

# SOLID CARBIDE END MILLS

## SPEED & FEED RECOMMENDATIONS

	Speed (S.F.M.)	End Mill Diameter Feed Per Tooth (inches)		
		Up to 1/4"	Up to 1/2"	Up to 1"
Aluminum/Aluminum Alloys	600-1200	.0002-.0020	.0020-.0040	.0040-.0080
Brass/Bronze	200-350	.0005-.0020	.0020-.0030	.0030-.0050
Copper/Copper Alloys	350-900	.0005-.0020	.0020	.0020-.0060
Iron-Cast (soft)	200-500	.0005-.0020	.0020-.0030	.0030-.0080
Iron-Cast (hard)	80-350	.0003-.0008	.0008-.0020	.0020-.0040
Iron-Ductile	80-400	.0002-.0010	.0010-.0020	.0020-.0060
Iron-Malleable	200-600	.0002-.0010	.0010-.0030	.0030-.0070
Magnesium/Magnesium Alloys	800-1400	.0005-.0020	.0020-.0040	.0040-.0100
Monel/High Nickel Steel	150-300	.0002-.0010	.0010-.0020	.0020-.0040
Nickel Base				
High-Temperature Alloys	20-130	.0003-.0008	.0008-.0010	.0010-.0020
Plastics	600-1200	.0006-.0030	.0030-.0060	.0060-.0150
Plastic-Glass Filled	300-800	.0006-.0030	.0030-.0040	.0040-.0120
Refractory Alloys	80-400	.0002-.0010	.0010	.0010-.0020
Steel-Low Carbon	200-500	.0002-.0010	.0010-.0030	.0030-.0070
Steel-Medium Carbon	100-250	.0004-.0015	.0015-.0020	.0020-.0050
Steel-Hardened	25-120	.0002-.0005	.0005-.0010	.0010-.0030
Steel-Mold	200-350	.0002-.0010	.0010-.0020	.0020-.0060
Steel-Tool	100-300	.0002-.0010	.0010-.0020	.0020-.0060
Stainless Steel-Soft	150-350	.0002-.0010	.0010-.0020	.0020-.0060
Stainless Steel-Hard	50-200	.0002-.0005	.0005-.0010	.0010-.0050
Titanium-Soft	120-350	.0002-.0010	.0010-.0020	.0020-.0060
Titanium-Hard	30-150	.0002-.0005	.0005-.0010	.0010-.0040

**For Lighter Radial Depths Of Cut** - Higher range of recommended surface speeds should be used.

**For Greater Radial Depths Of Cut** - Lower range of recommended surface speeds should be used.

**For Slotting Applications** - Speeds (S.F.M.) should be reduced approximately 20% of lowest range value.

Above recommendations are to be used when axial depth of cut does not exceed 1-1/2 times the cutter diameter.

When using long & extra-long End Mills reduce feed per tooth 50%.

All recommendations should be considered only as a starting point, with possible variations to achieve optimum results.

### **USER SAFETY REQUIREMENTS**

**WARNING:** When using solid carbide rotary cutting tools, you *MUST* wear safety glasses and protective clothing. Use safety shields on machines as applicable.