



ISO	MATERIAL	HARDNESS	GRADE	Vc (SFM)*	DIAMETER INCH (METRIC)	
					5/16" (8mm) - 1/2" (12mm)	1/2" (12mm) - 3/4" (20mm)
					Fz (INCH PER TOOTH)*	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 BHN or ≤ 28 HRC	HP600	250-675	.0015-.0040	.0020-.0060
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 17-4 PH	≤ 375 BHN or ≤ 40 HRC		200-550	.0020-.0050	.0020-.0075
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 BHN or ≤ 28 HRC	HP600	150-450	.0018-.0025	.0025-.0060
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 BHN or ≤ 28 HRC		100-400	.0018-.0025	.0025-.0060
K	GRAY IRONS Class 20, 30, 40, 50, 60, G3000, G3500	≤ 220 BHN or ≤ 19 HRC	HK365	200-700	.0025-.0045	.0035-.0070
	DUCTILE IRONS D&M series, 250, 300, 350, 400, 60-40-18, 65-45-12	≤ 260 BHN or ≤ 26 HRC		200-600	.0020-.0045	.0025-.0065
N	NON-FERROUS Aluminum, Aluminum cast, Brass, Copper, Bronze, Non Metallic	≤ 271 BHN or ≤ 28 HRC	HN300	300-750	.0020-.0060	.0030-.0090
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 375 BHN or ≤ 55 HRC	HP600	60-275	.0018-.0055	.0020-.0060
S	HR SUPER ALLOYS Inconel 718, Waspaloy, Hastelloy, Inconel 625, Stellite 31, Haynes 25, Rene 41	≤ 275 BHN or ≤ 28 HRC	HP600	45-200	.0015-.0030	.0017-.0050
	TITANIUM 6AL-4V, ASTM 1, 2, 3,6AL-2S	≤ 275 BHN or ≤ 28 HRC		75-300	.0019-.0045	.0020-.0060

Recommendations:

Productivity and tooling performance is not only influenced by grade and geometry, but also by clamping the tool securely and accurately as possible.

- It is recommended to use precision holders i.e. hydraulic, shrink fit
- It is recommended to use internal coolant – minimum recommended pressure 145 psi

*Speeds & feeds are starting recommendations only. Factors such as machine type, fixture, tooling rigidity, available horsepower, coolant delivery method and others will affect the performance significantly.