



END MILL (Standard Helix) SPEED & FEED RECOMMENDATIONS

MATERIAL	SPEED [SFM]	END MILL DIAMETER/FEED PER TOOTH [inches]				
		1/8"	1/4"	1/2"	3/4"	1"
Aluminum/Aluminum Alloys	900-1500	.0005	.002	.004	.005	.008
Brass/Bronze	400-750	.001	.002	.003	.004	.005
Copper/Copper Alloys	450-850	.001	.002	.002	.004	.006
Cast Iron (Soft)	300-750	.001	.002	.003	.006	.008
Cast Iron (Hard)	125-350	.0004	.0008	.002	.003	.004
Ductile Iron	150-450	.0005	.001	.002	.004	.006
Malleable Iron	300-550	.0005	.001	.003	.005	.007
Magnesium/Magnesium Alloys	1100-1600	.001	.002	.004	.006	.010
Monel/High Nickel Steel	225-350	.0005	.001	.002	.003	.004
Nickel Base Hi-Temp. Alloys	50-125	.0004	.0008	.001	.001	.002
Plastics	900-1800	.0015	.003	.006	.010	.015
Plastics, Glass Filled	400-1000	.0015	.003	.004	.006	.012
Refractory Alloys	50-125	.0005	.001	.001	.0015	.002
Steel (Low Carbon)	300-600	.0005	.001	.003	.005	.007
Steel (Medium Carbon)	150-450	.0006	.0015	.002	.004	.005
Steel (Hardened)	50-225	.0002	.0005	.001	.002	.003
Stainless Steel (Soft)	250-500	.0005	.001	.002	.004	.006
Stainless Steel (Hard)	75-275	.0002	.0005	.001	.003	.005
Titanium (Soft)	175-400	.0005	.001	.002	.004	.006
Titanium (Hard)	75-250	.0003	.0005	.001	.002	.004

FORMULAS

Cutting Speed: SFM: $\text{Dia.} \times .26 \times \text{RPM}$

Feed Per Tooth: IPM: $\text{IPT} \times \# \text{ of Teeth} \times \text{RPM}$

Spindle Speed: RPM: $\text{SFM} \times 3.82 / \text{Tool Dia.}$

Table Feed: IPT: $\text{IPM} / \# \text{ of Teeth} / \text{RPM}$

Note: The speed and feed rates shown are suggested starting parameter only and may be increased or decreased depending on factors such as material hardness, equipment and other cutting conditions.