

Series 201M Metric	Hardness BRINELL	Vc (m/min)	Diameter (D ₁) (mm)								
			1	2	3	4	6	8	10		
M	STAINLESS STEELS (DIFFICULT) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, Custom 450	11	RPM	3393	1696	1131	848	565	424	339	
		≤ 270	Fr	0.015	0.030	0.044	0.059	0.089	0.118	0.148	
			(9-13)	Feed (mm/min)	51	51	50	50	50	50	50
		≥ 270 ≤ 370	8	RPM	2424	1212	808	606	404	303	242
			(6-9)	Fr	0.010	0.020	0.030	0.040	0.060	0.080	0.100
				Feed (mm/min)	24	24	24	24	24	24	24
S	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoly 800, Monel 400, Rene, Waspaloy	6	RPM	1939	969	646	485	323	242	194	
		≤ 220	Fr	0.012	0.024	0.036	0.048	0.072	0.096	0.120	
			(5-7)	Feed (mm/min)	23	23	23	23	23	23	23
		≥ 220 ≤ 330	5	RPM	1454	727	485	364	242	182	145
			(4-5)	Fr	0.010	0.020	0.030	0.040	0.060	0.080	0.100
				Feed (mm/min)	15	15	15	15	15	15	15
		≥ 330 ≤ 420	3	RPM	969	485	323	242	162	121	97
			(2-4)	Fr	0.006	0.012	0.019	0.025	0.037	0.050	0.062
				Feed (mm/min)	6	6	6	6	6	6	6
S	TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	14	RPM	4362	2181	1454	1091	727	545	436	
		≤ 280	Fr	0.024	0.048	0.072	0.096	0.144	0.192	0.240	
			(11-16)	Feed (mm/min)	105	105	105	105	105	105	105
		≥ 280 ≤ 350	11	RPM	3393	1696	1131	848	565	424	339
			(9-13)	Fr	0.015	0.030	0.044	0.059	0.089	0.118	0.148
				Feed (mm/min)	51	51	50	50	50	50	50
		≥ 350 ≤ 440	8	RPM	2424	1212	808	606	404	303	242
			(6-9)	Fr	0.010	0.020	0.030	0.040	0.060	0.080	0.100
				Feed (mm/min)	24	24	24	24	24	24	24
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	82	RPM	26174	13087	8725	6544	4362	3272	2617	
		≤ 80	Fr	0.040	0.080	0.120	0.160	0.240	0.320	0.400	
			(66-99)	Feed (mm/min)	1047	1047	1047	1047	1047	1047	1047
		≥ 80	70	RPM	22297	11148	7432	5574	3716	2787	2230
			(56-84)	Fr	0.040	0.080	0.120	0.160	0.240	0.320	0.400
				Feed (mm/min)	892	892	892	892	892	892	892
N	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	35	RPM	11148	5574	3716	2787	1858	1394	1115	
		≤ 140	Fr	0.020	0.041	0.061	0.082	0.122	0.163	0.204	
			(28-42)	Feed (mm/min)	223	229	227	229	227	227	227
		≥ 140	29	RPM	9209	4605	3070	2302	1535	1151	921
			(23-35)	Fr	0.020	0.041	0.061	0.082	0.122	0.163	0.204
				Feed (mm/min)	184	189	187	189	187	188	188

rpm = (1000 x m/min) / (3.14 x D₁)

mm / min = (mm / revolution) x rpm

increase speed and feed rates shown by 30 percent when using coated reamers

reduce speed and feed for materials harder than listed

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