	79% # 8	0.0011	73% # 7	0.0006	69% 13/64	0.0001	65%
M 6	0.75 .2362	# 5	- .0000	80% # 4	0.0015	71% # 4	- .0004	71% # 3	0.0017	61%
M 7	1.00 .2756	A	- .0007	81% B	0.0008	74% C	0.0022	66% C	- .0003	66%
M 7	0.75 .2756	D	0.0011	77% D	- .0008	77% 1/ 4	0.0013	67% 1/ 4	- .0007	67%
M 8	1.25 .3150	17/64	0.0018	77% 17/64	- .0014	77% I	0.0018	67% I	- .0014	67%
M 8	1.00 .3150	J	0.0030	74% J	0.0004	74% K	0.0018	66% K	- .0007	66%
M 8	0.75 .3150	L	0.0057	65% L	0.0038	65% L	0.0019	65% L	- .0000	65%
M 10	1.50 .3937	Q	- .0003	80% R	0.0028	71% R	- .0010	71% 11/32	- .0000	65%
M 10	1.25 .3937	11/32	0.0012	78% 11/32	- .0020	78% S	- .0010	71% T	0.0059	56%
M 10	1.00 .3937	T	0.0052	70% T	0.0027	70% T	0.0001	70% 23/64	- .0011	67%
M 10	0.75 .3937	U	0.0050	67% U	0.0031	67% U	0.0011	67% U	- .0008	67%
M 12	1.75 .4724	Y	0.0032	76% Y	- .0013	76% Z	0.0032	66% Z	- .0013	66%
M 12	1.50 .4724	Z	0.0019	77% Z	- .0019	77% 27/64	0.0032	66% 27/64	- .0007	66%
M 12	1.25 .4724	27/64	0.0006	79% 7/16	0.0130	55% 7/16	0.0098	55% 7/16	0.0066	55%
M 12	1.00 .4724	7/16	0.0060	68% 7/16	0.0034	68% 7/16	0.0009	68% 7/16	- .0017	68%

Here are the sizes of drill required to produce the required size for tapping the required thread. For each line the first part is the size of screw followed by the threads per inch or in metric the pitch. For example 4 40 is a size 4 screw with 40 threads per inch. While M 2 0.40 is a metric 2mm with a 0.40mm pitch, the distances between one peak to the next. Depending on what kind of material being tapped the size of hole will vary. When tapping by hand use 90% to 50% and when using power tools use 80% through 50%. The most common used size drill is group 2. For sheet brass, sheet nickel, babbitt, white metal, hard rubber use group 1. For mild steel, aluminum, cast iron, and cast brass use group 2. For bronze, tool steel, drop forging, stainless steel, cast steel, nickel, and copper use group 3. This table lists the next available American drill except for the letter drills use the next larger size. Pick the group best suited for you work pick either drill listed. Metric drills have been add as they will become more available. Note letter drills have been substituted for the next larger fractional drill.

Size	diam.	group 1		group 2		group 3			
		/-----\		/-----\		/-----\			
00 90	.0470	#64	0.9mm	#64	0.9mm	#63	0.9mm	#62	1.0mm
0 80	.0600	#55	1.2mm	#55	1.2mm	#55	1.2mm	#55	1.3mm
1 72	.0730	#53	1.5mm	#53	1.5mm	1/16	1.5mm	1/16	1.6mm
2 64	.0860	#50	1.8mm	#49	1.8mm	#49	1.8mm	#49	1.8mm
3 56	.0990	#46	2.0mm	#45	2.1mm	#44	2.1mm	#44	2.1mm
4 40	.1120	#44	2.2mm	#43	2.2mm	#43	2.3mm	#42	2.3mm
6 32	.1380	#36	2.7mm	7/64	2.7mm	7/64	2.8mm	#34	2.8mm
8 32	.1640	#29	3.3mm	#29	3.4mm	#29	3.4mm	#28	3.5mm
10 24	.1900	#26	3.7mm	#25	3.8mm	#24	3.9mm	#23	3.9mm
10 32	.1900	#22	4.0mm	#21	4.1mm	#20	4.1mm	#19	4.2mm
12 24	.2160	11/64	4.4mm	#16	4.5mm	#15	4.5mm	#15	4.6mm
12 28	.2160	#15	4.5mm	#14	4.6mm	#13	4.7mm	#13	4.7mm
1/ 4	20 .2500	# 8	5.0mm	# 7	5.1mm	# 6	5.2mm	# 4	5.3mm
1/ 4	28 .2500	# 3	5.4mm	7/32	5.5mm	7/32	5.5mm	7/32	5.6mm
5/16	18 .3125	17/64	6.5mm	17/64	6.6mm	17/64	6.7mm	17/64	6.7mm
5/16	24 .3125	9/32	6.8mm	9/32	6.9mm	9/32	7.0mm	9/32	7.0mm
3/ 8	16 .3750	5/16	7.9mm	5/16	8.0mm	21/64	8.1mm	21/64	8.2mm
3/ 8	24 .3750	11/32	8.4mm	11/32	8.5mm	11/32	8.6mm	11/32	8.6mm
7/16	14 .4375	3/ 8	9.2mm	3/ 8	9.3mm	3/ 8	9.5mm	25/64	9.6mm
7/16	20 .4375	25/64	9.8mm	25/64	9.9mm	25/64	10.0mm	13/32	10.0mm
1/ 2	13 .5000	27/64	10.7mm	7/16	10.8mm	7/16	10.9mm	7/16	11.1mm
1/ 2	20 .5000	29/64	11.4mm	29/64	11.5mm	29/64	11.5mm	15/32	11.6mm
5/ 8	11 .6250	17/32	13.5mm	35/64	13.6mm	35/64	13.8mm	35/64	13.9mm
5/ 8	18 .6250	37/64	14.4mm	37/64	14.5mm	37/64	14.6mm	37/64	14.7mm
M 2	0.40 .0787	1/16	1.6mm	#52	1.6mm	#51	1.6mm	#51	1.7mm
M 2	0.25 .0787	#50	1.7mm	#50	1.8mm	#50	1.8mm	#49	1.8mm
M 3	0.50 .1181	#40	2.5mm	#39	2.5mm	#38	2.5mm	#38	2.6mm
M 3	0.35 .1181	#37	2.6mm	#36	2.7mm	#36	2.7mm	#36	2.7mm
M 4	0.70 .1575	#30	3.3mm	#29	3.3mm	#29	3.4mm	#29	3.4mm
M 4	0.50 .1575	#28	3.5mm	#28	3.5mm	#28	3.5mm	#28	3.6mm
M 5	0.80 .1969	#19	4.2mm	#19	4.2mm	#18	4.3mm	#18	4.3mm
M 5	0.50 .1969	#16	4.5mm	#16	4.5mm	#15	4.5mm	#15	4.6mm
M 6	1.00 .2362	# 9	5.0mm	# 8	5.0mm	# 7	5.1mm	13/64	5.2mm
M 6	0.75 .2362	# 5	5.2mm	# 4	5.3mm	# 4	5.3mm	# 3	5.4mm
M 7	1.00 .2756	15/64	6.0mm	1/ 4	6.0mm	1/ 4	6.1mm	1/ 4	6.2mm
M 7	0.75 .2756	1/ 4	6.2mm	1/ 4	6.3mm	1/ 4	6.3mm	1/ 4	6.4mm
M 8	1.25 .3150	17/64	6.7mm	17/64	6.8mm	9/32	6.9mm	9/32	6.9mm
M 8	1.00 .3150	9/32	7.0mm	9/32	7.0mm	9/32	7.1mm	9/32	7.2mm
M 8	0.75 .3150	19/64	7.2mm	19/64	7.3mm	19/64	7.3mm	19/64	7.4mm
M 10	1.50 .3937	11/32	8.4mm	11/32	8.5mm	11/32	8.6mm	11/32	8.7mm
M 10	1.25 .3937	11/32	8.7mm	11/32	8.8mm	23/64	8.9mm	23/64	8.9mm
M 10	1.00 .3937	23/64	9.0mm	23/64	9.0mm	23/64	9.1mm	23/64	9.2mm
M 10	0.75 .3937	3/ 8	9.2mm	3/ 8	9.3mm	3/ 8	9.3mm	3/ 8	9.4mm
M 12	1.75 .4724	13/32	10.2mm	13/32	10.3mm	27/64	10.4mm	27/64	10.5mm
M 12	1.50 .4724	27/64	10.4mm	27/64	10.5mm	27/64	10.6mm	27/64	10.7mm
M 12	1.25 .4724	27/64	10.7mm	7/16	10.8mm	7/16	10.9mm	7/16	10.9mm
M 12	1.00 .4724	7/16	11.0mm	7/16	11.0mm	7/16	11.1mm	7/16	11.2mm

Here are the sizes of drill required to produce the required size for tapping the required thread. For each line the first part is the size of screw followed by the threads per inch or in metric the pitch. For example 4 40 is a size 4 screw with 40 threads per inch. While M 2 0.40 is a metric 2mm with a 0.40mm pitch, the distances between one peak to the next. Depending on what kind of material being tapped the size of hole will vary. When tapping by hand use 90% to 50% and when using power tools use 80% through 50%. The most common used size drill is group 2. For sheet brass, sheet nickel, babbitt, white metal, hard rubber use group 1. For mild steel, aluminum, cast iron, and cast brass use group 2. For bronze, tool steel, drop forging, stainless steel, cast steel, nickel, and copper use group 3. This table lists the next available American drill except for the letter drills use the next larger size. Pick the group best suited for you work pick either drill listed. Metric drills have been add as they will become more available. Note letter drills have been substituted for the next larger fractional drill. The percent values after the drill size are the correct values for that drill.

Size	diam.		80%		75%		70%		65%		
00	90	.0470	#64	0.0005	76% #64	- .0002	76% #63	0.0001	69% #62	0.0004	62%
0	80	.0600	#55	0.0050	49% #55	0.0042	49% #55	0.0034	49% #55	0.0026	49%
1	72	.0730	#53	0.0009	75% #53	0.0000	75% 1/16	0.0021	58% 1/16	0.0012	58%
2	64	.0860	#50	0.0002	79% #49	0.0022	64% #49	0.0012	64% #49	0.0002	64%
3	56	.0990	#46	0.0006	78% #45	0.0004	73% #44	0.0032	56% #44	0.0021	56%
4	40	.1120	#44	- .0000	80% #43	0.0014	71% #43	- .0003	71% #42	0.0026	57%
6	32	.1380	#36	0.0010	78% 7/64	0.0018	70% 7/64	- .0002	70% #34	- .0006	67%
8	32	.1640	#29	0.0045	69% #29	0.0024	69% #29	0.0004	69% #28	0.0029	58%
10	24	.1900	#26	0.0003	79% #25	0.0001	75% #24	- .0001	70% #23	- .0008	67%
10	32	.1900	#22	- .0005	81% #21	- .0006	76% #20	- .0006	71% #19	0.0024	59%
12	24	.2160	11/64	- .0008	81% #16	0.0016	72% #15	0.0019	67% #15	- .0008	67%
12	28	.2160	#15	0.0011	78% #14	0.0008	73% #13	0.0015	67% #13	- .0008	67%
1/ 4	20	.2500	# 8	0.0010	79% # 7	- .0003	75% # 6	- .0005	71% # 4	0.0012	63%
1/ 4	28	.2500	# 3	0.0001	80% 7/32	0.0036	67% 7/32	0.0013	67% 7/32	- .0010	67%
5/16	18	.3125	17/64	0.0108	65% 17/64	0.0072	65% 17/64	0.0036	65% 17/64	0.0000	65%
5/16	24	.3125	9/32	0.0121	58% 9/32	0.0094	58% 9/32	0.0067	58% 9/32	0.0040	58%
3/ 8	16	.3750	5/16	0.0025	77% 5/16	- .0016	77% 21/64	0.0099	58% 21/64	0.0059	58%
3/ 8	24	.3750	11/32	0.0121	58% 11/32	0.0094	58% 11/32	0.0067	58% 11/32	0.0040	58%
7/16	14	.4375	3/ 8	0.0117	67% 3/ 8	0.0071	67% 3/ 8	0.0025	67% 25/64	0.0134	51%
7/16	20	.4375	25/64	0.0051	72% 25/64	0.0018	72% 25/64	- .0014	72% 13/32	0.0110	48%
1/ 2	13	.5000	27/64	0.0018	78% 7/16	0.0124	63% 7/16	0.0074	63% 7/16	0.0025	63%
1/ 2	20	.5000	29/64	0.0051	72% 29/64	0.0018	72% 29/64	- .0014	72% 15/32	0.0110	48%
5/ 8	11	.6250	17/32	0.0008	79% 35/64	0.0105	66% 35/64	0.0046	66% 35/64	- .0013	66%
5/ 8	18	.6250	37/64	0.0108	65% 37/64	0.0072	65% 37/64	0.0036	65% 37/64	0.0000	65%
M 2	0.40	.0787	1/16	0.0001	79% #52	0.0001	74% #51	0.0026	57% #51	0.0016	57%
M 2	0.25	.0787	#50	0.0015	68% #50	0.0008	68% #50	0.0002	68% #49	0.0026	45%
M 3	0.50	.1181	#40	0.0003	79% #39	0.0006	73% #38	0.0013	65% #38	0.0000	65%
M 3	0.35	.1181	#37	0.0002	79% #36	0.0018	65% #36	0.0009	65% #36	0.0000	65%
M 4	0.70	.1575	#30	- .0003	81% #29	0.0054	60% #29	0.0036	60% #29	0.0018	60%
M 4	0.50	.1575	#28	0.0035	66% #28	0.0022	66% #28	0.0009	66% #28	- .0004	66%
M 5	0.80	.1969	#19	0.0019	75% #19	- .0002	75% #18	0.0013	67% #18	- .0008	67%
M 5	0.50	.1969	#16	0.0006	78% #16	- .0007	78% #15	0.0010	66% #15	- .0002	66%
M 6	1.00	.2362	# 9	0.0007	79% # 8	0.0011	73% # 7	0.0006	69% 13/64	0.0001	65%
M 6	0.75	.2362	# 5	- .0000	80% # 4	0.0015	71% # 4	- .0004	71% # 3	0.0017	61%
M 7	1.00	.2756	15/64	- .0003	81% 1/ 4	0.0128	50% 1/ 4	0.0102	50% 1/ 4	0.0077	50%
M 7	0.75	.2756	1/ 4	0.0051	67% 1/ 4	0.0032	67% 1/ 4	0.0013	67% 1/ 4	- .0007	67%
M 8	1.25	.3150	17/64	0.0018	77% 17/64	- .0014	77% 9/32	0.0111	53% 9/32	0.0079	53%

M 8 1.00 .3150 9/32 0.0073 66% 9/32 0.0047 66% 9/32 0.0021 66% 9/32 -.0004 66%

M 8	0.75	.3150	19/64	0.0126	47%	19/64	0.0107	47%	19/64	0.0088	47%	19/64	0.0069	47%
M 10	1.50	.3937	11/32	0.0115	65%	11/32	0.0076	65%	11/32	0.0038	65%	11/32	-.0000	65%
M 10	1.25	.3937	11/32	0.0012	78%	11/32	-.0020	78%	23/64	0.0104	54%	23/64	0.0073	54%
M 10	1.00	.3937	23/64	0.0066	67%	23/64	0.0041	67%	23/64	0.0015	67%	23/64	-.0011	67%
M 10	0.75	.3937	3/ 8	0.0120	49%	3/ 8	0.0101	49%	3/ 8	0.0081	49%	3/ 8	0.0062	49%
M 12	1.75	.4724	13/32	0.0055	74%	13/32	0.0010	74%	27/64	0.0121	56%	27/64	0.0076	56%
M 12	1.50	.4724	27/64	0.0108	66%	27/64	0.0070	66%	27/64	0.0032	66%	27/64	-.0007	66%
M 12	1.25	.4724	27/64	0.0006	79%	7/16	0.0130	55%	7/16	0.0098	55%	7/16	0.0066	55%
M 12	1.00	.4724	7/16	0.0060	68%	7/16	0.0034	68%	7/16	0.0009	68%	7/16	-.0017	68%

Here are the sizes of drill required to produce the required size for tapping the required thread. For each line the first part is the size of screw followed by the threads per inch or in metric the pitch. For example 4 40 is a size 4 screw with 40 threads per inch. While M 2 0.40 is a metric 2mm with a 0.40mm pitch, the distances between one peak to the next. Depending on what kind of material being tapped the size of hole will vary. When tapping by hand use 90% to 50% and when using power tools use 80% through 50%. The most common used size drill is group 2. For sheet brass, sheet nickel, babbitt, white metal, hard rubber use group 1. For mild steel, aluminum, cast iron, and cast brass use group 2. For bronze, tool steel, drop forging, stainless steel, cast steel, nickel, and copper use group 3. This table lists the next available American drill except for the letter drills use the next larger size. Pick the group best suited for you work pick either drill listed. Metric drills have been add as they will become more available. Note letter drills have been substituted for the next larger fractional drill.

Size	diam.		group 1		group 2		group 3			
			/-----\		/-----\		/-----\			
00 90	.0470	#64	76%	#64	76%	#63	69%	#62	62%	
0 80	.0600	#55	49%	#55	49%	#55	49%	#55	49%	
1 72	.0730	#53	75%	#53	75%	1/16	58%	1/16	58%	
2 64	.0860	#50	79%	#49	64%	#49	64%	#49	64%	
3 56	.0990	#46	78%	#45	73%	#44	56%	#44	56%	
4 40	.1120	#44	80%	#43	71%	#43	71%	#42	57%	
6 32	.1380	#36	78%	7/64	70%	7/64	70%	#34	67%	
8 32	.1640	#29	69%	#29	69%	#29	69%	#28	58%	
10 24	.1900	#26	79%	#25	75%	#24	70%	#23	67%	
10 32	.1900	#22	81%	#21	76%	#20	71%	#19	59%	
12 24	.2160	11/64	81%	#16	72%	#15	67%	#15	67%	
12 28	.2160	#15	78%	#14	73%	#13	67%	#13	67%	
1/ 4 20	.2500	# 8	79%	# 7	75%	# 6	71%	# 4	63%	
1/ 4 28	.2500	# 3	80%	7/32	67%	7/32	67%	7/32	67%	
5/16 18	.3125	17/64	65%	17/64	65%	17/64	65%	17/64	65%	
5/16 24	.3125	9/32	58%	9/32	58%	9/32	58%	9/32	58%	
3/ 8 16	.3750	5/16	77%	5/16	77%	21/64	58%	21/64	58%	
3/ 8 24	.3750	11/32	58%	11/32	58%	11/32	58%	11/32	58%	
7/16 14	.4375	3/ 8	67%	3/ 8	67%	3/ 8	67%	25/64	51%	
7/16 20	.4375	25/64	72%	25/64	72%	25/64	72%	13/32	48%	
1/ 2 13	.5000	27/64	78%	7/16	63%	7/16	63%	7/16	63%	
1/ 2 20	.5000	29/64	72%	29/64	72%	29/64	72%	15/32	48%	
5/ 8 11	.6250	17/32	79%	35/64	66%	35/64	66%	35/64	66%	
5/ 8 18	.6250	37/64	65%	37/64	65%	37/64	65%	37/64	65%	
M 2 0.40	.0787	1/16	79%	#52	74%	#51	57%	#51	57%	
M 2 0.25	.0787	#50	68%	#50	68%	#50	68%	#49	45%	
M 3 0.50	.1181	#40	79%	#39	73%	#38	65%	#38	65%	
M 3 0.35	.1181	#37	79%	#36	65%	#36	65%	#36	65%	
M 4 0.70	.1575	#30	81%	#29	60%	#29	60%	#29	60%	
M 4 0.50	.1575	#28	66%	#28	66%	#28	66%	#28	66%	
M 5 0.80	.1969	#19	75%	#19	75%	#18	67%	#18	67%	
M 5 0.50	.1969	#16	78%	#16	78%	#15	66%	#15	66%	
M 6 1.00	.2362	# 9	79%	# 8	73%	# 7	69%	13/64	65%	
M 6 0.75	.2362	# 5	80%	# 4	71%	# 4	71%	# 3	61%	
M 7 1.00	.2756	15/64	81%	1/ 4	50%	1/ 4	50%	1/ 4	50%	
M 7 0.75	.2756	1/ 4	67%	1/ 4	67%	1/ 4	67%	1/ 4	67%	
M 8 1.25	.3150	17/64	77%	17/64	77%	9/32	53%	9/32	53%	
M 8 1.00	.3150	9/32	66%	9/32	66%	9/32	66%	9/32	66%	
M 8 0.75	.3150	19/64	47%	19/64	47%	19/64	47%	19/64	47%	
M 10 1.50	.3937	11/32	65%	11/32	65%	11/32	65%	11/32	65%	
M 10 1.25	.3937	11/32	78%	11/32	78%	23/64	54%	23/64	54%	
M 10 1.00	.3937	23/64	67%	23/64	67%	23/64	67%	23/64	67%	
M 10 0.75	.3937	3/ 8	49%	3/ 8	49%	3/ 8	49%	3/ 8	49%	
M 12 1.75	.4724	13/32	74%	13/32	74%	27/64	56%	27/64	56%	
M 12 1.50	.4724	27/64	66%	27/64	66%	27/64	66%	27/64	66%	
M 12 1.25	.4724	27/64	79%	7/16	55%	7/16	55%	7/16	55%	
M 12 1.00	.4724	7/16	68%	7/16	68%	7/16	68%	7/16	68%	