








## HIGH PERFORMANCE TAPS RECOMMENDATION TABLE

Super HSS : Premium HSS Metallurgy  
 P-HSS : Powdered Metallurgy  
 HSSE-V3 : 3% Vanadium Alloy HSS-EX  
 HSS-V : Vanadium Alloy HSS

⊙ = RECOMMENDED  
 ○ = SUITABLE

COOLANT  
 A = Cutting Oil  
 T = Oil Emulsion  
 X = Cutting Oil/Oil Emulsion

			VA	GG	GG	GG	GS					
SERIES			Q1/Q0/Q6	Q9/R0/R1	R7/R8/R9/S0	S1/S2 (INTERRUPTED)	T7L36/T6L36 T7536/T6536					
DESCRIPTION			USCTI 311	USCTI 311	USCTI 311	USCTI 311	USCTI 311					
PAGE			481	482	483	484	485					
THREADS			NPTF	NPTF	NPTF	NPTF	NPS/NPSF					
TAP MATERIALS			HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3	HSS					
CHAMFER LENGTH			2-3P	2-3P	2-3P	2-3P	4-5P					
SURFACE TREATMENT			Bright Steam Oxide Hardslick	Bright TiN Hardslick	Bright TiN Hardslick Nitrided-Steam Oxide	Bright TiCN	Bright Steam Oxide					
SPIRAL FLUTE ANGLE			R15°	R15°	-	-	-					
THREAD DEPTH			2.5D	2.5D	2.0D	2.0D	2.0D					
HOLE TYPE			Blind	Blind Through	Blind Through	Blind Through	Blind Through					
Material Group	Material Sub-Group	ISO	Hardness (HRc)	Hardness (BHN)	Cutting Speed (SFM)		COOLANT					
					Uncoated	Coated						
Steel	Low carbon steels Free machining carbon steels	P	< 15	< 180	25 - 50	50 - 80	T	○	⊙	⊙	⊙	○
	Medium to high carbon steels Low alloyed steels	P	< 23	< 240	25 - 50	50 - 80	T	⊙	⊙	⊙	⊙	○
	Steel castings & forgings Heat-treatable alloy steels	P	> 24 ≤ 38	> 250 ≤ 350	6 - 30	10 - 35	X	○	○	○	○	
	Alloyed tool steels Mold steels	P	> 38 ≤ 44	> 350 ≤ 420	6 - 12	-	A					
Stainless Steel	Free machining stainless steels	M	< 23	< 240	12 - 35	20 - 50	A	⊙				
	Heat-and corrosion-resistant stainless steels Valve stainless steels	M	> 24 ≤ 38	> 250 ≤ 350	12 - 15	12 - 15	A	○				
	Stainless steel castings Precipitation hardening stainless steels	M	> 38 ≤ 44	> 350 ≤ 420	12 - 15	-	A					
Cast Iron	Grey cast iron	K	-	≤ 220	35 - 50	50 - 65	T		⊙	⊙	⊙	○
	Nodular cast iron / Chilled cast iron Meehanite iron / Ductile iron	K	-	≥ 250	12 - 45	25 - 55	X	○	⊙	⊙	⊙	
Copper	Pure and alloyed copper	N	-	-	50 - 60	65 - 100	T					
Brass	Free machining brass	N	-	-	30 - 65	-	T					
	Alloyed brass	N	-	-	30 - 65	-	T					
Bronze		N	44	< 420	12 - 20	35 - 80	T					
Aluminum	Pure Aluminum Aluminum alloys	N	-	-	50 - 65	-	T					○
	Aluminum alloy castings	N	-	-	40 - 65	45 - 90	T	○				○
Zinc		N	-	-	25 - 65	50 - 80	T					
Magnesium		N	-	-	-	45 - 100	T					
Nickel Alloys	718 & 625 INCOOn / Waspaloy Hastelloyn / Invar Moneln / Incoloy	S	≤ 38	≤ 350	10 - 15	-	A					
	718 Inconel A286	S	> 38 ≤ 44	> 350 ≤ 420	10 - 12	-	A					
Titanium		S	≤ 38	≤ 350	3 - 15	-	A					

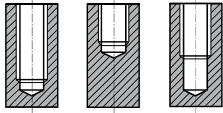


# PIPE TAPS

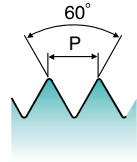
**Q1/Q0/Q6** SERIES

## TAPER PIPE TAPS : SPIRAL FLUTE for Steels & Stainless Steels

**Hole type** 2.5xD



USCTI



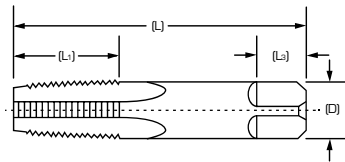
VA
HSSE-V3
NPTF
USCTI 311
60°
2P~3P
Bright
Steam Oxide
Hardslick
R15

SIZE	Thread Per Inch	No. of Flute	EDP No.		
			Bright	Steam Oxide	Hardslick
1/16	27	4	<b>Q1020</b>	<b>Q0020</b>	<b>Q6020</b>
1/8(Lg.)	27	4	<b>Q1200</b>	<b>Q0200</b>	<b>Q6200</b>
1/8(Sm.)	27	4	<b>Q1210</b>	<b>Q0210</b>	<b>Q6210</b>
1/4	18	4	<b>Q1400</b>	<b>Q0400</b>	<b>Q6400</b>
3/8	18	4	<b>Q1480</b>	<b>Q0480</b>	<b>Q6480</b>
1/2	14	4	<b>Q1560</b>	<b>Q0560</b>	<b>Q6560</b>
3/4	14	4	<b>Q1700</b>	<b>Q0700</b>	<b>Q6700</b>
1	11-1/2	4	<b>Q1780</b>	<b>Q0780</b>	<b>Q6780</b>
1-1/4	11-1/2	5	<b>Q1860</b>	<b>Q0860</b>	<b>Q6860</b>
1-1/2	11-1/2	7	<b>Q1960</b>	<b>Q0960</b>	<b>Q6960</b>
2	11-1/2	7	<b>Q1D20</b>	<b>Q0D20</b>	<b>Q6D20</b>

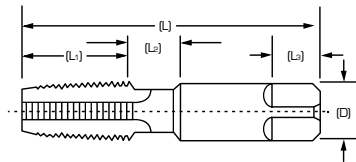
- ▶ These Taps meet both NPT and NPTF Standards.
- ▶ For tapping depth on ANSI Length Taps, refer to MCTI 302 on page 496.

◎ : Excellent ○ : Good

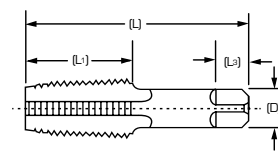
P				M				K		
Low carbon steels/ Free machining carbon steels	Medium to high carbon steels/ Low alloyed steels	Steel castings & forgings / Heat-treatable alloy steels	Alloyed tool steels / Mold steels	Free machining stainless steels	Heat-and corrosionresistant stainless steels / Valve stainless steels	Stainless steel castings / Precipitation hardening stainless steels	Grey cast iron			
○	◎	○		◎	○					
K		N				S				
Nodular cast iron / Chilled cast iron / Meehanite iron / Ductile iron	Pure and alloyed copper	Free machining brass / Alloyed brass	Bronze	Pure Aluminum/ Aluminum alloy	Aluminum alloy castings	Zinc	Magnesium	718 & 625 INCO / Waspaloy / Hastelloy / Invar / Monel / Incoloy	718 Inconel / A286	Titanium
○					○					


**STANDARD PIPE TAP DIMENSION (STRAIGHT AND TAPER, GROUND THREAD)**


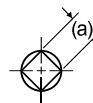
Blank Design (1)



Blank Design (2)



Blank Design (3)



Nominal Size	Overall Length	Thread Length	Shank Diameter	Square Length	Square Size	Optional Neck Length
	(L)	(L <sub>1</sub> )	(D)	(L <sub>2</sub> )	(a)	(L <sub>2</sub> )
1/16	2.13	.69	.3125	.38	.234	.375
1/8	2.13	.75	.3125	.38	.234	...
1/8	2.13	.75	.4375	.38	.328	.375
1/4	2.44	1.06	.5625	.44	.421	.375
3/8	2.56	1.06	.7000	.50	.531	.375
1/2	3.13	1.38	.6875	.63	.515	...
3/4	3.25	1.38	.9063	.69	.679	...
1	3.75	1.75	1.1250	.81	.843	...
1-1/4	4.00	1.75	1.3125	.94	.984	...
1-1/2	4.25	1.75	1.5000	1.00	1.125	...
2	4.25	1.75	1.8750	1.13	1.406	...
2-1/2	5.50	2.56	2.2500	1.25	1.687	...
3	6.00	2.63	2.6250	1.38	1.968	...
3-1/2	6.50	2.69	2.8125	1.50	2.108	...
4	6.75	2.75	3.0000	1.56	2.250	...


**Pipe Tap (Limit)**

Nominal Size Inches	Threads per Inch	Projection* Inches	Projection Tolerance + 0 -	Tap Thread Limits		Reference Dimensions	
				Taper per Foot Limits		Length [L <sub>1</sub> ]	Tap Drill Size** NPT, ANPT, NPTF
				Min.	Max.		
1/16	27	.312	.063	.719	.781	.160	C
1/8	27	.312	.063	.719	.781	.1615	Q
1/8	18	.459	.063	.719	.781	.2278	7/16
3/8	18	.454	.063	.719	.781	.240	9/16
1/2	14	.579	.063	.719	.781	.320	45/64
3/4	14	.565	.063	.719	.781	.339	29/32
1	11-1/2	.678	.094	.719	.781	.400	1-9/64
1-1/4	11-1/2	.686	.094	.719	.781	.420	1-31/64
1-1/2	11-1/2	.699	.094	.719	.781	.420	1-23/32
2	11-1/2	.667	.094	.719	.781	.436	2-3/16
2-1/2	8	.925	.094	.734	.781	.682	2-39/64
3	8	.925	.094	.734	.781	.766	3-15/64
3-1/2	8	.938	.125	.734	.781	.821	...
4	8	.950	.125	.734	.781	.844	...

\* Distance small end of tap projects through L1 Taper Thread Ring Gage.

\*\* Recommended size given permit direct tapping without reaming the hole, but only give a full thread for approx. the L1 length.

