



SLOTING

Material	Hardness	max. ap	max. ae	Max. Angle of Engagement	vc	fz by Nominal Diameter									
						3	4	5	6	8	10	12	16	20	25
Struct./free-cutting steels, unall. heat-treat./case hard. steels	up to 28 HRc	0.80 x D	1.00 x D	180°	160	0.014	0.018	0.023	0.027	0.044	0.055	0.066	0.088	0.110	0.138
Alloyed heat-treatable, tool and high speed steels	28 - 44 HRc	0.80 x D	1.00 x D	180°	125	0.014	0.018	0.023	0.027	0.040	0.050	0.060	0.080	0.100	0.125
Stainless steel - easy to machine / sulphured	up to 20 HRc	0.80 x D	1.00 x D	180°	85	0.011	0.014	0.018	0.021	0.028	0.035	0.042	0.056	0.070	0.088
Stainless steel - moderately difficult to machine	20 - 30 HRc	0.80 x D	1.00 x D	180°	55	0.011	0.014	0.018	0.021	0.028	0.035	0.042	0.056	0.070	0.088
Titanium	up to 40 HRc	0.80 x D	1.00 x D	180°	45	0.011	0.014	0.018	0.021	0.028	0.035	0.042	0.056	0.070	0.088
High Temp Alloys Inconel, Nimonic, Hastelloy, Monel	up to 40 HRc	0.80 x D	1.00 x D	180°	30	0.009	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.060	0.075

HIGH-VOLUME ROUGHING

Material	Hardness	max. ap	max. ae	Max. Angle of Engagement	vc	fz by Nominal Diameter									
						3	4	5	6	8	10	12	16	20	25
Struct./free-cutting steels, unall. heat-treat./case hard. steels	up to 28 HRc	max a _p = flute length (l ₂)	0.20 x D	53°	270	0.022	0.029	0.036	0.043	0.070	0.088	0.106	0.141	0.176	0.220
Alloyed heat-treatable, tool and high speed steels	28 - 44 HRc		0.20 x D	53°	210	0.022	0.029	0.036	0.043	0.064	0.080	0.096	0.128	0.160	0.200
Stainless steel - easy to machine / sulphured	up to 20 HRc		0.15 x D	46°	150	0.020	0.027	0.033	0.040	0.053	0.067	0.080	0.106	0.133	0.166
Stainless steel - moderately difficult to machine	20 - 30 HRc		0.10 x D	37°	100	0.024	0.032	0.040	0.048	0.064	0.081	0.097	0.129	0.161	0.201
Titanium	up to 40 HRc		0.08 x D	31°	90	0.026	0.035	0.044	0.053	0.070	0.088	0.105	0.140	0.175	0.219
High Temp Alloys Inconel, Nimonic, Hastelloy, Monel	up to 40 HRc		0.08 x D	31°	60	0.023	0.030	0.038	0.045	0.060	0.075	0.090	0.120	0.150	0.188

HIGH-SPEED ROUGHING

Material	Hardness	max. ap	max. ae	Max. Angle of Engagement	vc	fz by Nominal Diameter									
						3	4	5	6	8	10	12	16	20	25
Struct./free-cutting steels, unall. heat-treat./case hard. steels	up to 28 HRc	max a _p = flute length (l ₂)	0.15 x D	46°	290	0.026	0.034	0.043	0.051	0.084	0.105	0.125	0.167	0.209	0.261
Alloyed heat-treatable, tool and high speed steels	28 - 44 HRc		0.15 x D	46°	230	0.026	0.034	0.043	0.051	0.076	0.095	0.114	0.152	0.190	0.238
Stainless steel - easy to machine / sulphured	up to 20 HRc		0.10 x D	37°	170	0.024	0.032	0.040	0.048	0.064	0.081	0.097	0.129	0.161	0.201
Stainless steel - moderately difficult to machine	20 - 30 HRc		0.08 x D	31°	110	0.026	0.035	0.044	0.053	0.070	0.088	0.105	0.140	0.175	0.219
Titanium	up to 40 HRc		0.05 x D	26°	100	0.026	0.035	0.044	0.053	0.070	0.088	0.105	0.140	0.175	0.219
High Temp Alloys Inconel, Nimonic, Hastelloy, Monel	up to 40 HRc		0.05 x D	26°	70	0.023	0.030	0.038	0.045	0.060	0.075	0.090	0.120	0.150	0.188

HIGH-SPEED FINISHING

Material	Hardness	max. ap	max. ae	Max. Angle of Engagement	vc	fz by Nominal Diameter									
						3	4	5	6	8	10	12	16	20	25
Struct./free-cutting steels, unall. heat-treat./case hard. steels	up to 28 HRc	max a _p = flute length (l ₂)	0.02 x D	18°	320	0.019	0.025	0.032	0.038	0.062	0.077	0.092	0.123	0.154	0.193
Alloyed heat-treatable, tool and high speed steels	28 - 44 HRc		0.02 x D	18°	250	0.019	0.025	0.032	0.038	0.056	0.070	0.084	0.112	0.140	0.175
Stainless steel - easy to machine / sulphured	up to 20 HRc		0.02 x D	18°	170	0.015	0.020	0.025	0.029	0.039	0.049	0.059	0.078	0.098	0.123
Stainless steel - moderately difficult to machine	20 - 30 HRc		0.01 x D	11°	120	0.019	0.025	0.032	0.038	0.050	0.063	0.076	0.101	0.126	0.158
Titanium	up to 40 HRc		0.01 x D	11°	100	0.019	0.025	0.032	0.038	0.050	0.063	0.076	0.101	0.126	0.158
High Temp Alloys Inconel, Nimonic, Hastelloy, Monel	up to 40 HRc		0.01 x D	11°	70	0.016	0.022	0.027	0.032	0.043	0.054	0.065	0.086	0.108	0.135