



# TAP & CLEARANCE DRILL CHART

## STANDARD Tap & Clearance Drill Sizes

## TAP DRILL

## CLEARANCE DRILL

Screw Size	Major Diameter	Threads Per Inch	Minor Diameter	75% Thread for Aluminum, Brass & Plastics		50% Thread for Steel, Stainless & Iron		Close Fit		Free Fit	
				Drill Size	Dec. Eq.	Drill Size	Dec. Eq.	Drill Size	Dec. Eq.	Drill Size	Dec. Eq.
0	0.060	80	0.045	3/64	0.047	55	0.052	52	0.064	50	0.070
1	0.073	64	0.054	53	0.060	1/16	0.063	48	0.076	46	0.081
		72	0.056	53	0.060	52	0.064				
2	0.086	56	0.064	50	0.070	49	0.073	43	0.089	41	0.096
		64	0.067	50	0.070	48	0.076				
3	0.099	48	0.073	47	0.079	44	0.086	37	0.104	35	0.110
		56	0.077	45	0.082	43	0.089				
4	0.112	40	0.081	43	0.089	41	0.096	32	0.116	30	0.129
		48	0.086	42	0.094	40	0.098				
5	0.125	40	0.094	38	0.102	7/64	0.109	30	0.129	29	0.136
		44	0.097	37	0.104	35	0.110				
6	0.138	32	0.100	36	0.107	32	0.116	27	0.144	25	0.150
		40	0.107	33	0.113	31	0.120				
8	0.164	32	0.126	29	0.136	27	0.144	18	0.170	16	0.177
		36	0.130	29	0.136	26	0.147				
10	0.190	24	0.139	22	0.157	20	0.161	9	0.196	7	0.201
		32	0.152	21	0.159	18	0.170				
12	0.216	24	0.165	16	0.177	12	0.189	2	0.221	1	0.228
		28	0.172	14	0.182	10	0.194				
		32	0.178	13	0.185	9	0.196				
1/4	0.250	20	0.189	7	0.201	7/32	0.219	F	0.257	H	0.266
		28	0.206	3	0.213	1	0.228				
		32	0.212	7/32	0.219	1	0.228				
5/16	0.313	18	0.244	F	0.257	J	0.277	P	0.323	Q	0.332
		24	0.261	I	0.272	9/32	0.281				
		32	0.274	9/32	0.281	L	0.290				
3/8	0.375	16	0.298	5/16	0.313	Q	0.332	W	0.386	X	0.397
		24	0.324	Q	0.332	S	0.348				
		32	0.337	11/32	0.344	T	0.358				
7/16	0.438	14	0.350	U	0.368	25/64	0.391	29/64	0.453	15/32	0.469
		20	0.376	25/64	0.391	13/32	0.406				
		28	0.394	Y	0.404	Z	0.413				
1/2	0.500	13	0.406	27/64	0.422	29/64	0.453	33/64	0.516	17/32	0.531
		20	0.439	29/64	0.453	15/32	0.469				
		28	0.456	15/32	0.469	15/32	0.469				
9/16	0.563	12	0.460	31/64	0.484	33/64	0.516	37/64	0.578	19/32	0.594
		18	0.494	33/64	0.516	17/32	0.531				
		24	0.511	33/64	0.516	17/32	0.531				
5/8	0.625	11	0.514	17/32	0.531	9/16	0.563	41/64	0.641	21/32	0.656
		18	0.557	37/64	0.578	19/32	0.594				
		24	0.574	37/64	0.578	19/32	0.594				
11/16	0.688	24	0.636	41/64	0.641	21/32	0.656	45/64	0.703	23/32	0.719
3/4	0.750	10	0.627	21/32	0.656	11/16	0.688	49/64	0.766	25/32	0.781
		16	0.673	11/16	0.688	45/64	0.703				
		20	0.689	45/64	0.703	23/32	0.719				
13/16	0.813	20	0.751	49/64	0.766	25/32	0.781	53/64	0.828	27/32	0.844
7/8	0.875	9	0.739	49/64	0.766	51/64	0.797	57/64	0.8906	29/32	0.9062
		14	0.787	13/16	0.813	53/64	0.828				
		20	0.814	53/64	0.828	27/32	0.844				
15/16	0.938	20	0.876	57/64	0.891	29/32	0.906	61/64	0.953	31/32	0.969
1	1	8	0.847	7/8	0.875	59/64	0.922	1-1/64	1.0156	1-1/32	1.0313
		12	0.898	15/16	0.938	61/64	0.953				
		20	0.939	61/64	0.953	31/32	0.969				



# METRIC TAP & CLEARANCE DRILL CHART

METRIC Tap & Clearance Drill Sizes		TAP DRILL				CLEARANCE DRILL			
		75% Thread for Aluminum, Brass & Plastics		50% Thread for Steel, Stainless & Iron		Close Fit		Free Fit	
Screw Size (mm)	Thread Pitch (mm)	Drill Size (mm)	Closest American Drill	Drill Size (mm)	Closest American Drill	Drill Size (mm)	Closest American Drill	Drill Size (mm)	Closest American Drill
M1.5	0.35	1.15	56	1.25	55	1.60	1/16	1.65	52
M1.6	0.35	1.25	55	1.35	54	1.70	51	1.75	50
M1.8	0.35	1.45	53	1.55	1/16	1.90	49	2.00	5/64
M2	0.45	1.55	1/16	1.70	51	2.10	45	2.20	44
	0.40	1.60	52	1.75	50				
M2.2	0.45	1.75	50	1.90	48	2.30	3/32	2.40	41
M2.5	0.45	2.05	46	2.20	44	2.65	37	2.75	7/64
M3	0.60	2.40	41	2.60	37	3.15	1/8	3.30	30
	0.50	2.50	39	2.70	36				
M3.5	0.60	2.90	32	3.10	31	3.70	27	3.85	24
M4	0.75	3.25	30	3.50	28	4.20	19	4.40	17
	0.70	3.30	30	3.50	28				
M4.5	0.75	3.75	25	4.00	22	4.75	13	5.00	9
M5	1.00	4.00	21	4.40	11/64	5.25	5	5.50	0.22
	0.90	4.10	20	4.40	17				
	0.80	4.20	19	4.50	16				
M5.5	0.90	4.60	14	4.90	10	5.80	1	6.10	B
M6	1.00	5.00	8	5.40	4	6.30	E	6.60	G
	0.75	5.25	4	5.50	7/32				
M7	1.00	6.00	B	6.40	E	7.40	L	7.70	N
	0.75	6.25	D	6.50	F				
M8	1.25	6.80	H	7.20	J	8.40	Q	8.80	S
	1.00	7.00	J	7.40	L				
M9	1.25	7.80	N	8.20	P	9.50	3/8	9.90	25/64
	1.00	8.00	O	8.40	21/64				
M10	1.50	8.50	R	9.00	T	10.50	Z	11.00	0.4375
	1.25	8.80	11/32	9.20	23/64				
	1.00	9.00	T	9.40	U				
M11	1.50	9.50	3/8	10.00	X	11.60	29/64	12.10	15/32
M12	1.75	10.30	13/32	10.90	27/64	12.60	1/2	13.20	33/64
	1.50	10.50	Z	11.00	7/16				
	1.25	10.80	27/64	11.20	7/16				
M14	2.00	12.10	15/32	12.70	1/2	14.75	37/64	15.50	39/64
	1.50	12.50	1/2	13.00	33/64				
	1.25	12.80	1/2	13.20	33/64				
M15	1.50	13.50	17/32	14.00	35/64	15.75	5/8	16.50	21/32
M16	2.00	14.00	35/64	14.75	37/64	16.75	21/32	17.50	0.6875
	1.50	14.50	37/64	15.00	19/32				
M17	1.50	15.50	39/64	16.00	5/8	18.00	45/64	18.50	47/64
	2.50	15.50	39/64	16.50	41/64				
M18	2.00	16.00	5/8	16.75	21/32	19.00	3/4	20.00	25/32
	1.50	16.50	21/32	17.00	43/64				
M19	2.50	16.50	21/32	17.50	11/16	20.00	25/32	21.00	53/64
	2.50	17.50	11/16	18.50	23/32				
M20	2.00	18.00	45/64	18.50	47/64	21.00	53/64	22.00	55/64
	1.50	18.50	47/64	19.00	3/4				





PIPE TAP SIZE	DRILL SIZE NPT & NPTF (Taper)	DECIMAL EQUIVALENT	DRILL SIZE NPS (Straight)	DECIMAL EQUIVALENT
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1/8"-27	R	.3390"	S	.3480"
1/4"-18	7/16"	.4375	29/64"	.4531
3/8"-18	37/64	.5781	19/32	.5938
1/2"-14	23/32	.7188	47/64	.7344
3/4"-14	59/64	.9219	15/16	.9375
1"-11-1/2	1-5/32	1.1562	1-3/16	1.1875
1-1/4"-11-1/2	1-1/2	1.5000	1-33/64	1.5156
1-1/2"-11-1/2	1-47/64	1.7344	1-3/4	1.7500
2"-11-1/2	2-7/32	2.2188	2-7/32	2.2188
2-1/2"-8	2-5/8	2.6250	2-21/32	2.6562
3"-8	3-1/4	3.2500	3-9/32	3.2812
3-1/2"-8	3-3/4	3.7500	3-25/32	3.7812
4"-8	4-1/4	4.1250	4-9/32	4.2812

**TAP DRILL SIZES**  
(75% prob. threaded)

Tap Size	Drill Size	Decimal Size	Tap Size	Drill Size	Decimal Size
#0-80	3/64"	.0469"	3/8"-24	Q	.3320"
1.6mm x .35	1.25mm	.0492"	10mm x 1.5	8.5mm	.3346"
#1-64	53	.0595"	7/16"-14	U	.3680"
2mm x .4	1.6mm	.0630"	7/16"-20	W	.3860"
#1-72	53	.0595"	12mm x 1.75	10mm	.3937"
#2-56	51	.0670"	1/2"-13	27/64"	.4219"
#2-64	50	.0700"	1/2"-20	29/64"	.4531"
2.5mm x .45	2.05mm	.0807"	14mm x 2	12mm	.4724"
#3-48	5/64"	.0781"	9/16"-12	31/64"	.4844"
#3-56	46	.0810"	9/16"-18	33/64"	.5156"
#4-40	43	.0890"	5/8"-11	17/32	.5312"
#4-48	42	.0935"	5/8"-18	37/64"	.5781"
3mm x .5	2.5mm	.0984"	16mm x 2	14mm	.5512"
#5-40	39	.0995"	3/4"-10	21/32"	.6562"
#5-44	37	.1040"	3/4"-16	11/16"	.6875"
3.5mm x .6	2.9mm	.1142"	20mm x 2.5	17mm	.6693"
#6-32	36	.1065"	7/8"-9	49/64"	.7656"
#6-40	33	.1130"	7/8"-14	13/16"	.8125"
4mm x .7	3.3mm	.1299"	24mm x 3	21mm	.8268"
#8-32	29	.1360"	1"-8	7/8"	.8750"
#8-36	29	.1360"	1"-12	.918"	.918"
#10-24	25	.1495"	1"-14	15/16"	.9375"
#10-32	21	.1590"	1-1/8"-7	63/64"	.9844"
5mm x .8	4.2mm	.1654"	1-1/8"-12	1-3/64"	1.0469"
#12-24	17	.1730"	30mm x 3.5	26.5mm*	1.0433"
#12-28	15	.1800"	1-1/4"-7	1-7/64"	1.1094"
6mm x 1	5mm	.1969"	1-1/4"-12	1-11/64"	1.1719"
1/4"-20	7	.2010"	1-3/8"-6	1.212"	1.212"
1/4"-28	3	.2130"	1-3/8"-12	1.293"	1.293"
5/16"-18	F	.2570"	36mm x 4	1-1/4"	1.250"
5/16"-24	I	.2720"	1-1/2"-6	1-11/32"	1.3438"
8mm x 1.25	6.7mm	.2638"	1-1/2"-12	1-27/64"	1.4219"
3/8"-16	5/16"	.3125"			

\*Recommended to bore to hole sizes since standard drill would be either undersized or oversized.