

GROUP #	MATERIAL CARBON STEEL	MATERIAL EXAMPLES	HARDNESS	LOW SFAM	HIGH SFM	RECOMMENDED MAX% STEPOVER 2@ XD IA LOC	IPT Ø 0.125	IPT Ø 0.1875	IPT Ø 0.250	IPT Ø 0.375	IPT Ø 0.500	IPT Ø 0.625	IPT Ø 0.750	IPT 1.000
P1	Low-Carbon Steels	1018, 1108, 1117, A36 12L14, 1200's, 1500's	<300 Hb	300	460	SLOTING	0.0005	0.0007	0.0009	0.0018	0.0020	0.0029	0.0033	0.0037
				375	600	ROUGHING	0.0008	0.0012	0.0016	0.0026	0.0028	0.0041	0.0053	0.0064
				350	900	FINISHING - HEM	0.0008	0.0011	0.0015	0.0021	0.0026	0.0027	0.0028	0.0029
P2	Medium & High Carbon Steels	1000-1200 SERIES	<300 Hb	200	350	SLOTING	0.0005	0.0008	0.0010	0.0013	0.0016	0.0019	0.0023	0.0026
				300	500	ROUGHING	0.0006	0.0009	0.0012	0.0017	0.0021	0.0029	0.0037	0.0045
				350	850	FINISHING - HEM	0.0007	0.0011	0.0014	0.0019	0.0023	0.0026	0.0028	0.0030
P3	Alloys Steels	4130, 4140, 5140, 6150, 8620	<300 Hb	250	350	SLOTING	0.0005	0.0007	0.0013	0.0013	0.0016	0.0023	0.0026	0.0029
				300	450	ROUGHING	0.0006	0.0009	0.0017	0.0017	0.0022	0.0030	0.0039	0.0048
				350	1200	FINISHING - HEM	0.0007	0.0011	0.0019	0.0019	0.0023	0.0027	0.0030	0.0033
P4	Tool Steel	A2, P20, S7, H13, L6	<300 Hb	150	300	SLOTING	0.0005	0.0007	0.0009	0.0013	0.0016	0.0020	0.0024	0.0028
				250	400	ROUGHING	0.0006	0.0008	0.0011	0.0016	0.0021	0.0030	0.0039	0.0047
				350	650	FINISHING - HEM	0.0007	0.0010	0.0013	0.0018	0.0022	0.0025	0.0028	0.0031
M1	Austenitic Stainless Steels	INOX, 200 SERIES, 300 SERIES AND 304L	<300 Hb	180	280	SLOTING	0.0004	0.0006	0.0008	0.0012	0.0015	0.0019	0.0025	0.0028
				180	375	ROUGHING	0.0006	0.0009	0.0012	0.0017	0.0022	0.0030	0.0040	0.0050
				300	900	FINISHING - HEM	0.0009	0.0014	0.0018	0.0022	0.0025	0.0026	0.0027	0.0029
K1	Cast Iron - Gray Low Strength	Class 20, 25, 30, 35 Grade G1800	>270	250	450	SLOTING	0.0006	0.0008	0.0011	0.0016	0.0020	0.0024	0.0027	0.0030
				350	550	ROUGHING	0.0007	0.0010	0.0013	0.0019	0.0024	0.0036	0.0048	0.0060
				350	650	FINISHING - HEM	0.0008	0.0011	0.0015	0.0021	0.0027	0.0032	0.0037	0.0040
K2	Cast Iron - Malleable Medium Strength	60-14-18, 65-45-12, M3210, M4504	>320	200	425	SLOTING	0.0005	0.0008	0.0010	0.0013	0.0016	0.0021	0.0026	0.0030
				300	500	ROUGHING	0.0006	0.0009	0.0012	0.0018	0.0023	0.0032	0.0041	0.0050
				350	600	FINISHING - HEM	0.0007	0.0011	0.0014	0.0020	0.0025	0.0027	0.0029	0.0032

We recommend using air blast to cool the tool anytime you are running over 500 SFM

MILL PROCESS	ADOC	RDOC
SLOTING	25%-75 Diameter	100%
ROUGHING	Up to 200% Diameter	16-49%
FINISH OR HEM	Up to 225% Diameter	2-15%

Must use chip thinning calculations when developing feedrates for FINISH OR HEM toolpaths