

SELECTION GUIDE



HSS-PM & HSS-E YG TAP INOX

- For Stainless Steels

HOLE TYPE		Max. 2.5xD Blind Hole			
TOOL MATERIAL		HSS-PM			
CHAMFER LEAD		2P-3P			
FLUTE TYPE		Spiral Flute			
SPIRAL FLUTE ANGLE		R45			
SERIES	M				
	M/MF				
	UNC				
	UNC/UNC	G7 (p.B170)	G8 (p.B170)	G9 (p.B170)	H0 (p.B170)
	UNC/UNC/UNS				
	UNC/UNS				
	NPT				
NPTF					
NPS/NPSF					
SURFACE TREATMENT / COATING		TIN	TIN	Hardslick	Hardslick
MODEL					

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC	G7	G8	G9	H0
P	1	Non-alloy steel	About 0.15% C Annealed	125		○	○	○	○
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	◎
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎
	7		Quenched & Tempered	275	29				
	8		Quenched & Tempered	300	32				
	9		Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel	Annealed	200	15			
		Quenched & Tempered	325	35					
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎	◎	◎
	13		Martensitic Quenched & Tempered	240	23	◎	◎	◎	◎
	14		Austenitic	180	10	◎	◎	◎	◎
	15								
K	15	Grey cast iron	Pearlitic / ferritic	180	10				
	16		Pearlitic (Martensitic)	260	26				
	17	Nodular cast iron	Ferritic	160	3				
	18		Pearlitic	250	25				
	19		Ferritic	130					
20	Malleable cast iron	Pearlitic	230	21					
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	○	○
	22		Curable	100					
	23		≤ 12% Si, Not Curable	75					
	24	Aluminum-cast, alloyed	≤ 12% Si, Curable	90					
	25		> 12% Si, Not Curable	130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	○	○	○
	27		CuZn, CuSnZn (Brass)	90		○	○	○	○
	28		CuSn, lead-free copper and electrolytic copper	100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15				
	32		Cured	280	30				
	33		Annealed	250	25				
	34		Cured	350	38				
	35	Cast	320	34					
	36	Titanium Alloys	Pure Titanium	400 Rm					
	37		Alpha + Beta Alloys	1050 Rm					
H	38	Hardened steel	Hardened	550	55				
	39		Hardened	630	60				
	40	Chilled Cast Iron	Cast	400	42				
41	Hardened Cast Iron	Hardened	550	55					

HOLE TYPE		Max. 2.5xD Through Hole																			
TOOL MATERIAL		HSS-E																			
CHAMFER LEAD		2P-3P																			
FLUTE TYPE		Spiral Flute																			
SPIRAL FLUTE ANGLE		R45																			
SERIES	M																				
	M/MF																				
	UNC																				
	UNC/UNC	B1 (p.B171)	B0 (p.B171)	B2 (p.B171)	D2 (p.B171)																
	UNC/UNC/UNS																				
	UNC/UNS																				
	NPT																				
NPTF																					
NPS/NPSF																					
SURFACE TREATMENT / COATING		Bright	Steam Oxide	TIN	Hardslick	Steam Oxide	Hardslick	Steam Oxide	TiCN	Hardslick											
MODEL																					
○	25-50	○	25-50	○	50-80	○	50-80	○	25-50	○	50-80	○	50-80	○	50-80	○	50-80	○	50-80	○	50-80
◎	25-50	◎	25-50	◎	50-80	◎	50-80	◎	25-50	◎	50-80	◎	50-80	◎	25-50	◎	50-80	◎	50-80	◎	50-80
◎	25-50	◎	25-50	◎	50-80	◎	50-80	◎	25-50	◎	50-80	◎	50-80	◎	25-50	◎	50-80	◎	50-80	◎	50-80
◎	6-30	◎	6-30	◎	10-35	◎	10-35	◎	6-30	◎	10-35	◎	10-35	◎	6-30	◎	10-35	◎	10-35	◎	10-35
◎	6-30	◎	6-30	◎	10-35	◎	10-35	◎	6-30	◎	10-35	◎	10-35	◎	6-30	◎	10-35	◎	10-35	◎	10-35
◎	12-35	◎	12-35	◎	20-50	◎	20-50	◎	12-35	◎	20-50	◎	20-50	◎	12-35	◎	20-50	◎	20-50	◎	20-50
◎	12-35	◎	12-35	◎	20-50	◎	20-50	◎	12-35	◎	20-50	◎	20-50	◎	12-35	◎	20-50	◎	20-50	◎	20-50
◎	12-15	◎	12-15	◎	12-15	◎	12-15	◎	12-15	◎	12-15	◎	12-15	◎	12-15	◎	12-15	◎	12-15	◎	12-15
○	50-65			○	50-65	○	50-65					○	50-65			○	50-65			○	50-65
○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65
○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65	○	30-65

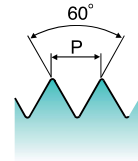
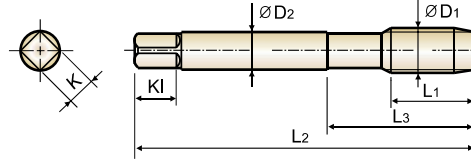


B1 / B0 / B2 / D2 SERIES

Spiral Flute Tap Modified Bottoming Style for Stainless Steels

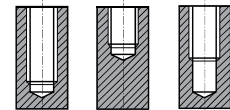


ANSI



Thread Depth / Hole Type

p.B167



Unit : Inch

Size	T.PI	EDP No.				Limit	Overall Length	Thread Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute
		Bright	Steam Oxide	TiN	Hardslick								
D1						L2	L1	L3	D2	K	KI		
#2 - 56UNC		B1082	B0082	B2082	D2082	H2	1.752	.157	.433	.141	.110	.190	2
#3 - 48UNC		-	B0122	-	D2122	H2	1.811	.197	.492	.141	.110	.190	2
#4 - 40UNC		B1162	B0162	B2162	D2162	H2	1.874	.236	.563	.141	.110	.190	2
#4 - 40UNC		-	B0163	-	D2163	H3	1.874	.236	.563	.141	.110	.190	2
#4 - 40UNC		-	B0164	-	D2164	H4	1.874	.236	.563	.141	.110	.190	2
#4 - 40UNC		B1165	B0165	-	D2165	H5	1.874	.236	.563	.141	.110	.190	2
#4 - 40UNC		B1166	B0166	-	D2166	H6	1.874	.236	.563	.141	.110	.190	2
#4 - 48UNF		-	B0182	-	D2182	H2	1.874	.236	.563	.141	.110	.190	2
#5 - 40UNC		B1202	B0202	B2202	D2202	H2	1.937	.236	.626	.141	.110	.190	3
#6 - 32UNC		-	B0242	-	D2242	H2	2.000	.276	.689	.141	.110	.190	3
#6 - 32UNC		B1243	B0243	B2243	D2243	H3	2.000	.276	.689	.141	.110	.190	3
#6 - 32UNC		-	B0244	-	D2244	H4	2.000	.276	.689	.141	.110	.190	3
#6 - 32UNC		-	B0245	-	D2245	H5	2.000	.276	.689	.141	.110	.190	3
#6 - 32UNC		-	B0247	-	D2247	H7	2.000	.276	.689	.141	.110	.190	3
#6 - 40UNF		-	B0262	-	D2262	H2	2.000	.276	.689	.141	.110	.190	3
#6 - 40UNF		-	B0263	-	D2263	H3	2.000	.276	.689	.141	.110	.190	3
#8 - 32UNC		-	B0282	-	D2282	H2	2.126	.276	.752	.168	.131	.250	3
#8 - 32UNC		B1283	B0283	B2283	D2283	H3	2.126	.276	.752	.168	.131	.250	3
#8 - 32UNC		-	B0284	-	D2284	H4	2.126	.276	.752	.168	.131	.250	3
#8 - 32UNC		-	B0285	-	D2285	H5	2.126	.276	.752	.168	.131	.250	3
#8 - 32UNC		-	B0286	-	D2286	H6	2.126	.276	.752	.168	.131	.250	3
#8 - 32UNC		-	B0287	-	D2287	H7	2.126	.276	.752	.168	.131	.250	3
#8 - 32UNC		-	B0303	-	D2303	H3	2.126	.276	.752	.168	.131	.250	3
#10 - 24UNC		-	B0322	-	D2322	H2	2.374	.354	.906	.194	.152	.250	3
#10 - 24UNC		B1323	B0323	B2323	D2323	H3	2.374	.354	.906	.194	.152	.250	3
#10 - 24UNC		-	B0325	-	D2325	H5	2.374	.354	.906	.194	.152	.250	3

► Steam Oxide is not recommended for Aluminum and Aluminum alloys.

► NEXT PAGE

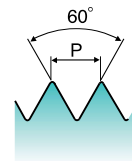
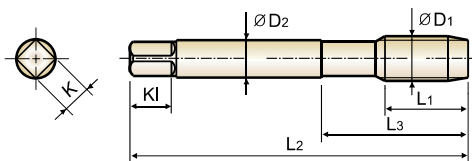
◎ : Excellent ○ : Good

ISO	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	42	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	○	◎	◎	◎		◎						◎	◎	◎								

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze/Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○					○	○														

Spiral Flute Tap Modified Bottoming Style for Stainless Steels

ANSI



HSS-E

UNC UNF

USCTI 302A

2P~3P

Bright

Steam Oxide

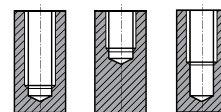
TiN

Hardslick

R45

2.5xD

p.B167



Unit : Inch

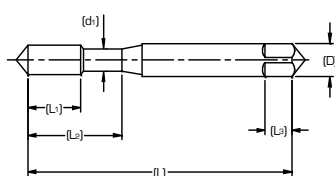
Size	T.PI	EDP No.				Limit	Overall Length	Thread Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute
		Bright	Steam Oxide	TiN	Hardslick								
3/4 - 10UNC		-	B0706	-	D2706	H6	4.252	.827	2.480	.590	.442	.690	4
3/4 - 16UNF		B1723	B0723	B2723	D2723	H3	4.252	.591	2.480	.590	.442	.690	4
3/4 - 16UNF		B1725	B0725	B2725	D2725	H5	4.252	.591	2.480	.590	.442	.690	4
7/8 - 9UNC		B1744	B0744	B2744	D2744	H4	4.689	.827	2.815	.697	.523	.750	4
7/8 - 14UNF		B1764	B0764	B2764	D2764	H4	4.689	.709	2.815	.697	.523	.750	4
1 - 8UNC		B1784	B0784	B2784	D2784	H4	5.126	.984	3.091	.800	.600	.810	4
1 - 12UNF		B1804	B0804	B2804	D2804	H4	5.126	.709	3.091	.800	.600	.810	4

► Steam Oxide is not recommended for Aluminum and Aluminum alloys.

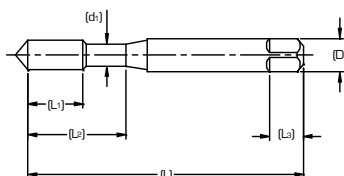
◎ : Excellent ○ : Good

ISO	P										M				K							
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	○	◎	◎	◎	◎	◎						◎	◎	◎								
ISO	N									S						H						
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc											15	30	25	38	34			55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○					○	○															

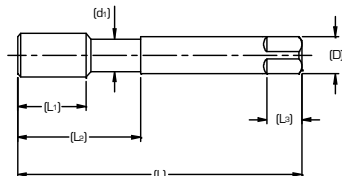
2 MODI TAP BLANK DIMENSION



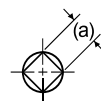
Blank Design (1)



Blank Design (2)



Blank Design (3)



Unified Tap Blank

Nominal Size	Overall Length (L)	Thread Length (L ₁)		Length to neck (L ₂)		Shank Diameter (D)	Neck Diameter (d ₁)	Square Length (L ₃)	Square Size (a)	Blank Design No.
		SF	SP	SF	SP					
#2	1.75	.157	.256	.433		.141	.061	.19	.110	1
#3	1.81	.197	.295	.492		.141	.069	.19	.110	1
#4	1.88	.236	.335	.563		.141	.077	.19	.110	1
#5	1.94	.236	.374	.626		.141	.090	.19	.110	1
#6	2.00	.276	.413	.689		.141	.094	.19	.110	1
#8	2.13	.276	.453	.752		.168	.120	.25	.131	1
#10-24	2.38	.354	.531	.906		.194	.131	.25	.152	1
#10-32		.276					.146			1
#12-24	2.38	.354	.571	.906		.220	.157	.28	.165	1
#12-28		.276					.166			1
1/4-20	2.50	.433	.591	1.000		.255	.180	.31	.191	2
1/4-28		.354					.200			2
5/16-18	2.72	.472	.669	1.126		.318	.234	.38	.238	2
5/16-24		.394					.254			2
3/8-16	2.94	.551	.748	1.252		.381	.287	.44	.286	2
3/8-24		.394					.316			2
7/16-14	3.16	.591	.866	1.850	1.437	.323	.311	.41	.242	3
7/16-20		.472								.323
1/2-13	3.38	.630	.984	2.067	1.657	.367	.354	.44	.275	3
1/2-20		.472								.367
9/16-12	3.59	.709	.984	2.067	1.657	.429	.417	.50	.322	3
9/16-18		.512								.429
5/8-11	3.81	.748	1.083	2.205	1.811	.480	.469	.56	.360	3
5/8-18		.512								.480
3/4-10	4.25	.827	1.201	2.480	2.000	.590	.577	.69	.442	3
3/4-10		.591								.590
7/8-9	4.69	.827	1.339	2.815	2.220	.697	.685	.75	.523	3
7/8-14		.709								.697
1-8	5.13	.984	1.496	3.091	2.500	.800	.787	.81	.600	3
1-12		.709								.800
1-1/8-7	5.44	1.024	1.535	3.15	2.563	.896	.878	.88	.672	3
1-1/8-12		.787								.896
1-1/4-7	5.75	1.024	1.535	3.15	2.563	1.021	1.002	1.00	.766	3
1-1/4-12		.787								1.021
1-3/8-6	6.06	1.181	1.791	3.583	3.000	1.108	1.089	1.06	.831	3
1-3/8-12		.866								1.108
1-1/2-6	6.38	1.181	1.791	3.583	3.000	1.233	1.213	1.13	.925	3
1-1/2-12		.866								1.233

*SF : Spiral Fluted Taps

*SP : Spiral Pointed Taps



TAP RECOMMENDATIONS FOR CLASSES OF THREAD - INCH

Internal Screw Thread Classes and Tap Recommendations

Size	Threads per Inch		Recommended Tap for Class of Thread				Pitch Diameter Limits for Class of Thread				
	UNC	UNF	Unified Class of Thread		American National Class of Thread		Min. All Class (Basic)	Unified Class of Thread		American National Class of Thread	
			Class 2	Class 3	Class 2B	Class 3B		Max. Class 2	Max. Class 3	Max. Class 2B	Max. Class 3B
#0	-	80	GH1	GH1	GH2	GH1	.0519	.0536	.0532	.0542	.0536
#1	64	-	GH1	GH1	GH2	GH1	.0629	.0648	.0643	.0655	.0648
#1	-	72	GH1	GH1	GH2	GH1	.0640	.0658	.0653	.0665	.0659
#2	56	-	GH1	GH1	GH2	GH1	.0744	.0764	.0759	.0772	.0765
#2	-	64	GH1	GH1	GH2	GH1	.0759	.0778	.0773	.0786	.0779
#3	48	-	GH1	GH1	GH2	GH1	.0855	.0877	.0871	.0885	.0877
#3	-	56	GH1	GH1	GH2	GH1	.0874	.0894	.8890	.0902	.0895
#4	40	-	GH2	GH1	GH2	GH2	.0958	.0982	.0975	.0991	.0982
#4	-	48	GH1	GH1	GH2	GH1	.0985	.1007	.1001	.1016	.1008
#5	40	-	GH2	GH1	GH2	GH2	.1088	.1112	.1105	.1121	.1113
#5	-	44	GH1	GH1	GH2	GH1	.1102	.1125	.1118	.1134	.1126
#6	32	-	GH2	GH1	GH3	GH2	.1177	.1204	.1196	.1214	.1204
#6	-	40	GH2	GH1	GH2	GH2	.1218	.1242	.1235	.1252	.1243
#8	32	-	GH2	GH1	GH3	GH2	.1437	.1464	.1456	.1475	.1465
#8	-	36	GH2	GH1	GH2	GH2	.1460	.1485	.1478	.1496	.1487
#10	24	-	GH3	GH1	GH3	GH3	.1629	.1662	.1653	.1672	.1661
#10	-	32	GH2	GH1	GH3	GH2	.1697	.1724	.1716	.1736	.1726
#12	24	-	GH3	GH1	GH3	GH3	.1889	.1922	.1913	.1933	.1922
#12	-	28	GH3	GH1	GH3	GH3	.1928	.1959	.1950	.1970	.1959
1/4	20	-	GH3	GH2	GH5	GH3	.2175	.2211	.2201	.2223	.2211
1/4	-	28	GH3	GH1	GH4	GH3	.2268	.2299	.2290	.2311	.2300
5/16	18	-	GH3	GH2	GH5	GH3	.2764	.2805	.2794	.2817	.2803
5/16	-	24	GH3	GH1	GH4	GH3	.2854	.2887	.2878	.2902	.2890
3/8	16	-	GH3	GH2	GH5	GH3	.3344	.3389	.3376	.3401	.3387
3/8	-	24	GH3	GH1	GH4	GH3	.3479	.3512	.3503	.3528	.3516
7/16	14	-	GH5	GH3	GH5	GH3	.3911	.3960	.3947	.3972	.3957
7/16	-	20	GH3	GH1	GH5	GH3	.4050	.4086	.4076	.4104	.4091
1/2	13	-	GH5	GH3	GH5	GH3	.4500	.4552	.4537	.4565	.4548
1/2	-	20	GH3	GH1	GH5	GH3	.4675	.4711	.4701	.4731	.4717
9/16	12	-	GH5	GH3	GH5	GH3	.5084	.5140	.5124	.5152	.5135
9/16	-	18	GH3	GH2	GH5	GH3	.5264	.5305	.5294	.5323	.5308
5/8	11	-	GH5	GH3	GH5	GH3	.5660	.5719	.5702	.5732	.5714
5/8	-	18	GH3	GH2	GH5	GH3	.5889	.5930	.5919	.5949	.5934
3/4	10	-	GH5	GH3	GH5	GH3	.6850	.6914	.6895	.6927	.6907
3/4	-	16	GH3	GH2	GH5	GH3	.7094	.7139	.7126	.7159	.7143
7/8	9	-	GH6	GH4	GH6	GH4	.8028	.8098	.8077	.8110	.8089
7/8	-	14	GH4	GH2	GH6	GH4	.8286	.8335	.8322	.8356	.8339
1	8	-	GH6	GH4	GH6	GH4	.9188	.9264	.9242	.9276	.9254
1	-	12	GH4	GH2	GH6	GH4	.9459	.9515	.9499	.9535	.9516

The above recommended taps normally produce the Class of Thread indicated in average materials when used with reasonable care. However, if the tap specified does not give a satisfactory gage fit in the work, a choice of some other limit tap will be necessary.

15 TAP DRILL SIZES - UNIFIED THREAD

Size	Threads Per Inch				Minor Diameter			Tap Drill Diameter (Cutting Tap)				
	UNC	UNF	UNEF	UN	Min. 2B&3B	Max. 2B	Max. 3B	80% Thread	75% Thread	70% Thread	65% Thread	60% Thread
#0	-	80	-	-	.0465	.0514	.0514	.0470	.0478	.0486	.0494	.0503
#1	64	-	-	-	.0561	.0623	.0623	.0568	.0578	.0588	.0598	.0608
	-	72	-	-	.0580	.0635	.0635	.0586	.0595	.0604	.0613	.0622
#2	56	-	-	-	.0667	.0737	.0737	.0674	.0686	.0698	.0709	.0721
	-	64	-	-	.0691	.0753	.0753	.0698	.0708	.0718	.0728	.0738
#3	48	-	-	-	.0764	.0845	.0845	.0774	.0787	.0801	.0814	.0828
	-	56	-	-	.0797	.0865	.0865	.0804	.0816	.0828	.0839	.0851
#4	40	-	-	-	.0849	.0939	.0939	.0860	.0876	.0893	.0909	.0925
	-	48	-	-	.0894	.0968	.0968	.0904	.0917	.0931	.0944	.0958
#5	40	-	-	-	.0979	.1062	.1062	.0990	.1006	.1023	.1039	.1055
	-	44	-	-	.1004	.1079	.1079	.1014	.1029	.1043	.1058	.1073
#6	32	-	-	-	.1040	.1140	.1140	.1055	.1076	.1096	.1116	.1136
	-	40	-	-	.1110	.1190	.1186	.1120	.1136	.1153	.1169	.1185
#8	32	-	-	-	.1300	.1390	.1389	.1315	.1336	.1356	.1376	.1396
	-	36	-	-	.1340	.1420	.1416	.1351	.1369	.1387	.1405	.1424
#10	24	-	-	-	.1450	.1560	.1555	.1467	.1494	.1521	.1548	.1575
	-	32	-	-	.1560	.1640	.1641	.1575	.1596	.1616	.1636	.1656
#12	24	-	-	-	.1710	.1810	.1807	.1727	.1754	.1781	.1808	.1835
	-	28	-	-	.1770	.1860	.1857	.1789	.1812	.1835	.1858	.1882
1/4	20	-	-	-	.1960	.2070	.2067	.1980	.2013	.2045	.2078	.2110
	-	28	-	-	.2110	.2200	.2190	.2129	.2152	.2175	.2198	.2222
	-	-	32	-	.2160	.2240	.2229	.2175	.2196	.2216	.2236	.2256
5/16	18	-	-	-	.2520	.2650	.2630	.2548	.2584	.2620	.2656	.2692
	-	-	-	20	.2580	.2700	.2680	.2605	.2638	.2670	.2703	.2735
	-	24	-	-	.2670	.2770	.2754	.2692	.2719	.2746	.2773	.2800
	-	-	-	28	.2740	.2820	.2807	.2754	.2777	.2800	.2823	.2847
	-	-	32	-	.2790	.2860	.2847	.2800	.2821	.2841	.2861	.2881
3/8	16	-	-	-	.3070	.3210	.3182	.3101	.3141	.3182	.3222	.3263
	-	-	-	20	.3210	.3320	.3297	.3230	.3263	.3295	.3328	.3360
	-	24	-	-	.3300	.3400	.3372	.3317	.3344	.3371	.3398	.3425
	-	-	-	28	.3360	.3450	.3426	.3379	.3402	.3425	.3448	.3472
7/16	-	-	32	-	.3410	.3490	.3469	.3425	.3446	.3466	.3486	.3506
	14	-	-	-	.3600	.3760	.3717	.3633	.3679	.3726	.3772	.3818
	-	-	-	16	.3700	.3840	.3800	.3726	.3766	.3807	.3847	.3888
	-	20	-	-	.3830	.3950	.3916	.3855	.3888	.3920	.3953	.3985
	-	-	28	-	.3990	.4070	.4051	.4004	.4027	.4050	.4073	.4097
1/2	-	-	-	32	.4040	.4110	.4094	.4050	.4071	.4091	.4111	.4131
	13	-	-	-	.4170	.4340	.4284	.4201	.4251	.4301	.4351	.4400
	-	-	-	16	.4320	.4460	.4419	.4351	.4391	.4432	.4472	.4513
	-	20	-	-	.4460	.4570	.4537	.4480	.4513	.4545	.4578	.4610
	-	-	28	-	.4610	.4700	.4676	.4629	.4652	.4675	.4698	.4722
9/16	-	-	-	32	.4660	.4740	.4719	.4675	.4696	.4716	.4736	.4756
	12	-	-	-	.4720	.4900	.4843	.4759	.4813	.4867	.4921	.4976
	-	-	-	16	.4950	.5090	.5040	.4976	.5016	.5057	.5097	.5138
	-	18	-	-	.5020	.5150	.5106	.5048	.5084	.5120	.5156	.5192
	-	-	-	20	.5080	.5200	.5162	.5105	.5138	.5170	.5203	.5235
	-	-	24	-	.5170	.5270	.5244	.5192	.5219	.5246	.5273	.5300
	-	-	-	28	.5240	.5320	.5301	.5254	.5277	.5300	.5323	.5347
5/8	11	-	-	.5290	.5360	.5344	.5300	.5321	.5341	.5361	.5381	
5/8	11	-	-	.5270	.5460	.5391	.5305	.5364	.5423	.5482	.5541	



Size	Threads Per Inch				Minor Diameter			Tap Drill Diameter (Cutting Tap)				
	UNC	UNF	UNEF	UN	Min. 2B&3B	Max. 2B	Max. 3B	80% Thread	75% Thread	70% Thread	65% Thread	60% Thread
5/8	-	-	-	12	.5350	.5530	.5463	.5384	.5438	.5492	.5546	.5601
	-	-	-	16	.5570	.5710	.5662	.5601	.5641	.5682	.5722	.5763
	-	18	-	-	.5650	.5780	.5730	.5673	.5709	.5745	.5781	.5817
	-	-	-	20	.5710	.5820	.5787	.5730	.5763	.5795	.5828	.5860
	-	-	24	-	.5800	.5900	.5869	.5817	.5844	.5871	.5898	.5925
	-	-	-	28	.5860	.5950	.5926	.5879	.5902	.5925	.5948	.5972
11/16	-	-	-	32	.5910	.5980	.5969	.5925	.5946	.5966	.5986	.6006
	-	-	-	12	.5970	.6150	.6085	.6009	.6063	.6117	.6171	.6226
	-	-	-	16	.6200	.6340	.6284	.6226	.6266	.6307	.6347	.6388
	-	-	-	20	.6330	.6450	.6412	.6355	.6388	.6420	.6453	.6485
	-	-	24	-	.6420	.6520	.6494	.6442	.6469	.6496	.6523	.6550
	-	-	-	28	.6490	.6570	.6551	.6504	.6527	.6550	.6573	.6597
3/4	-	-	-	32	.6540	.6610	.6594	.6550	.6571	.6591	.6611	.6631
	10	-	-	-	.6420	.6630	.6545	.6461	.6526	.6591	.6656	.6721
	-	-	-	12	.6600	.6780	.6707	.6634	.6688	.6742	.6796	.6851
	-	16	-	-	.6820	.6960	.6908	.6851	.6891	.6932	.6972	.7013
	-	-	20	-	.6960	.7070	.7037	.6980	.7013	.7045	.7078	.7110
	-	-	-	28	.7110	.7200	.7176	.7129	.7152	.7175	.7198	.7222
13/16	-	-	-	32	.7160	.7240	.7219	.7175	.7196	.7216	.7236	.7256
	-	-	-	12	.7220	.7400	.7329	.7259	.7313	.7367	.7421	.7476
	-	-	-	16	.7450	.7590	.7533	.7476	.7516	.7557	.7597	.7638
	-	-	20	-	.7580	.7700	.7662	.7605	.7638	.7670	.7703	.7735
	-	-	-	28	.7740	.7820	.7801	.7754	.7777	.7800	.7823	.7847
	-	-	-	32	.7790	.7860	.7844	.7800	.7821	.7841	.7861	.7881
7/8	9	-	-	-	.7550	.7780	.7681	.7595	.7668	.7740	.7812	.7884
	-	-	-	12	.7850	.8030	.7948	.7884	.7938	.7992	.8046	.8101
	-	14	-	-	.7980	.8140	.8068	.8008	.8054	.8101	.8147	.8193
	-	-	-	16	.8070	.8210	.8158	.8101	.8141	.8182	.8222	.8263
	-	-	20	-	.8210	.8320	.8287	.8230	.8263	.8295	.8328	.8360
	-	-	-	28	.8360	.8450	.8426	.8379	.8402	.8425	.8448	.8472
15/16	-	-	-	32	.8410	.8490	.8469	.8425	.8446	.8466	.8486	.8506
	-	-	-	12	.8470	.8650	.8575	.8509	.8563	.8617	.8671	.8726
	-	-	-	16	.8700	.8840	.8783	.8726	.8766	.8807	.8847	.8888
	-	-	20	-	.8830	.8950	.8912	.8855	.8888	.8920	.8953	.8985
	-	-	-	28	.8990	.9070	.9051	.9004	.9027	.9050	.9073	.9097
	-	-	-	32	.9040	.9110	.9094	.9050	.9071	.9091	.9111	.9131
1	8	-	-	-	.8650	.8900	.8797	.8701	.8782	.8863	.8945	.9026
	-	12	-	-	.9100	.9280	.9198	.9134	.9188	.9242	.9296	.9351
	-	-	-	16	.9320	.9460	.9408	.9351	.9391	.9432	.9472	.9513
	-	-	20	-	.9460	.9570	.9537	.9480	.9513	.9545	.9578	.9610
	-	-	-	28	.9610	.9700	.9676	.9629	.9652	.9675	.9698	.9722
	-	-	-	32	.9660	.9740	.9719	.9675	.9696	.9716	.9736	.9756
1-1/16	-	-	-	8	.9270	.9520	.9422	.9326	.9407	.9488	.9570	.9651
	-	-	-	12	.9720	.9900	.9823	.9759	.9813	.9867	.9921	.9976
	-	-	-	16	.9950	1.0090	1.0033	.9976	1.0016	1.0057	1.0097	1.0138
	-	-	18	-	1.0020	1.0150	1.0105	1.0048	1.0084	1.0120	1.0156	1.0192
	-	-	-	20	1.0080	1.0200	1.0162	1.0105	1.0138	1.0170	1.0203	1.0235
	-	-	-	28	1.0240	1.0320	1.0301	1.0254	1.0277	1.0300	1.0323	1.0347
1-1/8	7	-	-	-	.9700	.9980	.9875	.9765	.9858	.9951	1.0044	1.0137
	-	-	-	8	.9900	1.0150	1.0047	.9951	1.0032	1.0113	1.0195	1.0276
	-	12	-	-	1.0350	1.0530	1.0448	1.0384	1.0438	1.0492	1.0546	1.0601
	-	-	-	16	1.0570	1.0710	1.0658	1.0601	1.0641	1.0682	1.0722	1.0763
	-	-	18	-	1.0650	1.0780	1.0730	1.0673	1.0709	1.0745	1.0781	1.0817
	-	-	-	20	1.0710	1.0820	1.0787	1.0730	1.0763	1.0795	1.0828	1.0860

Size	Threads Per Inch				Minor Diameter			Tap Drill Diameter (Cutting Tap)				
	UNC	UNF	UNEF	UN	Min. 2B&3B	Max. 2B	Max. 3B	80% Thread	75% Thread	70% Thread	65% Thread	60% Thread
1-1/8	-	-	-	28	1.0860	1.0950	1.0926	1.0879	1.0902	1.0925	1.0948	1.0972
1-3/16	-	-	-	8	1.0520	1.0770	1.0672	1.0576	1.0657	1.0738	1.0820	1.0901
	-	-	-	12	1.0970	1.1150	1.1073	1.1009	1.1063	1.1117	1.1171	1.1226
	-	-	-	16	1.1200	1.1340	1.1283	1.1226	1.1266	1.1307	1.1347	1.1388
	-	-	18	-	1.1270	1.1400	1.1355	1.1298	1.1334	1.1370	1.1406	1.1442
	-	-	-	20	1.1330	1.1450	1.1412	1.1355	1.1388	1.1420	1.1453	1.1485
	-	-	-	28	1.1490	1.1570	1.1551	1.1504	1.1527	1.1550	1.1573	1.1597
1-1/4	7	-	-	-	1.0950	1.1230	1.1125	1.1015	1.1108	1.1201	1.1294	1.1387
	-	-	-	8	1.1150	1.1400	1.1297	1.1201	1.1282	1.1363	1.1445	1.1526
	-	12	-	-	1.1600	1.1780	1.1698	1.1634	1.1688	1.1742	1.1796	1.1851
	-	-	-	16	1.1820	1.1960	1.1908	1.1851	1.1891	1.1932	1.1972	1.2013
	-	-	18	-	1.1900	1.2030	1.1980	1.1923	1.1959	1.1995	1.2031	1.2067
	-	-	-	20	1.1960	1.2070	1.2037	1.1980	1.2013	1.2045	1.2078	1.2110
1-5/16	-	-	-	28	1.2110	1.2200	1.2176	1.2129	1.2152	1.2175	1.2198	1.2222
	-	-	-	8	1.1770	1.2020	1.2176	1.1826	1.1907	1.1988	1.2070	1.2151
	-	-	-	12	1.2220	1.2400	1.2323	1.2259	1.2313	1.2367	1.2421	1.2476
	-	-	-	16	1.2450	1.2590	1.2533	1.2476	1.2516	1.2557	1.2597	1.2638
	-	-	18	-	1.2520	1.2650	1.2605	1.2548	1.2584	1.2620	1.2656	1.2692
	-	-	-	20	1.2580	1.2700	1.2662	1.2605	1.2638	1.2670	1.2703	1.2735
1-3/8	-	-	-	28	1.2740	1.2820	1.2801	1.2754	1.2777	1.2800	1.2823	1.2847
	6	-	-	-	1.1950	1.2250	1.2146	1.2018	1.2126	1.2235	1.2343	1.2451
	-	-	-	8	1.2400	1.2650	1.2547	1.2451	1.2532	1.2613	1.2695	1.2776
	-	12	-	-	1.2850	1.3030	1.2948	1.2884	1.2938	1.2992	1.3046	1.3101
	-	-	-	16	1.3070	1.3210	1.3158	1.3101	1.3141	1.3182	1.3222	1.3263
	-	-	18	-	1.3150	1.3280	1.3230	1.3173	1.3209	1.3245	1.3281	1.3317
1-7/16	-	-	-	20	1.3210	1.3320	1.3287	1.3230	1.3263	1.3295	1.3328	1.3360
	-	-	-	28	1.3360	1.3450	1.3426	1.3379	1.3402	1.3425	1.3448	1.3472
	-	-	-	6	1.2570	1.2880	1.2770	1.2643	1.2751	1.2860	1.2968	1.3076
	-	-	-	8	1.3020	1.3270	1.3172	1.3076	1.3157	1.3238	1.3320	1.3401
	-	-	-	12	1.3470	1.3650	1.3573	1.3509	1.3563	1.3617	1.3671	1.3726
	-	-	-	16	1.3700	1.3840	1.3783	1.3726	1.3766	1.3807	1.3847	1.3888
1-1/2	-	-	18	-	1.3770	1.3900	1.3855	1.3798	1.3834	1.3870	1.3906	1.3942
	-	-	-	20	1.3830	1.3950	1.3912	1.3855	1.3888	1.3920	1.3953	1.3985
	-	-	-	28	1.3990	1.4070	1.4051	1.4004	1.4027	1.4050	1.4073	1.4097
	6	-	-	-	1.3200	1.3500	1.3396	1.3268	1.3376	1.3485	1.3593	1.3701
	-	-	-	8	1.3650	1.3900	1.3797	1.3701	1.3782	1.3863	1.3945	1.4026
	-	12	-	-	1.4100	1.4280	1.4198	1.4134	1.4188	1.4242	1.4296	1.4351
1-9/16	-	-	-	16	1.4320	1.4460	1.4408	1.4351	1.4391	1.4432	1.4472	1.4513
	-	-	18	-	1.4400	1.4520	1.4480	1.4423	1.4459	1.4495	1.4531	1.4567
	-	-	-	20	1.4460	1.4570	1.4537	1.4480	1.4513	1.4545	1.4578	1.4610
	-	-	-	28	1.4610	1.4700	1.4676	1.4629	1.4652	1.4675	1.4698	1.4722
	-	-	-	6	1.3820	1.4130	1.4021	1.3893	1.4001	1.4110	1.4218	1.4326
	-	-	-	8	1.4270	1.4520	1.4422	1.4326	1.4407	1.4488	1.4570	1.4651
1-5/8	-	-	-	12	1.4720	1.4900	1.4823	1.4759	1.4813	1.4867	1.4921	1.4976
	-	-	-	16	1.4950	1.5090	1.5033	1.4976	1.5016	1.5057	1.5097	1.5138
	-	-	18	-	1.5020	1.5150	1.5105	1.5048	1.5084	1.5120	1.5156	1.5192
	-	-	-	20	1.5080	1.5200	1.5162	1.5105	1.5138	1.5170	1.5203	1.5235
	-	-	-	6	1.4450	1.4750	1.4646	1.4518	1.4626	1.4735	1.4843	1.4951
	-	-	-	8	1.4900	1.5150	1.5047	1.4951	1.5032	1.5113	1.5195	1.5276
1-11/16	-	-	-	12	1.5350	1.5530	1.5448	1.5384	1.5438	1.5492	1.5546	1.5601
	-	-	-	16	1.5570	1.5710	1.5658	1.5601	1.5641	1.5682	1.5722	1.5763
	-	-	18	-	1.5650	1.5780	1.5730	1.5673	1.5709	1.5745	1.5781	1.5817
	-	-	-	20	1.5710	1.5820	1.5787	1.5730	1.5763	1.5795	1.5828	1.5860
1-11/16	-	-	6	1.5070	1.5380	1.5271	1.5143	1.5251	1.5360	1.5468	1.5576	



TECHNICAL DATA

THREAD MILLS

COMBO TAPS

SPIRAL FLUTE TAPS

SPIRAL POINT TAPS

STRAIGHT FLUTE TAPS

FORMING TAPS

SCREW THREAD INSERT TAPS

PIPE TAPS

TECHNICAL DATA

Size	Threads Per Inch				Minor Diameter			Tap Drill Diameter (Cutting Tap)				
	UNC	UNF	UNEF	UN	Min. 2B&3B	Max. 2B	Max. 3B	80% Thread	75% Thread	70% Thread	65% Thread	60% Thread
1-11/16	-	-	-	8	1.5520	1.5770	1.5672	1.5576	1.5657	1.5738	1.5820	1.5901
	-	-	-	12	1.5970	1.6150	1.6073	1.6009	1.6063	1.6117	1.6171	1.6226
	-	-	-	16	1.6200	1.6340	1.6283	1.6226	1.6266	1.6307	1.6347	1.6388
	-	-	18	-	1.6270	1.6400	1.6355	1.6298	1.6334	1.6370	1.6406	1.6442
	-	-	-	20	1.6330	1.6450	1.6412	1.6355	1.6388	1.6420	1.6453	1.6485
1-3/4	5	-	-	-	1.5340	1.5680	1.5575	1.5422	1.5552	1.5681	1.5811	1.5941
	-	-	-	6	1.5700	1.6000	1.5896	1.5768	1.5876	1.5985	1.6093	1.6201
	-	-	-	8	1.6150	1.6400	1.6297	1.6201	1.6282	1.6363	1.6445	1.6526
	-	-	-	12	1.6600	1.6780	1.6698	1.6634	1.6688	1.6742	1.6796	1.6851
	-	-	-	16	1.6820	1.6960	1.6908	1.6851	1.6891	1.6932	1.6972	1.7013
1-13/16	-	-	-	20	1.6960	1.7070	1.7037	1.6980	1.7013	1.7045	1.7078	1.7110
	-	-	-	6	1.6320	1.6630	1.6521	1.6393	1.6501	1.6610	1.6718	1.6826
	-	-	-	8	1.6770	1.7020	1.6922	1.6826	1.6907	1.6988	1.7070	1.7151
	-	-	-	12	1.7220	1.7400	1.7323	1.7259	1.7313	1.7367	1.7421	1.7476
	-	-	-	16	1.7450	1.7590	1.7533	1.7476	1.7516	1.7557	1.7597	1.7638
1-7/8	-	-	-	20	1.7580	1.7700	1.7662	1.7605	1.7638	1.7670	1.7703	1.7735
	-	-	-	6	1.6950	1.7250	1.7146	1.7018	1.7126	1.7235	1.7343	1.7451
	-	-	-	8	1.7400	1.7650	1.7547	1.7451	1.7532	1.7613	1.7695	1.7776
	-	-	-	12	1.7850	1.8030	1.7948	1.7884	1.7938	1.7992	1.8046	1.8101
	-	-	-	16	1.8070	1.8210	1.8158	1.8101	1.8141	1.8182	1.8222	1.8263
1-15/16	-	-	-	20	1.8210	1.8320	1.8287	1.8230	1.8263	1.8295	1.8328	1.8360
	-	-	-	6	1.7570	1.7880	1.7771	1.7643	1.7751	1.7860	1.7968	1.8076
	-	-	-	8	1.8020	1.8270	1.8172	1.8076	1.8157	1.8238	1.8320	1.8401
	-	-	-	12	1.8470	1.8650	1.8573	1.8509	1.8563	1.8617	1.8671	1.8726
	-	-	-	16	1.8700	1.8840	1.8783	1.8726	1.8766	1.8807	1.8847	1.8888
2	-	-	-	20	1.8830	1.8950	1.8912	1.8855	1.8888	1.8920	1.8953	1.8985
	4 1/2	-	-	-	1.7590	1.7950	1.7861	1.7691	1.7835	1.7979	1.8124	1.8268
	-	-	-	6	1.8200	1.8500	1.8396	1.8268	1.8376	1.8485	1.8593	1.8701
	-	-	-	8	1.8650	1.8900	1.8797	1.8701	1.8782	1.8863	1.8945	1.9026
	-	-	-	12	1.9100	1.9280	1.9198	1.9134	1.9188	1.9242	1.9296	1.9351
2-1/8	-	-	-	16	1.9320	1.9460	1.9408	1.9351	1.9391	1.9432	1.9472	1.9513
	-	-	-	20	1.9460	1.9570	1.9537	1.9480	1.9513	1.9545	1.9578	1.9610
	-	-	-	6	1.9450	1.9750	1.9646	1.9518	1.9626	1.9735	1.9843	1.9951
	-	-	-	8	1.9900	2.0150	2.0047	1.9951	2.0032	2.0113	2.0195	2.0276
	-	-	-	12	2.0350	2.0530	2.0448	2.0384	2.0438	2.0492	2.0546	2.0601
2-1/4	-	-	-	16	2.0570	2.0710	2.0658	2.0601	2.0641	2.0682	2.0722	2.0763
	-	-	-	20	2.0710	2.0820	2.0787	2.0730	2.0763	2.0795	2.0828	2.0860
	4 1/2	-	-	-	2.0090	2.0450	2.0361	2.0191	2.0335	2.0479	2.0624	2.0768
	-	-	-	6	2.0700	2.1000	2.0896	2.0768	2.0876	2.0985	2.1093	2.1201
	-	-	-	8	2.1150	2.1400	2.1297	2.1201	2.1282	2.1363	2.1445	2.1526
2-3/8	-	-	-	12	2.1600	2.1780	2.1698	2.1634	2.1688	2.1742	2.1796	2.1851
	-	-	-	16	2.1820	2.1960	2.1908	2.1851	2.1891	2.1932	2.1972	2.2013
	-	-	-	20	2.1960	2.2070	2.2037	2.1980	2.2013	2.2045	2.2078	2.2110
	-	-	-	6	2.1950	2.2260	2.2146	2.2018	2.2126	2.2235	2.2343	2.2451
	-	-	-	8	2.2400	2.2650	2.2547	2.2451	2.2532	2.2613	2.2695	2.2776
2-1/2	-	-	-	12	2.2850	2.3030	2.2948	2.2884	2.2938	2.2992	2.3046	2.3101
	-	-	-	16	2.3070	2.3210	2.3158	2.3101	2.3141	2.3182	2.3222	2.3263
	-	-	-	20	2.3210	2.3320	2.3287	2.3230	2.3263	2.3295	2.3328	2.3360
	4	-	-	-	2.2290	2.2670	2.2594	2.2402	2.2564	2.2727	2.2889	2.3052
	-	-	-	6	2.3200	2.3500	2.3396	2.3268	2.3376	2.3485	2.3593	2.3701
2-1/2	-	-	-	8	2.3650	2.3900	2.3797	2.3701	2.3782	2.3863	2.3945	2.4026
	-	-	-	12	2.4100	2.4280	2.4198	2.4134	2.4188	2.4242	2.4296	2.4351
	-	-	-	16	2.4320	2.4460	2.4408	2.4351	2.4391	2.4432	2.4472	2.4513
	-	-	-	20	2.4460	2.4570	2.4537	2.4480	2.4513	2.4545	2.4578	2.4610