

GENERAL PURPOSE END MILLS - CARBIDE

Technical Information

General Purpose Carbide End Mills											
Material Guide		Rc	SFM				Suggested Chip Load Per Tooth				
			2 Flute		3 & 4 Flute		1/32" - 1/8"	1/8" - 1/4"	1/4" - 1/2"	1/2" - 1"	1" - 1 1/4"
			Stub, Std	Long, X-Long	Stub, Std	Long, X-Long					
COBALT BASE ALLOYS	Stellite, HS-21, Haynes 25/188, X-40, L-605	under 32 over 32			175 - 225 125 - 175	140 - 180 100 - 140	.0005 - .0010 .0003 - .0005	.0008 - .0020 .0005 - .0015	.0010 - .0030 .0010 - .0020	.0020 - .0040 .0010 - .0030	.0030 - .0050 .0020 - .0040
NICKEL BASE ALLOYS	Inconel-625/718, Waspalloy, Rene, Hastelloy	under 32 over 32			125 - 175 70 - 115	100 - 140 55 - 95	.0005 - .0010 .0003 - .0005	.0008 - .0020 .0005 - .0015	.0010 - .0030 .0010 - .0020	.0020 - .0040 .0010 - .0030	.0030 - .0050 .0020 - .0040
IRON BASE ALLOYS	Incoloy 800-802, Multimet N-155, Timkin 16-25-6, Carpeneter 22-b3	under 32 over 32			175 - 225 125 - 175	140 - 180 100 - 140	.0005 - .0010 .0003 - .0005	.0008 - .0020 .0005 - .0015	.0010 - .0030 .0010 - .0020	.0020 - .0040 .0010 - .0030	.0030 - .0050 .0020 - .0040
MONEL	Monel-65% Nickel		175 - 300	125 - 175	175 - 300	140 - 240	.0007 - .0015	.0010 - .0025	.0015 - .0040	.0030 - .0050	.0040 - .0060
TITANIUM ALLOYS	Commercially Pure, 6AL-4V, Astm 1/2/3, 6Al-25N-4Zr-2Mo-Si		200 - 300	125 - 250	200 - 300	160 - 240	.0007 - .0015	.0010 - .0025	.0015 - .0040	.0030 - .0050	.0040 - .0060
STAINLESS STEEL (PRECIPITATION)	13/8, 15/5, 17-4	under 32 over 32			150 - 250 125 - 175	120 - 200 100 - 140	.0005 - .0010 .0003 - .0005	.0008 - .0020 .0005 - .0015	.0010 - .0030 .0010 - .0020	.0020 - .0040 .0010 - .0030	.0030 - .0050 .0020 - .0040
STAINLESS STEEL (AUSTENITIC)	200 Series, 302, 303, 304, 304L, 316, 316L	under 32 over 32			200 - 250 150 - 200	160 - 200 120 - 160	.0005 - .0010 .0003 - .0005	.0008 - .0020 .0005 - .0015	.0010 - .0030 .0010 - .0020	.0020 - .0040 .0010 - .0030	.0030 - .0050 .0020 - .0040
STAINLESS STEEL (MARTENSITIC)	403, 410, 416, 440	under 32 over 32			150 - 250 125 - 175	120 - 200 100 - 140	.0005 - .0010 .0003 - .0005	.0008 - .0020 .0005 - .0015	.0010 - .0030 .0010 - .0020	.0020 - .0040 .0010 - .0030	.0030 - .0050 .0020 - .0040
HIGH STRENGTH TOOL STEELS	4140, 4340, 6150, 5210, A2, D2 P20, H11, H13, S2, 01	under 32 over 32			150 - 225 60 - 125	120 - 180 50 - 100	.0005 - .0010 .0003 - .0005	.0008 - .0020 .0005 - .0015	.0010 - .0030 .0010 - .0020	.0020 - .0040 .0010 - .0030	.0030 - .0050 .0020 - .0040
MEDIUM ALLOY STEELS	200, 250, 300	under 32 over 32			200 - 250 125 - 175	160 - 200 100 - 140	.0007 - .0015 .0005 - .0010	.0010 - .0025 .0008 - .0020	.0015 - .0040 .0010 - .0030	.0030 - .0050 .0020 - .0040	.0040 - .0060 .0030 - .0050
CARBON STEELS	1000's, 1100's, 1300's	under 32 over 32			200 - 250 125 - 175	160 - 200 100 - 140	.0007 - .0015 .0005 - .0010	.0010 - .0025 .0008 - .0020	.0015 - .0040 .0010 - .0030	.0030 - .0050 .0020 - .0040	.0040 - .0060 .0030 - .0050
DUCTILE	Ductile Cast Irons		200 - 300	125 - 200	200 - 300	160 - 240	.0010 - .0020	.0015 - .0040	.0020 - .0060	.0030 - .0100	.0030 - .0080
CAST IRONS	Gray Cast Irons		225 - 325	175 - 250	250 - 350	200 - 280	.0010 - .0020	.0015 - .0040	.0020 - .0060	.0030 - .0100	.0050 - .0100
ALUMINUM	2014, 2024, 6061-(T1-T6), 7075, Die Cast, Extruded		300 - 500	300 - 500	300 - 500	240 - 400	.0010 - .0020	.0015 - .0040	.0020 - .0060	.0030 - .0100	.0030 - .0150
MAGNESIUM			300 - 500	300 - 500	300 - 500	240 - 400	.0010 - .0020	.0015 - .0040	.0020 - .0060	.0030 - .0100	.0050 - .0100
COPPER, COPPER ALLOYS			400 - 500	250 - 350	300 - 400	240 - 320	.0007 - .0015	.0010 - .0025	.0015 - .0035	.0020 - .0080	.0040 - .0100
BRASS, BRONZE	Brass, Alum/Bronze, Low Silicon Bronze		300 - 400	200 - 300	250 - 350	200 - 280	.0007 - .0015	.0010 - .0025	.0015 - .0035	.0020 - .0080	.0040 - .0100
COMPOSITES	G-10 Fiberglass, Graphite, Graphite/Epoxy, Plastics		250 - 1000	250 - 1000	250 - 1000	200 - 800	.0010 - .0020	.0015 - .0040	.0020 - .0060	.0030 - .0100	.0050 - .0100

These values are a starting point based on an uncoated tool.
For AlTiN Coated tools increase SFM values by up to +40%