



Series 61M Metric	Hardness BRINELL			Vc (m/min)	Diameter (D ₁) (mm)						
		Ae x D ₁	Ap x D ₁		6	10	12	20	25		
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175	 Profile ≤ 0.5	≤ 1.5	152	RPM	8078	4847	4039	2424	1939
					(122-183)	Fz	0.014	0.029	0.034	0.045	0.050
						Feed (mm/min)	339	422	549	436	485
			 Slot 1	≤ 1	122	RPM	6463	3878	3231	1939	1551
					(98-146)	Fz	0.014	0.029	0.034	0.045	0.050
						Feed (mm/min)	271	337	439	349	388
P	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275	 Profile ≤ 0.5	≤ 1.5	111	RPM	5897	3538	2949	1769	1415
					(89-134)	Fz	0.010	0.021	0.026	0.035	0.038
						Feed (mm/min)	177	223	307	248	269
			 Slot 1	≤ 1	90	RPM	4766	2860	2383	1430	1144
					(72-108)	Fz	0.010	0.021	0.026	0.035	0.038
						Feed (mm/min)	143	180	248	200	217
P	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 250	 Profile ≤ 0.5	≤ 1.5	105	RPM	5574	3344	2787	1672	1338
					(84-126)	Fz	0.014	0.024	0.036	0.048	0.053
						Feed (mm/min)	234	241	401	321	355
			 Slot 1	≤ 1	84	RPM	4443	2666	2222	1333	1066
					(67-101)	Fz	0.014	0.024	0.036	0.048	0.053
						Feed (mm/min)	187	192	320	256	283
K	CAST IRONS Gray, Malleable, Ductile	≤ 220	 Profile ≤ 0.5	≤ 1.5	111	RPM	5897	3538	2949	1769	1415
					(89-134)	Fz	0.019	0.040	0.048	0.064	0.070
						Feed (mm/min)	336	425	566	453	495
			 Slot 1	≤ 1	90	RPM	4766	2860	2383	1430	1144
					(72-108)	Fz	0.019	0.040	0.048	0.064	0.070
						Feed (mm/min)	272	343	458	366	400

$$\text{rpm} = (1000 \times \text{m/min}) / (3.14 \times D_1)$$

$$\text{mm / min} = (\text{mm / flute}) \times \text{number of flutes} \times \text{rpm}$$

reduce speed and feed for materials harder than listed

refer to the SGS Tool Wizard for complete technical information ()