

Speed & Feed Recommendations

Series 603 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	0.0005	0.0008	0.0011	0.0016	0.0021	0.0032	0.0042
			Feed (IPM)	0.4	0.5	0.5	0.5	0.4	0.5	0.4
		21	RPM	642	428	321	214	160	107	80
		> 270 ≤ 370	Fr	0.0002	0.0003	0.0005	0.0007	0.0009	0.0014	0.0018
			(17-25)	Feed (IPM)	0.1	0.1	0.2	0.1	0.1	0.1
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	0.0003	0.0005	0.0007	0.0010	0.0014	0.0020	0.0027
			Feed (IPM)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		14	RPM	428	285	214	143	107	71	53
		> 220 ≤ 330	Fr	0.0003	0.0005	0.0007	0.0010	0.0014	0.0020	0.0027
			Feed (IPM)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		12	RPM	367	244	183	122	92	61	46
		> 330 ≤ 420	Fr	0.0003	0.0005	0.0006	0.0009	0.0012	0.0018	0.0024
			(10-14)	Feed (IPM)	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	0.0007	0.0010	0.0014	0.0020	0.0027	0.0041	0.0054
			Feed (IPM)	0.8	0.7	0.8	0.7	0.7	0.8	0.7
		28	RPM	856	570	428	285	214	143	107
		> 280 ≤ 350	Fr	0.0005	0.0008	0.0011	0.0016	0.0021	0.0032	0.0042
			Feed (IPM)	0.4	0.5	0.5	0.5	0.4	0.5	0.4
		21	RPM	642	428	321	214	160	107	80
		> 350 ≤ 440	Fr	0.0002	0.0003	0.0005	0.0007	0.0009	0.0014	0.0018
			(17-25)	Feed (IPM)	0.1	0.1	0.2	0.1	0.1	0.1
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	225	RPM	6876	4584	3438	2292	1719	1146	860
		≤ 80	Fr	0.0011	0.0017	0.0023	0.0034	0.0045	0.0068	0.0090
			Feed (IPM)	7.6	7.8	7.9	7.8	7.7	7.8	7.7
		190	RPM	5806	3871	2903	1935	1452	968	726
		> 80	Fr	0.0011	0.0017	0.0023	0.0034	0.0045	0.0068	0.0090
			(152-228)	Feed (IPM)	6.4	6.6	6.7	6.6	6.5	6.6
N	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	95	RPM	2903	1935	1452	968	726	484	363
		≤ 140	Fr	0.0006	0.0008	0.0011	0.0017	0.0023	0.0034	0.0045
			Feed (IPM)	1.7	1.5	1.6	1.6	1.7	1.6	1.6
		80	RPM	2445	1630	1222	815	611	407	306
		> 140	Fr	0.0006	0.0008	0.0011	0.0017	0.0023	0.0034	0.0045
			(64-96)	Feed (IPM)	1.5	1.3	1.3	1.4	1.4	1.4

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 ()