

Hardness BRINELL	Series 33 Fractional	Profile	Ap x D1	Ae x D1	Vc (SFM)	Diameter (inch)							
						1/8	1/4	3/8	1/2	5/8	3/4	1	
> 175 < 250	CARBON STEEL 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	Profile	1.5	0.5	600	RPM	18183	9092	6061	4546	3637	3031	2273
					(500-700)	Fz	0.00046	0.00120	0.00229	0.00306	0.00337	0.00367	0.00428
					Feed (IPM)	25	33	42	42	37	33	29	
		Slotting	1	1	400	RPM	14516	7258	4839	3629	2903	2419	1815
					(400-500)	Fz	0.00046	0.00120	0.00229	0.00306	0.00337	0.00367	0.00428
					Feed (IPM)	20	26	33	33	29	27	23	
> 250 < 350	ALLOY STEEL 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	Profile	1.5	0.5	400	RPM	11460	5730	3820	2865	2292	1910	1433
					(400-500)	Fz	0.00034	0.00092	0.00172	0.00229	0.00252	0.00275	0.00321
					Feed (IPM)	12	16	20	20	17	16	14	
		Slotting	1	1	310	RPM	9168	4584	3056	2292	1834	1528	1146
					(300-360)	Fz	0.00034	0.00092	0.00172	0.00229	0.00252	0.00275	0.00321
					Feed (IPM)	9	13	16	16	14	13	11	
> 250 < 350	TOOL STEEL A2, D2, H13, L2, M2, P20, S7, T15, W2	Profile	1.5	0.5	300	RPM	9168	4584	3056	2292	1834	1528	1146
					(250-350)	Fz	0.00034	0.00092	0.00172	0.00229	0.00252	0.00275	0.00321
					Feed (IPM)	9	13	16	16	14	13	11	
		Slotting	1	1	220	RPM	7334	3667	2445	1834	1467	1222	917
					(190-250)	Fz	0.00034	0.00092	0.00172	0.00229	0.00252	0.00275	0.00321
					Feed (IPM)	7	10	13	13	11	10	9	
> 200 < 260	MEDIUM & LOW ALLOY CAST IRON Gray, Malleable, Ductile	Profile	1.5	0.5	450	RPM	9168	4584	3056	2292	1834	1528	1146
					(400-500)	Fz	0.00031	0.00084	0.00157	0.00210	0.00231	0.00252	0.00294
					Feed (IPM)	9	12	14	14	13	12	10	
		Slotting	1	1	325	RPM	7334	3667	2445	1834	1467	1222	917
					(300-375)	Fz	0.00031	0.00084	0.00157	0.00210	0.00231	0.00252	0.00294
					Feed (IPM)	7	9	12	12	10	9	8	
> 250 < 350	DIFFICULT HIGH ALLOY CAST IRON Gray, Malleable, Ductile	Profile	1.5	0.5	275	RPM	5806	2903	1935	1452	1161	968	726
					(200-350)	Fz	0.00025	0.00067	0.00126	0.00168	0.00185	0.00202	0.00235
					Feed (IPM)	4	6	7	7	6	6	5	
		Slotting	1	1	220	RPM	4584	2292	1528	1146	917	764	573
					(200-250)	Fz	0.00025	0.00067	0.00126	0.00168	0.00185	0.00202	0.00235
					Feed (IPM)	3	5	6	6	5	5	4	
< 250	STAINLESS STEEL (FREE MACHING) 303, 416, 420F, 430F 440F,	Profile	1.5	0.5	450	RPM	18336	9168	6112	4584	3667	3056	2292
					(400-500)	Fz	0.00037	0.00090	0.00186	0.00247	0.00272	0.00297	0.00346
					Feed (IPM)	20	25	34	34	30	27	24	
		Slotting	1	1	300	RPM	14669	7334	4890	3667	2934	2445	1834
					(250-350)	Fz	0.00037	0.00090	0.00186	0.00247	0.00272	0.00297	0.00346
					Feed (IPM)	16	20	27	27	24	22	19	
< 275	STAINLESS STEEL (DIFFICULT) 304, 304L, 316, 316L	Profile	1.5	0.5	400	RPM	12071	6036	4024	3018	2414	2012	1509
					(350-450)	Fz	0.00030	0.00079	0.00148	0.00198	0.00218	0.00238	0.00277
					Feed (IPM)	11	14	18	18	16	14	13	
		Slotting	1	1	280	RPM	9626	4813	3209	2407	1925	1604	1203
					(250-380)	Fz	0.00030	0.00079	0.00148	0.00198	0.00218	0.00238	0.00277
					Feed (IPM)	9	11	14	14	13	11	10	
< 325	STAINLESS STEEL (PH) 13-8 PH, 15-5PH, 17-4 PH, Custom 450	Profile	1.5	0.5	310	RPM	11002	5501	3667	2750	2200	1834	1375
					(210-350)	Fz	0.00030	0.00079	0.00148	0.00198	0.00218	0.00238	0.00277
					Feed (IPM)	10	13	16	16	14	13	11	
		Slotting	1	1	240	RPM	8862	4431	2954	2216	1772	1477	1108
					(200-300)	Fz	0.00030	0.00079	0.00148	0.00198	0.00218	0.00238	0.00277
					Feed (IPM)	8	11	13	13	12	11	9	