

Speed & Feed Recommendations

Series 606 Fractional	Hardness BRINELL	Vc (SFM)	Diameter (D ₁) (inch)							
			1/8	3/16	1/4	3/8	1/2	3/4	1	
M	STAINLESS STEELS (DIFFICULT) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, Custom 450	28	RPM	856	570	428	285	214	143	107
		≤ 270	Fr	0.0007	0.0011	0.0014	0.0021	0.0028	0.0042	0.0056
			Feed (IPM)	0.6	0.6	0.6	0.6	0.6	0.6	0.6
		21	RPM	642	428	321	214	160	107	80
		> 270 ≤ 370	Fr	0.0003	0.0005	0.0006	0.0009	0.0012	0.0018	0.0024
			Feed (IPM)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
S	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoly 800, Monel 400, Rene, Waspaloy	18	RPM	550	367	275	183	138	92	69
		≤ 220	Fr	0.0005	0.0007	0.0009	0.0014	0.0018	0.0027	0.0036
			Feed (IPM)	0.3	0.3	0.2	0.3	0.2	0.2	0.2
		14	RPM	428	285	214	143	107	71	53
		> 220 ≤ 330	Fr	0.0005	0.0007	0.0009	0.0014	0.0018	0.0027	0.0036
			Feed (IPM)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		12	RPM	367	244	183	122	92	61	46
		> 330 ≤ 420	Fr	0.0004	0.0006	0.0008	0.0012	0.0016	0.0024	0.0032
			Feed (IPM)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
S	TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	36	RPM	1100	733	550	367	275	183	138
		≤ 280	Fr	0.0009	0.0014	0.0018	0.0027	0.0036	0.0054	0.0072
			Feed (IPM)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		28	RPM	856	570	428	285	214	143	107
		> 280 ≤ 350	Fr	0.0007	0.0011	0.0014	0.0021	0.0028	0.0042	0.0056
			Feed (IPM)	0.6	0.6	0.6	0.6	0.6	0.6	0.6
		21	RPM	642	428	321	214	160	107	80
		> 350 ≤ 440	Fr	0.0003	0.0005	0.0006	0.0009	0.0012	0.0018	0.0024
			Feed (IPM)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	225	RPM	6876	4584	3438	2292	1719	1146	860
		≤ 80	Fr	0.0015	0.0023	0.0030	0.0045	0.0060	0.0090	0.0120
			Feed (IPM)	10.3	10.5	10.3	10.3	10.3	10.3	10.3
		190	RPM	5806	3871	2903	1935	1452	968	726
		> 80	Fr	0.0015	0.0023	0.0030	0.0045	0.0060	0.0090	0.0120
			Feed (IPM)	8.7	8.9	8.7	8.7	8.7	8.7	8.7
N	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	95	RPM	2903	1935	1452	968	726	484	363
		≤ 140	Fr	0.0008	0.0011	0.0015	0.0023	0.0030	0.0045	0.0060
			Feed (IPM)	2.3	2.1	2.2	2.2	2.2	2.2	2.2
		80	RPM	2445	1630	1222	815	611	407	306
		> 140	Fr	0.0008	0.0011	0.0015	0.0023	0.0030	0.0045	0.0060
			Feed (IPM)	2.0	1.8	1.8	1.9	1.8	1.8	1.8

rpm = sfm x 3.82 / D₁

ipm = (inch / revolution) x rpm

reduce speed and feed for materials harder than listed

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