

## GENERAL PURPOSE END MILLS - COBALT & HIGH SPEED STEEL 30° Helix - Technical Information

General Purpose Cobalt & HSS 30° Helix End Mills									
Material Guide		Rc	SFM	Feed Per Tooth					
			30° Helix	1/8"	1/8" - 1/4"	1/4" - 1/2"	1/2" - 1"	1" - 1-3/8"	1-1/2" - 2"
COBALT BASE ALLOYS	Stellite, HS - 21, Haynes 25/188, X - 40, L - 605	<32	5 - 10	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
NICKEL BASE ALLOYS	Inconel - 625/718, Waspalloy, Rene, Hastelloy	<32	10 - 15	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
IRON BASE ALLOYS	Incoloy 800 - 802, Multimet N - 155, Timkin 16 - 25 - 6, Carpeneter 22 - b3	<32	15 - 20	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
MONEL	Monel - 65% Nickel	<32	10 - 15	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
TITANIUM ALLOYS	Commercially Pure, 6Al - 4V, Astm 1/2/3, 6Al - 25N - 4Zr - 2Mo - Si	<32	15 - 20	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
STAINLESS STEEL (PRECIPITATION)	13/8, 15/5, 17 - 4	<32	15 - 20	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
STAINLESS STEEL (AUSTENITIC)	200 Series, 302, 303, 304, 304L, 316, 316L	<32	20 - 40	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
STAINLESS STEEL (MARTENSITIC)	403, 410, 416, 440	<32	40 - 60	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
HIGH STRENGTH TOOL STEELS	4140, 4340, 6150, 5210, A2, D2 P20, H11, H13, S2, 01	<32	20 - 40	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
MEDIUM ALLOY STEELS	200, 250, 300	<32	60 - 80	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
CARBON STEELS	1000's, 1100's, 1300's		80 - 100	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
DUCTILE	Ductile Cast Irons		40 - 60	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
CAST IRONS	Gray Cast Irons		80 - 100	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
ALUMINUM	2014, 2024, 6061 - (T1 - T6), 7075, Die Cast, Extruded		200 - 500	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
COPPER, COPPER ALLOYS			150 - 250	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
BRASS, BRONZE	Brass, Alum/Bronze, Low Silicon Bronze		100 - 200	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060
COMPOSITES	G - 10 Fiberglass, Graphite, Graphite/ Epoxy, Plastics		200 - 500	.0002 - .0006	.0002 - .0010	.0002 - .0010	.0005 - .0030	.0010 - .0040	.0030 - .0060

These values are a starting point based on an uncoated tool.

For AlTiN Coated tools increase SFM values by up to +40%