

APPLICATION GUIDE



D = Tool Diameter
Reduce feed rates by 20% when using long length tools.

Cast Iron

Work Material	Type of Cut	Axial DOC	Radial DOC	No. of Flutes	Speed (SFM)								Feed (Inches Per Tooth)							
					1/8	1/4	3/8	1/2	5/8	3/4	1	3.0	6.0	9.0	12.0	16.0	19.0	25.0		
Gray	Slotting	1 x D	1 x D	4	400	.0006	.0012	.0019	.0025	.0031	.0038	.0050	122	.0152	.0305	.0483	.0635	.0787	.0965	.1270
	Roughing	1.5 x D	.5 x D	4	500	.0007	.0015	.0023	.0030	.0037	.0046	.0060	152	.0183	.0381	.0579	.0762	.0945	.1158	.1524
Ductile	Slotting	1 x D	1 x D	4	300	.0006	.0012	.0018	.0023	.0029	.0035	.0046	91	.0152	.0305	.0483	.0635	.0787	.0965	.1270
	Roughing	1.5 x D	.5 x D	4	400	.0007	.0014	.0021	.0028	.0035	.0042	.0056	122	.0183	.0356	.0533	.0711	.0889	.1067	.1422
Malleable	Slotting	0.75	1 x D	4	250	.0004	.0008	.0012	.0015	.0019	.0023	.0030	76	.0102	.0203	.0305	.0381	.0483	.0584	.0762
	Roughing	1 x D	.75 x D	4	325	.0005	.0011	.0016	.0022	.0027	.0033	.0044	99	.0127	.0279	.0406	.0559	.0686	.0838	.1118

Carbon Steel

Work Material	Type of Cut	Axial DOC	Radial DOC	No. of Flutes	Speed (SFM)								Feed (MM Per Tooth)							
					1/8	1/4	3/8	1/2	5/8	3/4	1	3.0	6.0	9.0	12.0	16.0	19.0	25.0		
1018, 12L14, 8620	Slotting	1 x D	1 x D	4	350	.0008	.0016	.0024	.0032	.0040	.0048	.0064	107	.0203	.0406	.0610	.0813	.1016	.1219	.1626
	Roughing	1.5 x D	.5 x D	4	425	.0010	.0020	.0030	.0040	.0050	.0060	.0080	130	.0254	.0508	.0762	.1016	.1270	.1524	.2032
4140, 4340	Slotting	1 x D	1 x D	4	325	.0006	.0013	.0020	.0027	.0034	.0040	.0054	99	.0152	.0330	.0508	.0686	.0864	.1016	.1372
	Roughing	1.5 x D	.5 x D	4	375	.0008	.0017	.0026	.0035	.0044	.0053	.0070	114	.0203	.0432	.0660	.0889	.1118	.1346	.1778

Tool & Die Steel

Work Material	Type of Cut	Axial DOC	Radial DOC	No. of Flutes	Speed (SFM)								Feed (MM Per Tooth)							
					1/8	1/4	3/8	1/2	5/8	3/4	1	3.0	6.0	9.0	12.0	16.0	19.0	25.0		
≤ 38 Rc - A2, D2, O1, S7, P20, H13	Slotting	1 x D	1 x D	4	325	.0006	.0013	.0020	.0027	.0034	.0040	.0054	99	.0152	.0330	.0508	.0686	.0864	.1016	.1372
	Roughing	1.5 x D	.5 x D	4	375	.0008	.0017	.0026	.0035	.0044	.0053	.0070	114	.0203	.0432	.0660	.0889	.1118	.1346	.1778
39 Rc to 48 Rc	Slotting	.75 x D	1 x D	4	225	.0005	.0010	.0015	.0020	.0025	.0030	.0040	69	.0127	.0254	.0381	.0508	.0635	.0762	.1016
	Roughing	1 x D	.5 x D	4	275	.0006	.0012	.0017	.0023	.0029	.0035	.0046	84	.0146	.0292	.0438	.0584	.0730	.0876	.1168

Stainless Steel

Work Material	Type of Cut	Axial DOC	Radial DOC	No. of Flutes	Speed (SFM)								Feed (MM Per Tooth)							
					1/8	1/4	3/8	1/2	5/8	3/4	1	3.0	6.0	9.0	12.0	16.0	19.0	25.0		
Easy to Machine Stainless Steel - 416, 410, 302, 303	Slotting	1 x D	1 x D	4	300	.0006	.0012	.0018	.0025	.0031	.0037	.0050	91	.0152	.0305	.0457	.0635	.0787	.0940	.1270
	Roughing	1.5 x D	.5 x D	4	375	.0008	.0016	.0024	.0032	.0040	.0048	.0064	114	.0203	.0406	.0610	.0813	.1016	.1219	.1626
Moderately Difficult Stainless Steel - 304, 316, Invar, Kovar	Slotting	.75 x D	1 x D	4	275	.0005	.0011	.0016	.0022	.0027	.0033	.0044	84	.0127	.0279	.0406	.0559	.0686	.0838	.1118
	Roughing	1.5 x D	.5 x D	4	350	.0007	.0015	.0023	.0032	.0037	.0045	.0064	107	.0178	.0381	.0584	.0813	.0940	.1143	.1626
Difficult to Machine Stainless Steel - 316L, 17-4 PH, 15-5 PH, 13-8 PH	Slotting	.5 x D	1 x D	4	250	.0004	.0009	.0012	.0018	.0022	.0027	.0036	76	.0102	.0229	.0305	.0457	.0559	.0686	.0914
	Roughing	1 x D	.5 x D	4	300	.0005	.0011	.0016	.0022	.0028	.0033	.0044	91	.0127	.0279	.0406	.0559	.0711	.0838	.1118

Titanium Alloy

Work Material	Type of Cut	Axial DOC	Radial DOC	No. of Flutes	Speed (SFM)								Feed (MM Per Tooth)							
					1/8	1/4	3/8	1/2	5/8	3/4	1	3.0	6.0	9.0	12.0	16.0	19.0	25.0		
Titanium Alloys	Slotting	.5 x D	1 x D	4	250	.0005	.0010	.0015	.0020	.0025	.0030	.0040	76	.0127	.0254	.0381	.0508	.0635	.0762	.1016
	Roughing	1 x D	.5 x D	4	300	.0006	.0012	.0017	.0023	.0029	.0035	.0046	91	.0152	.0305	.0432	.0584	.0737	.0889	.1168

High Temp Alloy

Work Material	Type of Cut	Axial DOC	Radial DOC	No. of Flutes	Speed (SFM)								Feed (MM Per Tooth)							
					1/8	1/4	3/8	1/2	5/8	3/4	1	3.0	6.0	9.0	12.0	16.0	19.0	25.0		
Inconel, Haynes, Stellite, Hastalloy	Slotting	25 x D	1 x D	4	70	.0004	.0008	.0012	.0015	.0019	.0024	.0030	21	.0102	.0203	.0305	.0381	.0483	.0610	.0762
	Roughing	1 x D	.25 x D	4	95	.0005	.0009	.0014	.0018	.0022	.0028	.0036	29	.0127	.0229	.0356	.0457	.0559	.0711	.0914