

Series 200 Fractional	Hardness BRINELL	Vc (SFM)	Diameter (D ₁) (inch)								
			1/16	1/8	3/16	1/4	1/3	3/8	1/2		
M	STAINLESS STEELS (DIFFICULT) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, Custom 450	≤ 270	35	RPM	2139	1070	713	535	428	357	267
			(28-42)	Fr	0.0010	0.0020	0.0029	0.0039	0.0049	0.0059	0.0078
				Feed (IPM)	2.1	2.1	2.1	2.1	2.1	2.1	2.1
		> 270 ≤ 370	25	RPM	1528	764	509	382	306	255	191
			(20-30)	Fr	0.0006	0.0013	0.0019	0.0025	0.0031	0.0038	0.0050
				Feed (IPM)	0.9	1.0	1.0	1.0	0.9	1.0	1.0
S	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoly 800, Monel 400, Rene, Waspaloy	≤ 220	20	RPM	1222	611	407	306	244	204	153
			(16-24)	Fr	0.0008	0.0015	0.0023	0.0030	0.0038	0.0045	0.0060
				Feed (IPM)	1.0	0.9	0.9	0.9	0.9	0.9	0.9
		> 220 ≤ 330	15	RPM	917	458	306	229	183	153	115
			(12-18)	Fr	0.0006	0.0013	0.0019	0.0025	0.0031	0.0038	0.0050
				Feed (IPM)	0.6	0.6	0.6	0.6	0.6	0.6	0.6
		> 330 ≤ 420	10	RPM	611	306	204	153	122	102	76
			(8-12)	Fr	0.0004	0.0007	0.0011	0.0015	0.0018	0.0022	0.0029
				Feed (IPM)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
S	TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	≤ 280	45	RPM	2750	1375	917	688	550	458	344
			(36-54)	Fr	0.0015	0.0030	0.0045	0.0060	0.0075	0.0090	0.0120
				Feed (IPM)	4.1	4.1	4.1	4.1	4.1	4.1	4.1
		> 280 ≤ 350	35	RPM	2139	1070	713	535	428	357	267
			(28-42)	Fr	0.0010	0.0020	0.0029	0.0039	0.0049	0.0059	0.0078
				Feed (IPM)	2.1	2.1	2.1	2.1	2.1	2.1	2.1
		> 350 ≤ 440	25	RPM	1528	764	509	382	306	255	191
			(20-30)	Fr	0.0006	0.0013	0.0019	0.0025	0.0031	0.0038	0.0050
				Feed (IPM)	0.9	1.0	1.0	1.0	0.9	1.0	1.0
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 80	270	RPM	16502	8251	5501	4126	3300	2750	2063
			(216-324)	Fr	0.0025	0.0050	0.0075	0.0100	0.0125	0.0150	0.0200
				Feed (IPM)	41.3	41.3	41.3	41.3	41.3	41.3	41.3
		> 80	230	RPM	14058	7029	4686	3514	2812	2343	1757
			(184-276)	Fr	0.0025	0.0050	0.0075	0.0100	0.0125	0.0150	0.0200
				Feed (IPM)	35.1	35.1	35.1	35.1	35.1	35.1	35.1
N	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140	115	RPM	7029	3514	2343	1757	1406	1171	879
			(92-138)	Fr	0.0013	0.0026	0.0038	0.0051	0.0064	0.0077	0.0102
				Feed (IPM)	9.1	9.1	8.9	9.0	9.0	9.0	9.0
		> 140	95	RPM	5806	2903	1935	1452	1161	968	726
			(76-114)	Fr	0.0013	0.0026	0.0038	0.0051	0.0064	0.0077	0.0102
				Feed (IPM)	7.5	7.5	7.4	7.4	7.4	7.5	7.4

rpm = sfm x 3.82 / D₁

ipm = (inch / 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)