

CARBIDE

HSS

THREAD
MILL

SYNCHRO
TAP

PRIME
TAP

COMBO
TAP

YG TAP
BLUE RING

YG TAP
STEEL

YG TAP
INOX

YG TAP
CAST IRON

YG TAP
ALU

YG TAP
Ti Ni

YG TAP
HARDENED
STEEL

YG TAP
GENERAL

YG TAP
FORMING

STI TAP

PIPE TAP

TECHNICAL
DATA

SELECTION GUIDE



HSS-E & HSS
YG TAP
GENERAL

- For General Purpose Through
and Blind Hole Applications



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for material search

◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRC				
P	1	Non-alloy steel	About 0.15% C	Annealed	125	13	⊙ 25-50	⊙ 25-50	⊙ 50-80	⊙ 50-80
	2		About 0.45% C	Annealed	190	13	⊙ 25-50	⊙ 25-50	⊙ 50-80	⊙ 50-80
	3		About 0.45% C	Quenched & Tempered	250	25	⊙ 25-50	⊙ 25-50	⊙ 50-80	⊙ 50-80
	4		About 0.75% C	Annealed	270	28	⊙ 6-30	⊙ 6-30	⊙ 10-35	⊙ 10-35
	5		About 0.75% C	Quenched & Tempered	300	32	⊙ 6-30	⊙ 6-30	⊙ 10-35	⊙ 10-35
	6	Low alloy steel	Annealed	180	10	⊙ 6-30	⊙ 6-30	⊙ 10-35	⊙ 10-35	
	7		Quenched & Tempered	275	29	⊙ 6-30	⊙ 6-30	⊙ 10-35	⊙ 10-35	
	8		Quenched & Tempered	300	32	⊙ 6-30	⊙ 6-30	⊙ 10-35	⊙ 10-35	
	9		Quenched & Tempered	350	38	⊙ 6-30	⊙ 6-30	⊙ 10-35	⊙ 10-35	
	10		High alloyed steel, and tool steel	Annealed	200	15				
	11		Quenched & Tempered	325	35					
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	⊙ 12-35	⊙ 12-35	⊙ 20-50	⊙ 20-50
	Martensitic		Quenched & Tempered	240	23	⊙ 12-35	⊙ 12-35	⊙ 20-50	⊙ 20-50	
	Austenitic			180	10					
K	15	Grey cast iron	Pearlitic / ferritic		180	10				
	Pearlitic (Martensitic)			260	26					
	17	Nodular cast iron	Ferritic		160	3	⊙ 12-45	⊙ 12-45	⊙ 25-55	⊙ 25-55
	Pearlitic			250	25	⊙ 12-45	⊙ 12-45	⊙ 25-55	⊙ 25-55	
	Ferritic			130						
	20		Malleable cast iron	Pearlitic		230	21			
	N	21	Aluminum-wrought alloy	Not Curable		60				
Curable		Hardened		100						
23		Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		⊙ 40-65	⊙ 45-90	⊙ 45-90	
≤ 12% Si, Curable			Hardened	90		⊙ 40-65	⊙ 45-90	⊙ 45-90		
> 12% Si, Not Curable				130						
26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		⊙ 50-60	⊙ 50-60	⊙ 65-100	⊙ 65-100
CuZn, CuSnZn (Brass)				90	⊙ 30-65	⊙ 30-65	⊙ 30-65	⊙ 30-65		
CuSn, lead-free copper and electrolytic copper				100						
29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
Rubber, Wood, etc.										
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
			Cured	280	30					
			Annealed	250	25					
			Cured	350	38					
			Cast	320	34					
	36	Titanium Alloys	Pure Titanium		400 Rm					
	Alpha + Beta Alloys		Hardened	1050 Rm						
H	38	Hardened steel		Hardened	550	55				
			Hardened	630	60					
			Chilled Cast Iron	Cast	400	42				
	41		Hardened Cast Iron	Hardened	550	55				

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							Max. 3.0xD Through Hole			
							HSS-E			
							4P-5P			
							Spiral Point			
							-			
M	L7 (p.B262)	L8 (p.B262)	L9 (p.B262)	L3 (p.B263)	L4 (p.B263)	L5 (p.B263)	◎	◎	◎	◎
P	Bright	TIN	Hardslick	Bright	TICN	Hardslick	Bright	TIN	Hardslick	Hardslick
M	◎ 25-50	◎ 50-80	◎ 50-80	◎ 25-50	◎ 50-80	◎ 50-80	◎ 25-50	◎ 50-80	◎ 50-80	◎ 50-80
K	◎ 12-45	◎ 25-55	◎ 25-55	◎ 12-45	◎ 25-55	◎ 25-55	◎ 12-45	◎ 25-55	◎ 25-55	◎ 25-55
N	◎ 40-65	◎ 45-90	◎ 45-90	◎ 40-65	◎ 45-90	◎ 45-90	◎ 40-65	◎ 45-90	◎ 45-90	◎ 45-90
S	◎ 50-60	◎ 65-100	◎ 65-100	◎ 50-60	◎ 65-100	◎ 65-100	◎ 50-60	◎ 65-100	◎ 65-100	◎ 65-100

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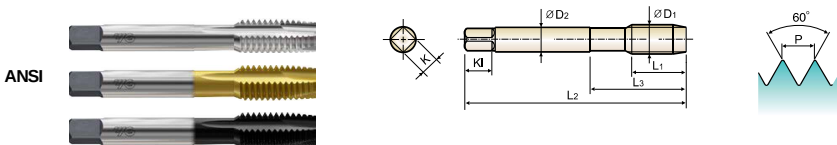
YG TAP
INOX

YG TAP
CAST IRON



K9/L0/L1 SERIES

Spiral Point Tap Plug Style for General Purpose



Unit : Inch													
Size	T.P.I	EDP No.			Limit	Overall Length L2	Thread Length L1	Neck Length L3	Shank Diameter D2	Square Size K	Square Length KI	No. of Flute	
		Bright	TiN	Hardslick									
#2 - 56UNC	K9082	L0082	L1082	H2	1.752	.437	.650	.141	.110	.190	2		
#4 - 40UNC	K9162	L0162	L1162	H2	1.874	.311	.563	.141	.110	.190	2		
#5 - 40UNC	K9202	L0202	L1202	H2	1.937	.311	.626	.141	.110	.190	2		
#6 - 32UNC	K9243	L0243	L1243	H3	2.000	.374	.689	.141	.110	.190	2		
#8 - 32UNC	K9283	L0283	L1283	H3	2.126	.374	.752	.168	.131	.250	2		
#10 - 24UNC	K9323	L0323	L1323	H3	2.374	.500	.906	.194	.152	.250	2		
#10 - 32UNC	K9343	L0343	L1343	H3	2.374	.500	.906	.194	.152	.250	2		
1/4 - 20UNC	K9403	L0403	L1403	H3	2.500	.626	1.000	.255	.191	.310	2		
1/4 - 20UNC	K9405	L0405	L1405	H5	2.500	.626	1.000	.255	.191	.310	2		
1/4 - 28UNF	K9423	L0423	L1423	H3	2.500	.626	1.000	.255	.191	.310	3		
5/16 - 18UNC	K9443	L0443	L1443	H3	2.720	.689	1.126	.318	.238	.380	2		
5/16 - 18UNC	K9445	L0445	L1445	H5	2.720	.689	1.126	.318	.238	.380	2		
5/16 - 24UNF	K9463	L0463	L1463	H3	2.720	.689	1.126	.318	.238	.380	3		
3/8 - 16UNC	K9483	L0483	L1483	H3	2.937	.748	1.252	.381	.286	.440	3		
3/8 - 16UNC	K9485	L0485	L1485	H5	2.937	.748	1.252	.381	.286	.440	3		
3/8 - 24UNF	K9503	L0503	L1503	H3	2.937	.748	1.252	.381	.286	.440	3		
7/16 - 14UNC	K9523	L0523	L1523	H3	3.157	.874	1.437	.323	.242	.410	3		
7/16 - 14UNC	K9525	L0525	L1525	H5	3.157	.874	1.437	.323	.242	.410	3		
7/16 - 20UNF	K9543	L0543	L1543	H3	3.157	.874	1.437	.323	.242	.410	3		
7/16 - 20UNF	K9545	L0545	L1545	H5	3.157	.874	1.437	.323	.242	.410	3		
1/2 - 13UNC	K9563	L0563	L1563	H3	3.374	.937	1.594	.367	.275	.440	3		
1/2 - 13UNC	K9565	L0565	L1565	H5	3.374	.937	1.594	.367	.275	.440	3		
1/2 - 20UNF	K9583	L0583	L1583	H3	3.374	.937	1.594	.367	.275	.440	3		
1/2 - 20UNF	K9585	L0585	L1585	H5	3.374	.937	1.594	.367	.275	.440	3		
9/16 - 12UNC	K9603	L0603	L1603	H3	3.594	1.000	1.657	.429	.322	.500	3		
9/16 - 18UNF	K9623	L0623	L1623	H3	3.594	1.000	1.657	.429	.322	.500	3		

▶ NEXT PAGE

◎ : Excellent ○ : Good																																	
ISO	P										M				K																		
Material Description VDI 3323 HRc HB Recommended	Non-alloy steel					Low alloy steel					High alloyed steel, tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20													
	13	25	28	32	10	29	32	38	15	35	15	23	10	26	3	25	21	23	21														
	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130														
	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○													
ISO	N										S																						
Material Description VDI 3323 HRc HB Recommended	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	
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41												
	13	25	28	32	10	29	32	38	15	35	15	23	10	26	3	25	21	23	21	23													
	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230													
	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○												

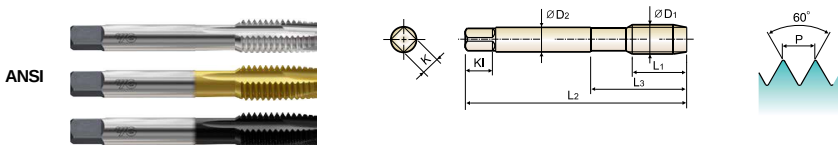
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K9/L0/L1 SERIES

Spiral Point Tap Plug Style for General Purpose



Unit : Inch													
Size	T.P.I	EDP No.			Limit	Overall Length L2	Thread Length L1	Neck Length L3	Shank Diameter D2	Square Size K	Square Length KI	No. of Flute	
		Bright	TiN	Hardslick									
9/16 - 18UNF	K9625	L0625	L1625	H5	3.594	1.000	1.657	.429	.322	.500	3		
5/8 - 11UNC	K9643	L0643	L1643	H3	3.811	1.094	1.811	.480	.360	.560	3		
5/8 - 11UNC	K9645	L0645	L1645	H5	3.811	1.094	1.811	.480	.360	.560	3		
5/8 - 18UNF	K9663	L0663	L1663	H3	3.811	1.094	1.811	.480	.360	.560	3		
5/8 - 18UNF	K9665	L0665	L1665	H5	3.811	1.094	1.811	.480	.360	.560	3		
3/4 - 10UNC	K9703	L0703	L1703	H3	4.252	1.220	2.000	.590	.442	.690	3		
3/4 - 10UNC	K9705	L0705	L1705	H5	4.252	1.220	2.000	.590	.442	.690	3		
3/4 - 16UNF	K9723	L0723	L1723	H3	4.252	1.220	2.000	.590	.442	.690	3		
3/4 - 16UNF	K9725	L0725	L1725	H5	4.252	1.220	2.000	.590	.442	.690	3		
7/8 - 9UNC	K9746	L0746	L1746	H6	4.689	1.343	2.220	.697	.523	.750	3		
7/8 - 14UNF	K9764	L0764	L1764	H4	4.689	1.343	2.220	.697	.523	.750	3		
7/8 - 14UNF	K9766	L0766	L1766	H6	4.689	1.343	2.220	.697	.523	.750	3		
1 - 8UNC	K9786	L0786	L1786	H6	5.126	1.500	2.500	.800	.600	.810	3		
1 - 12UNF	K9806	L0806	L1806	H6	5.126	1.500	2.500	.800	.600	.810	3		

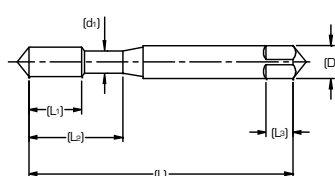
◎ : Excellent ○ : Good																									
ISO	P										M				K										
Material Description VDI 3323 HRc HB Recommended	Non-alloy steel					Low alloy steel					High alloyed steel, tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	23					
	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
ISO	N										S														
Material Description VDI 3323 HRc HB Recommended	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	
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43		
	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	23	25	27			
	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550			
	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		

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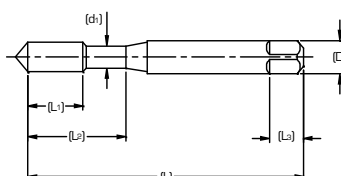
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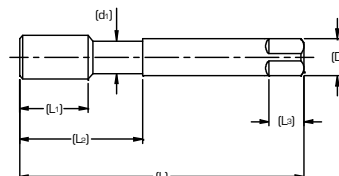
MODI TAP BLANK DIMENSION



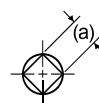
Blank Design (1)



Blank Design (2)



Blank Design (3)



Unified Tap Blank

Nominal Size	Overall Length [L]	Thread Length		Length to neck		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								3
1/2-13	3.38	.630	.984	2.067	1.657	.367	.354	.44	.275	3
1/2-20		.472								3
9/16-12	3.59	.709	.984	2.067	1.657	.429	.417	.50	.322	3
9/16-18		.512								3
5/8-11	3.81	.748	1.083	2.205	1.811	.480	.469	.56	.360	3
5/8-18		.512								3
3/4-10	4.25	.827	1.201	2.480	2.000	.590	.577	.69	.442	3
3/4-10		.591								3
7/8-9	4.69	.827	1.339	2.815	2.220	.697	.685	.75	.523	3
7/8-14		.709								3
1-8	5.13	.984	1.496	3.091	2.500	.800	.787	.81	.600	3
1-12		.709								3
1-1/8-7	5.44	1.024	1.535	3.15	2.563	.896	.878	.88	.672	3
1-1/8-12		.787								3
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								3
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								3
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								3

*SF : Spiral Fluted Taps

*SP : Spiral Pointed Taps

THREAD
MILLS

COMBO
TAPS

SPIRAL
FLUTE TAPS

SPIRAL
POINT TAPS

STRAIGHT
FLUTE TAPS

FORMING
TAPS

SCREW
THREAD
INSERT TAPS

PIPE TAPS

TECHNICAL
DATA



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.



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	-	-	32	-	.1820	.1900	.1895	.1835	.1856	.1876	.1896	.1916
	20	-	-	-	.1960	.2070	.2067	.1980	.2013	.2045	.2078	.2110
	-	28	-	-	.2110	.2200	.2190	.2129	.2152	.2175	.2198	.2222
5/16	-	-	32	-	.2160	.2240	.2229	.2175	.2196	.2216	.2236	.2256
	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
3/8	-	-	32	-	.2790	.2860	.2847	.2800	.2821	.2841	.2861	.2881
	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
					.5270	.5460	.5391	.5305	.5364	.5423	.5482	.5541

THREAD
MILLSCOMBO
TAPSSPIRAL
FLUTE TAPSSPIRAL
POINT TAPSSTRAIGHT
FLUTE TAPSFORMING
TAPSSCREW
THREAD
INSERT TAPS

PIPE TAPS

TECHNICAL
DATA

HSS

CARBIDE



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
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
	-	-	-	32	.5910	.5980	.5969	.5925	.5946	.5966	.5986	.6006
11/16	-	-	-	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
	-	-	-	32	.6540	.6610	.6594	.6550	.6571	.6591	.6611	.6631
3/4	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
	-	-	-	32	.7160	.7240	.7219	.7175	.7196	.7216	.7236	.7256
13/16	-	-	-	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
1	-	-	-	32	.9040	.9110	.9094	.9050	.9071	.9091	.9111	.9131
	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
1-1/16	-	-	-	32	.9660	.9740	.9719	.9675	.9696	.9716	.9736	.9756
	-	-	-	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
1-1/8	-	-	-	28	1.0240	1.0320	1.0301	1.0254	1.0277	1.0300	1.0323	1.0347
	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



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
2-5/8	-	-	-	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