8 mm • Operating Guidelines

Materials				Vc Cutting Speed SFM	fz* Feed/ Tooth (inch)	Harder «----------» Tougher							Coolant	Geometry	
ISO	Material Group #VDI 3323	Type	Examples			IN2510	IN2515	IN4005	IN2505	IN4030	IN2530	IN2535		M	ML
P	1–5	Non-alloy steel	1018, A36, 1045, A572, 1070	400–850	.004–.010	–	–	2	1	–	3	–	No	1	2
	6–9	Low-alloy steel	4140, 4340, P20, 8620, 300M	300–600	.004–.008	–	–	2	1	–	3	–	No	1	2
	10, 11	High-alloy steel	H13, A2, D2, M2, T1	300–600	.004–.008	–	–	2	1	–	3	–	No	1	2
M	12, 13	Stainless steel (ferritic & martensitic)	410, 416, 440	350–700	.004–.010	–	–	–	–	3	2	1	Yes	2	1
	14	Stainless steel (austenitic)	303, 304, 316, 15-5, 17-4	300–600	.004–.010	–	–	–	–	3	2	1	May not be required at high speeds	2	1
K	15, 16	Gray cast iron	CLS. 20, 30, 45	400–750	.004–.010	1	2	3	–	–	–	–	No	2	1
	17, 18	Nodular cast iron	60-40-18, 100-70-03	300–650	.004–.010	–	1	3	2	–	–	–	No	1	2
N	21–30	Aluminum	7075, 6061	1000+	.004–.015	–	1	–	2	–	–	–	Yes	–	1
S	31–35	High-temp alloys	Inconel, Hastelloy, Nimonic, Monel	75–150	.004–.008	–	–	–	3	–	2	1	Yes	2	1
	36, 37	Titanium alloys	6Al-4V, 5Al-5Mo-5V-3Cr	75–200	.004–.008	–	–	–	3	–	2	1	Yes	–	1
H	38, 39	Hardened steel >48	A2, O1, D2	150–400	.002–.004	–	–	–	1	–	2	–	No	1	–

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.