



## METRIC TAP DRILL SIZES AND PERCENTAGES OF THREADS

TAP SIZE	TAP DRILL	DECIMAL EQUIV.	THEOR. % OF THREAD	TAP SIZE	TAP DRILL	DECIMAL EQUIV.	THEOR. % OF THREAD	TAP SIZE	TAP DRILL	DECIMAL EQUIV.	THEOR. % OF THREAD
M1.6X3.5	1.25mm	.0492	77	M8X1.25	I	.2720	67	M22X1.5	20.5mm	.8071	77
	1.3mm	.0512	66	M8X1	7mm	.2756	77	M24X3	13/16	.8125	70
	#55	.0520	61		J	.2770	74		21mm	.8268	77
M1.8X.35	1.45mm	.0571	77	M10X1.5	8.5mm	.3346	77	M24X2	27/32	.8438	66
	1.5mm	.0591	66	R	.3390	71	22mm		.8661	77	
	#53	.0595	64	M10X1.25	8.75mm	.3445	77	7/8	.8750	68	
M2X.4	1.6mm	.0630	77	M12X1.75	S	.3480	71	M27X3	24mm	.9449	77
	#52	.0635	74		13/32	.4062	74	61/64	.9531	72	
M2.2X.45	1.75mm	.0689	77	M12X1.25	Z	.4130	66	M27X2	25mm	.9843	77
	#50	.0700	72		27/64	.4219	79		63/64	.9844	77
M2.5X.45	2.05mm	.0807	77	M14X2	11mm	.4331	62	M30X3.5	26.5mm	1.0433	77
	#45	.0820	71		12mm	.4724	77		1 1/16	1.0625	66
M3X.5	2.5mm	.0984	77	M14X1.5	31/64	.4844	65	M30X2	28mm	1.1024	77
	#39	.0995	73		12.5mm	.4921	77		1 7/64	1.1094	70
M3.5X.6	2.9mm	.1142	77	M16X2	1/2	.5000	67	M33X3.5	29.5mm	1.1614	77
	#32	.1160	71		14mm	.5512	77		1 11/64	1.1719	71
M4X.7	3.3mm	.1299	77	M16X1.5	9/16	.5625	66	M33X2	31mm	1.2205	77
	3.4mm	.1339	66		14.5mm	.5709	77		1 15/64	1.2344	63
M4.5X.75	#29	.1360	60	M18X2.5	37/64	.5781	68	M36X4	32mm	1.2598	77
	3.75mm	.1476	77		15.5mm	.6102	77		1 17/64	1.2656	74
M5X.8	#25	.1495	72	M18X1.5	5/8	.6250	65	M36X3	1 19/64	1.2969	78
	4.2mm	.1654	77		16.5mm	.6496	77		33mm	1.2992	77
M6X1	#18	.1695	67	M20X2.5	21/32	.6562	68	M39X4	1 5/16	1.3125	68
	5mm	.1969	77		17.5mm	.6890	77		1 3/8	1.3750	78
M7X1	#8	.1990	73	M20X1.5	45/64	.7031	66	M39X3	35mm	1.3780	77
	6mm	.2362	77		18.5mm	.7283	77		1 25/64	1.3906	71
M8X1.25	B	.2380	74	M22X2.5	47/64	.7344	69	36mm	1.4173	77	
	6.75mm	.2657	77		19.5mm	.7677	77	1 27/64	1.4219	74	
	6.8mm	.2677	74		25/32	.7812	66				

## PIPE TAP DRILL SIZES

TAP SIZE	*NPT		*NPTF		STRAIGHT	
	TAP DRILL	DECIMAL EQUIV.	TAP DRILL	DECIMAL EQUIV.	TAP DRILL	DECIMAL EQUIV.
1/16	D	.2460	D	.2460	1/4	.2500
1/8	Q	.3320	R	.3390	11/32	.3438
1/4	7/16	.4375	7/16	.4375	7/16	.4375
3/8	9/16	.5625	37/64	.5781	37/64	.5781
1/2	45/64	.7031	45/64	.7031	23/32	.7188
3/4	29/32	.9062	59/64	.9219	59/64	.9219
1	1 9/64	1.1406	1 5/32	1.1562	1 5/32	1.1562
1 1/4	1 31/64	1.4844	1 1/2	1.5000	1 1/2	1.5000
1 1/2	1 47/64	1.7344	1 47/64	1.7344	1 3/4	1.7500
2	2 13/64	2.2031	2 7/32	2.2188	2 7/32	2.2188
2 1/2	2 5/8	2.6250	2 41/64	2.6406	2 21/32	2.6562
3			3 17/64	3.2656		

\*For tapping without reaming.



## TABLE 301B – THREAD SERIES DESIGNATIONS (CONTINUED)

STANDARD TAP MARKING	PRODUCT THREAD DESIGNATION	THREAD SERIES	REFERENCES AMERICAN NATIONAL STDS. (ANSI/ASME)
NF	UNJF	Unified Inch Screw Thread, fine pitch series, with rounded root of radius 0.15011P to 0.18042P. (Ext. thd. only.)	B1.15 (Draft), MIL-S-8879 A
NEF	UNJEF	Unified Inch Screw Thread, extra-fine pitch series, with rounded root of radius 0.15011P to 0.18042P. (Ext. thd. only.)	B1.15 (Draft), MIL-S-8879A
N	UNR	Unified Inch Screw Thread, constant pitch series, with rounded root of radius not less than 0.108P. (Ext. thd. only.)	B1.1
NC	UNRC	Unified Inch Screw Thread, coarse thread series, with rounded root of radius not less than 0.108P. (Ext. thd. only.)	B1.1
NF	UNRF	Unified Inch Screw Thread, fine pitch series, with rounded root of radius not less than 0.108P. (Ext. thd. only.)	B1.1
NEF	UNREF	Unified Inch Screw Thread, extra-fine pitch series, with rounded root of radius not less than 0.108P. (Ext. thd. only.)	B1.1
UNM	UNM	Unified miniature thread series	B1.10
NS	UNS	Unified Inch Screw Thread, special diameter pitch, or length of engagement.	B1.1

## TABLE 301B – THREAD SERIES DESIGNATIONS – BRITISH SCREW THREADS

STD. TAP & DIE MARK.	PROD. THD. DESIGNATION	THREAD SERIES	REFERENCE BRITISH STANDARD
BA	BA	British Association	BS93
BSC	BSC	British cycle	BS811
BSF	BSF	British WHITWORTH Fine	BS84
BSW	BSW	British WHITWORTH Coarse	BS84
OBSOLETE	BSPP	British Straight Pipe	OBSOLETE
OBSOLETE	BSPT	British Taper Pipe	OBSOLETE
WHIT	WHIT	British WHITWORTH Special	BS84
STD. TAP MARKING*	BRITISH PIPE THREADS		
G 1/4	G	British Internal Straight Pipe for Mechanical Joints	BS2779
Rc 1/4	Rc	British Internal Taper Pipe for Pressure Tight Joints	BS21
Rp 1/4	Rp	British Internal Straight Pipe for Pressure Tight Joints	BS21

## METRIC THREAD LIMITS

### TABLE 337 – STANDARD METRIC TAPS – GROUND THREAD

NOMINAL SIZE	PITCH	MAJOR DIAMETER INCHES			STANDARD PITCH DIAMETER LIMITS INCHES														
		BASIC	MIN.	MAX.	BASIC PITCH DIAMETER	D-3 LIMITS		D-4 LIMITS		D-5 LIMITS		D-6 LIMITS		D-7 LIMITS		D-8 LIMITS		D-9 LIMITS	
						MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
1.6	0.35	.062992	.0641	.0651	.054042	.0550	.0556												
2	0.4	.078740	.0801	.0811	.068511	.0695	.0701												
2.5	0.45	.098425	.0999	.1009	.086918	.0879	.0885												
3	0.5	.118110	.1198	.1208	.105324	.1063	.1069												
3.5	0.6	.137795	.1397	.1407	.122452			.1237	.1245										
4	0.7	.157480	.1597	.1613	.139580			.1408	.1416										
5	0.8	.196850	.1994	.2010	.176393			.1776	.1784										
6	1	.236220	.2395	.2411	.210648					.2122	.2132								
8	1.25	.314960	.3189	.3214	.282995					.2843	.2855								
10	1.5	.393700	.3985	.4010	.35343							.3572	.3584						
12	1.75	.472440	.4780	.4805	.427690							.4295	.4307						
14	2	.551180	.5575	.5600	.500037									.5020	.5036				
16	2	.629920	.6363	.6388	.578777									.5807	.5823				
20	2.5	.787400	.7954	.7979	.723471									.7254	.7270				
24	3	.944880	.9544	.9583	.868165											.8706	.8722		
30	3.5	1.181100	1.1922	1.1961	1.091599													1.0942	1.0962
36	4	1.417320	1.4300	1.4339	1.315034													1.3176	1.3196

\*Examples to show location of size designation