

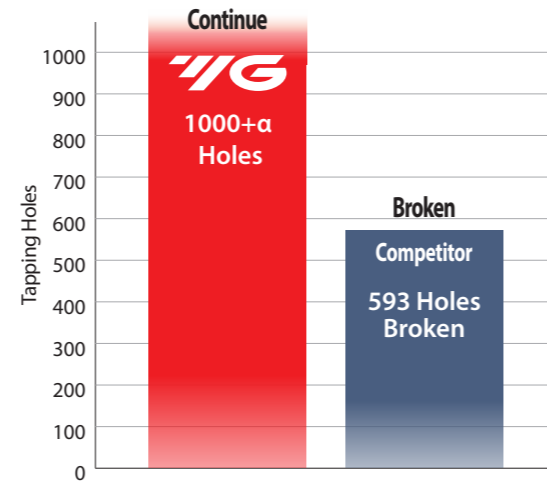


CASE STUDY

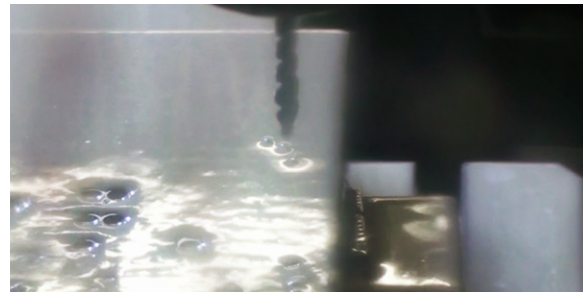
TEST III SPIRAL FLUTE TAP (M6x1.0)

Cutting Condition

Tool	Spiral Flute Tap
Size	M6x1.0
Work Material	JIS: SUS304 / DIN: X16CrNi1810 / WR: 1.4350
RPM	531 rev/min.
Vc	10 m/min.
Feed	531 mm/min.
Tap Drill Size	5.1mm
Tapping Depth	12 mm
Tapping Holes	YG-1: 1000+α / Competitor: 593
Coolant	Wet Cut



YG Prime Taps (1000 Holes+α)



Competitor (593 Holes, Broken)



TEST IV SPIRAL FLUTE TAP (M8x1.25)

Cutting Condition

Tool	Spiral Flute Tap
Size	M8x1.25
Work Material	JIS: S45C / DIN: CK45 / WR: 1.1191
RPM	796 rev/min
Vc	20 m/min
Feed	995 mm/min
Tap Drill Size	6.8mm
Tapping Depth	17 mm
Tapping Holes	YG-1: 1350+α / Competitor: 1350+α
Coolant	Wet Cut

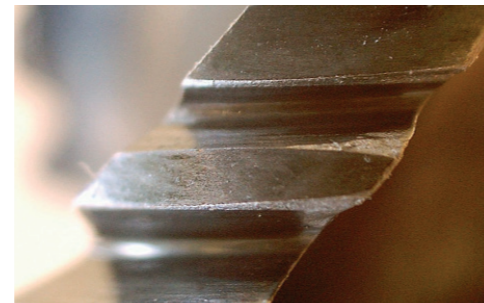


Comparison of Wear Resistance

YG Prime Taps



Competitor



SELECTION GUIDE



HSS-PM PRIME TAPS

Premium Spiral Point and Spiral Flute Taps
High Performance in Various Ductile Materials



Please visit globalyg1.com/mat for material search

◎: Excellent ○: Good

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	Recommended cutting conditions Vc (m/min.)		
P	1	Non-alloy steel	About 0.15% C Annealed	125		○ 5-20	○ 5-20	◎ 15-45
	2		About 0.45% C Annealed	190	13	◎ 10-50	◎ 10-50	◎ 10-55
	3		About 0.45% C Quenched & Tempered	250	25	◎ 10-50	◎ 10-50	◎ 10-55
	4		About 0.75% C Annealed	270	28	◎ 15-40	◎ 15-40	◎ 15-50
	5	About 0.75% C Quenched & Tempered	300	32	◎ 15-40	◎ 15-40	◎ 15-50	
	6	Low alloy steel	Annealed	180	10	◎ 8-30	◎ 8-30	◎ 8-30
	7		Quenched & Tempered	275	29	◎ 8-30	◎ 8-30	◎ 8-30
	8		Quenched & Tempered	300	32	◎ 8-30	◎ 8-30	◎ 8-30
	9		Quenched & Tempered	350	38	○ 8-30	○ 8-30	◎ 8-30
	10		High alloyed steel, and tool steel	Annealed	200	15	○ 8-30	○ 8-30
	11		Quenched & Tempered	325	35	○ 8-30	○ 8-30	○ 8-30
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎ 5-15	◎ 5-15	◎ 8-20
	13		Martensitic Quenched & Tempered	240	23	◎ 5-15	◎ 5-15	◎ 8-20
	14	Austenitic	180	10	◎ 5-15	◎ 5-15	◎ 8-20	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○ 15-35	○ 15-35	◎ 15-35
	16		Pearlitic (Martensitic)	260	26	○ 15-35	○ 15-35	◎ 15-35
	17	Nodular cast iron	Ferritic	160	3	◎ 15-35	◎ 15-35	◎ 15-35
	18		Pearlitic	250	25	◎ 15-35	◎ 15-35	◎ 15-35
	19	Malleable cast iron	Ferritic	130				
20	Pearlitic		230	21				
N	21	Aluminum-wrought alloy	Not Curable	60		○ 15-35	○ 15-35	○ 15-35
	22	Curable	Hardened	100		○ 15-35	○ 15-35	○ 15-35
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		◎ 15-35	◎ 15-35	◎ 15-35
	24		≤ 12% Si, Curable	90		◎ 15-35	◎ 15-35	◎ 15-35
	25	> 12% Si, Not Curable	130		○ 15-35	○ 15-35	○ 15-35	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		◎ 15-35	◎ 15-35	◎ 15-35
	27		CuZn, CuSnZn (Brass)	90		◎ 15-35	◎ 15-35	◎ 15-35
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100		◎ 15-35	◎ 15-35	◎ 15-35
	29		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		Ni or Co Based Cured	350	38			
	35	Cast	320	34				
	36	Titanium Alloys	Pure Titanium	400 Rm				
37	Alpha + Beta Alloys		Hardened	1050 Rm				
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40	Hardened Cast Iron	Cast	400	42			
	41		Hardened	550	55			

TOOL MATERIAL	HSS-PM				
	C	E	B		
CHAMFER LEAD ACC. TO DIN2197					
FLUTE TYPE	Spiral Flute	Spiral Flute	Spiral Point		
SPIRAL FLUTE ANGLE	R45	R45	-		
SERIES	M	DIN371/376	TRE30 (p.8)	TRE34 (p.9)	TRJ15 (p.14)
		DIN352			
		DIN357/LONG			
	MF	DIN374	TRE31 (p.10)		TRJ16 (p.15)
		DIN2181			
	UNC	DIN371/376	TRE32 (p.12)		TRJ17 (p.17)
		DIN351			
	UNF	DIN371/374	TRE33 (p.13)		TRJ18 (p.19)
		DIN2181			
	BSW	DIN2182/2183			
		DIN351			
	G(BSP)	DIN5156/5157			
	EG-M	DIN371/376			
	EG-UNC	DIN371/376			
EG-UNF	DIN371/374				
SURFACE TREATMENT	X-coating				
MODEL					