List 53200 - PHOENIX® PSFL: SA/FA
List 78037 - PHOENIX® PSFL: SS
List 53201 - PHOENIX® PSFL: Bore
List 78137 - PHOENIX® PSFL: Bore

Work Material		Tensile Strength – Hardness	Insert Size SD_T09… Face Milling • Side Milling		Insert Size SD_T12… Face Milling • Side Milling	
			Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)	Milling Speed Vc (SFM)	Feed Per Tooth fz(in/t)
P	Mild Steels, Carbon Steels (1010, 1018)	~180 HB	525 (330 - 655)	0.010 (0.008 - 0.016)	525 (330 - 655)	0.012 (0.008 - 0.016)
	Carbon Steels, Alloy Steels (1050, 4140)	~280 HB	495 (330 - 655)	0.008 (0.006 - 0.012)	495 (330 - 655)	0.010 (0.006 - 0.012)
	Die Steels (H13, D2)	~280 HB	425 (265 - 590)	0.008 (0.006 - 0.012)	425 (265 - 590)	0.010 (0.006 - 0.012)
M	Stainless Steels(Dry) (304SS, 420SS)	~250 HB	495 (330 - 655)	0.005 (0.004 - 0.012)	495 (330 - 655)	0.006 (0.004 - 0.012)
	Stainless Steels(Wet) (304SS, 420SS)	~250 HB	265 (200 - 395)	0.005 (0.004 - 0.012)	265 (200 - 395)	0.006 (0.004 - 0.012)
K	Cast Iron (FC250)	~350 N/mm²	525 (330 - 985)	0.008 (0.006 - 0.014)	525 (330 - 985)	0.010 (0.008 - 0.016)
	Ductile Cast Iron (60-40-18)	~800 N/mm²	525 (330 - 820)	0.008 (0.006 - 0.012)	525 (330 - 820)	0.008 (0.006 - 0.014)
N	Aluminum Alloys (6061, 7075)	~13% Si	985 (655 - 3280)	0.010 (0.004 - 0.016)	985 (655 - 3280)	0.012 (0.004 - 0.016)
S	Heat Resistant Alloys (Inconel 718)	-	115 (85 - 195)	0.006 (0.003 - 0.012)	115 (85 - 195)	0.007 (0.004 - 0.012)
	Titanium Alloy (Ti-6Al-4V)	-	130 (100 - 395)	0.006 (0.003 - 0.012)	130 (100 - 395)	0.007 (0.004 - 0.012)
H	Pre-hardened Steel (P20, Stavax)	40 - 43 HRC	330 (130 - 490)	0.006 (0.003 - 0.012)	330 (130 - 490)	0.007 (0.004 - 0.012)
	Die Cast Steels (A2, S7)	43 - 48 HRC	200 (130 - 395)	0.005 (0.002 - 0.008)	200 (130 - 395)	0.006 (0.002 - 0.012)
	Hardened Steels (D2)	50 - 55 HRC	165 (130 - 295)	0.004 (0.002 - 0.006)	165 (130 - 295)	0.004 (0.002 - 0.006)

Cutting Conditions Adjustment Ratio

Depth of Cut Aa	Width of Cut Ar Max	Milling Speed Ratio	Feed Rate Ratio
< 0.2D	1D	0.8	0.5
0.25-0.3D	0.7D	0.8	0.6
0.4-0.5D	0.5D	0.9	0.7
0.6-0.7D	0.3D	0.9	0.8
0.8-1.0D	0.2D	1.0	0.9
1.1-1.5D	0.1D	1.0	1.0

Ex: For Ø1.250" PSFL with SDMT09 inserts, Aa = 1.150", side milling in 1050 carbon steel:
Vc = 495 SFM x 1.0 = 495 SFM
fz = 0.008 in/t x 0.9 = 0.007 in/t
Ar = 0.2 x 1.250" = 0.250" Max