

							Aluminum Taps		Titanium and Nickel Alloy Taps		
							SPIRAL FLUTE		SPIRAL FLUTE		SPIRAL POINT
ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRC	Examples		SFM	SFM	SFM
P	1	Non-alloy steel	About 0.15% C	Annealed	125		S15C, C15, 1015				
P	2		About 0.45% C	Annealed	190	13	S45C, C45, 1045				
P	3		About 0.45% C	Quenched & tempered	250	25					
P	4		About 0.75% C	Annealed	270	28	SK5, Ck75, 1080				
P	5		About 0.75% C	Quenched & tempered	300	32					
P	6	Low alloy steel		Annealed	180	10	SCM440, 42CrMo4, 410				
P	7			Quenched & tempered	275	29					
P	8			Quenched & tempered	300	32				10-35	10-35
P	9			Quenched & tempered	350	38				10-35	10-35
P	10	High alloyed steel, and tool steel		Annealed	200	15	SKD, D2				
P	11			Quenched & Tempered	325	35	SKH, SUH, M42				
N	21	Aluminum-wrought alloy	Not Curable		60		SAE 1000, AlMg 1, 3.3315		50-65		
N	22		Curable	Hardened	100		SAE 7050, AlCuMg 1, 3.1325		50-65		
N	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		ADC12, G-ALSi12, 3.2581		40-65		
N	24		≤ 12% Si, Curable	Hardened	90		C4BS, G-ALSi10Mg, 3.2381		40-65		
N	25		> 12% Si, Not Curable		130						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15	X12 NiCrSi 36-16, 1.4864			10-15	10-15
S	32			Cured	280	30				10-15	10-15
S	33		Ni or Co Based	Annealed	250	25	Inconel 718, NiCr20TiAl, 2.4631			10-15	10-15
S	34			Cured	350	38	NiCu30Al, 2.4375			10-15	10-15
S	35			Cast	320	34	G-X120Mn12, 1.3401			10-15	10-15
S	36	Titanium Alloys	Pure Titanium		400					3-15	3-15
S	37		Alpha + Beta Alloys	Hardened	1050		TiAl6V4, 3.7165			3-15	3-15
H	38	Hardened steel		Hardened	550	55	SK3				
H	39			Hardened	630	60					
H	40	Chilled Cast Iron		Cast	400	42					3-15
H	41	Hardened Cast Iron		Hardened	550	55					

Haas Material #'s																
HAAS ALUMINUM TAPS	Spiral Flute	03-0181	03-0182	03-0183	03-0184	03-0185	03-0186	03-0187	03-0188	03-0189	03-0190	03-0191	03-0192	03-0193	-	-
HAAS Ti/Ni TAPS	Spiral Flute	03-0194	03-0195	03-0196	03-0197	03-0198	03-0199	03-0200	03-0201	03-0202	03-0208	03-0203	03-0204	03-0205	03-0206	03-0207
	Straight Flute	03-0209	03-0210	03-0211	03-0212	03-0213	03-0214	03-0215	03-0216	03-0217	03-0218	03-0219	03-0223	03-0220	03-0221	03-0222