

SPEED & FEED INFORMATION

Roughing End Mills

SERIES: Cobalt/HSS Roughing End Mills

MATERIAL	CONDITIONS	START- ING SFM	START- ING SFM	CUTTING DIAMETER						
				1/4"	1/2"	3/4"	1.00"	1-1/4"	1-1/2"	2.00"
		UNCOATED	COATED	CHIP PER TOOTH						
STAINLESS STEELS ISO-M										
Precipitation										
13-8, 15-5, 17-4PH	Slotting Axial 1 x D	60-80	100-150	0.0015	0.0020	0.0026	0.0036	0.0046	0.0054	0.0070
	Heavy Profiling			0.0015	0.0020	0.0029	0.0040	0.0050	0.0060	0.0075
Austenitic										
302, 303, 304L, 316L	Slotting 1 x D	60-80	100-150	0.0015	0.0020	0.003	0.0045	0.0056	0.0067	0.0090
	Heavy Profiling			0.0019	0.0025	0.0034	0.0049	0.0061	0.0074	0.0098
Martensitic										
403, 410, 416	Slotting Axial 1 x D	60-100	100-170	0.0015	0.0020	0.0030	0.0045	0.0056	0.0067	0.0090
	Heavy Profiling			0.0019	0.0025	0.0034	0.0049	0.0061	0.0074	0.0098
HIGH TEMP ALLOYS ISO-S										
Cobalt Base										
Stellite, Haynes 25, 188, X-40, L-605	Slotting 1 x D	5-25	10-40	0.0011	0.0014	0.0018	0.0026	0.0033	0.0040	0.0053
	Heavy Profiling			0.0011	0.0014	0.0020	0.0029	0.0037	0.0045	0.0059
Nickel Base										
Inconel 600, 625, 718, Nickel 200, 270, Invar, Monel 400, 405, K-Monel, PermaNickel 300, Incoly 600	Slotting Axial 1 x D	10-20	20-40	0.0011	0.0014	0.0018	0.0026	0.0033	0.0040	0.0053
	Heavy Profiling			0.0011	0.0014	0.0020	0.0029	0.0037	0.0045	0.0059
Iron Base										
Incoloy 800-802, Multimet N-155, Timken 16-26-6	Slotting 1 x D	15-35	30-60	0.0011	0.0014	0.0018	0.0026	0.0033	0.0040	0.0053
	Heavy Profiling			0.0011	0.0014	0.0020	0.0029	0.0037	0.0045	0.0059
STEELS ISO-P										
High Strength Steels										
4140, 4340, 52100	Slotting Axial 1 x D	50-80	100-150	0.0015	0.0020	0.0025	0.0035	0.0045	0.0053	0.0071
	Heavy Profiling			0.0015	0.0020	0.0028	0.0039	0.0050	0.0059	0.0079
High Alloy Steels - Mold & Die										
A-2, P20, 01, 02, D2, H-13	Slotting 1 x D	40-65	80-115	0.0015	0.0020	0.0025	0.0035	0.0045	0.0053	0.0071
	Heavy Profiling			0.0015	0.0020	0.0028	0.0039	0.005	0.0059	0.0079
Medium Alloy Steels										
200, 250, 300	Slotting Axial 1 x D	60-120	100-180	0.0016	0.0023	0.0033	0.0050	0.0062	0.0075	0.0093
	Heavy Profiling			0.0020	0.0027	0.0040	0.0054	0.007	0.0082	0.0110
Low Alloy Steels-Maraging										
10XX, 11XX, 13XX	Slotting 1 x D	70-150	130-200	0.0018	0.0025	0.0037	0.0053	0.0068	0.0080	0.0100
	Heavy Profiling			0.0022	0.0029	0.0042	0.0059	0.0074	0.0090	0.0115
CAST IRONS ISO-K										
Ductile Iron										
Ductile Cast Iron	Slotting Axial 1 x D	40-80	70-130	0.0015	0.0019	0.0030	0.0042	0.0056	0.0065	0.0087
	Heavy Profiling			0.0018	0.0024	0.0034	0.0048	0.0061	0.0073	0.0093
Cast Iron										
Grey Cast Iron	Slotting 1 x D	60-150	120-200	0.0014	0.0018	0.0024	0.0034	0.0044	0.0053	0.0070
	Heavy Profiling			0.0014	0.0018	0.0027	0.0038	0.0050	0.0058	0.0078
TITANIUMS ISO-S										
Titanium Alloys										
6AL-4V, ASTM 1, 2, 3, 6AL-2S For 5553, decrease SFM and IPM by 25%	Slotting Axial 1 x D	50-90	75-150	0.0015	0.0020	0.0028	0.0040	0.0052	0.0062	0.0080
	Heavy Profiling			0.0017	0.0022	0.0032	0.0045	0.0057	0.0067	0.0090
ALUMINUM ISO-N										
Aluminum Alloys										
6061-T6, 7075	Slotting Axial 1 x D	400-650	650-950	0.0024	0.0058	0.0067	0.0103	0.0112	0.0180	0.0210
	Heavy Profiling			0.0027	0.0058	0.0076	0.0110	0.0120	0.0205	0.0260

For Light Periphery Profiling increase above profiling chip load by 25 - 35 %

All technical data provided are suggested starting points. They may be increased or decreased depending on machine condition, depth of cut, finish required, coolant, etc. Call our TECHNICAL SERVICE TEAM with questions.