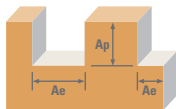


Single End Roughers (Coarse Pitch)



Series 61M	Metric	Hardness			Vc (m/min)	DC • mm						
			Ae x DC	Ap x DC		6	10	12	20	25		
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn or ≤ 7 HRc		≤ 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	
				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	
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn or ≤ 28 HRc		≤ 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	
				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	
	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 250 Bhn or ≤ 24 HRc		≤ 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	
				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 Bhn or ≤ 19 HRc		≤ 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	
				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	

Bhn (Brinell) HRc (Rockwell C)

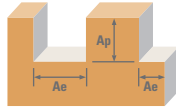
rpm = (Vc x 1000) / (DC x 3.14)

mm/min = Fz x number of flutes x rpm

reduce speed and feed for materials harder than listed

refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

Single End Roughers (Fine Pitch)



Series 62M	Metric	Hardness			Vc (m/min)	DC • mm						
			Ae x DC	Ap x DC		6	10	12	20	25		
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 Bhn or ≤ 28 HRC		≤ 0.5	≤ 1.5	123	RPM	6544	3926	3272	1963	1570
						(99-148)	Fz	0.014	0.029	0.036	0.051	0.053
							Feed (mm/min)	283	345	471	398	495
				1	≤ 1	99	RPM	5251	3151	2626	1575	1260
						(79-119)	Fz	0.014	0.029	0.036	0.051	0.053
							Feed (mm/min)	227	277	378	319	397
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L, 17-4PH, 15-5PH, 13-4PH, Custom 450	≤ 275 Bhn or ≤ 28 HRC		≤ 0.5	≤ 1.5	85	RPM	4524	2714	2262	1357	1086
						(68-102)	Fz	0.012	0.024	0.029	0.040	0.043
							Feed (mm/min)	163	195	261	217	277
				1	≤ 1	69	RPM	3635	2181	1818	1091	872
						(55-82)	Fz	0.012	0.024	0.029	0.040	0.043
							Feed (mm/min)	131	157	209	174	222
S	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy 800, Monel 400, Rene, Waspalloy	≤ 300 Bhn or ≤ 32 HRC		≤ 0.5	≤ 1.5	21	RPM	1131	679	565	339	271
						(17-26)	Fz	0.010	0.021	0.024	0.035	0.035
							Feed (mm/min)	33	43	54	47	57
				1	≤ 1	17	RPM	905	543	452	271	217
						(14-20)	Fz	0.010	0.021	0.024	0.035	0.035
							Feed (mm/min)	26	35	43	38	46
	TITANIUM ALLOYS Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti10V2Fe3Al, Ti5Al53Mo3Cr, Ti7Al4Mo, Ti3Al8V6Cr4Zr4Mo, Ti6Al6V6Sn, Ti152 Cr3Sn3Al	≤ 350 Bhn or ≤ 38 HRC		≤ 0.5	≤ 1.5	47	RPM	2504	1503	1252	751	601
						(38-57)	Fz	0.012	0.024	0.029	0.040	0.043
							Feed (mm/min)	90	108	144	120	153
				1	≤ 1	59	RPM	3151	1890	1575	945	756
						(48-71)	Fz	0.012	0.024	0.029	0.040	0.043
							Feed (mm/min)	113	136	181	151	193

Bhn (Brinell) HRc (Rockwell C)

rpm = (Vc x 1000) / (DC x 3.14)

mm/min = Fz x number of flutes x rpm

reduce speed and feed for materials harder than listed

refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgtool.com)