

## CARBIDE END MILLS

### Speed and Feed Data - Applications in Various Materials

Material	SFM	Chip Load per Tooth			
		1/8"	1/4"	1/2"	1"
Aluminum Alloys	600-1200	.0010	.0020	.0040	.0080
Brass	200-350	.0010	.0020	.0030	.0050
Bronze	200-350	.0010	.0020	.0030	.0050
Carbon Steel	100-600	.0010	.0015	.0030	.0060
Cast Iron	80-350	.0010	.0015	.0030	.0060
Cast Steel	200-350	.0005	.0010	.0020	.0040
Cobalt Base Alloys	20-80	.0005	.0008	.0010	.0020
Copper	350-900	.0010	.0020	.0030	.0060
Die Steel	50-300	.0005	.0010	.0020	.0040
Graphite	600-1000	.0020	.0050	.0080	.0100
Inconel/Monel	30-50	.0005	.0010	.0015	.0030
Magnesium	900-1300	.0010	.0020	.0040	.0080
Malleable Iron	200-500	.0005	.0010	.0030	.0070
Nickel Base Alloys	50-100	.0002	.0008	.0010	.0020
Plastic	600-1200	.0010	.0030	.0060	.0100
Stainless Steel - Free Machining	100-300	.0005	.0010	.0020	.0030
Stainless Steel - Other	50-250	.0005	.0010	.0020	.0030
Steel - Annealed	100-350	.0010	.0020	.0030	.0050
Steel - Rc 18-24	100-500	.0004	.0008	.0015	.0045
Steel - Rc 25-37	25-120	.0003	.0005	.0010	.0030
Titanium	100-200	.0005	.0008	.0015	.0030

## CARBIDE DRILLS

### Speed and Feed Data - Applications in Various Materials

Material	SFM	Feed Rate (IPR)			
		1/16"	1/8"	1/4"	1/2"
Aluminum Alloys	150-400	.0010	.0050	.0030	.0050
Brass & Bronze	100-300	.0005	.0010	.0020	.0040
Low Carbon Steel	85-150	.0005	.0010	.0020	.0040
Cast Iron	100-300	.0010	.0020	.0030	.0050
Hardened Steel RC-50	30-90	.0005	.0010	.0020	.0030
Copper	150-400	.0010	.0030	.0050	.0060
Die Steel	50-250	.0005	.0005	.0020	.0040
Inconel/Monel	30-90	.0005	.0005	.0010	.0015
Magnesium	200-650	.0015	.0030	.0050	.0080
Malleable Iron	80-250	.0010	.0020	.0030	.0050
Nickel Base Alloys	30-90	.0005	.0006	.0010	.0015
Plastic	250-600	.0015	.0030	.0040	.0060
Stainless Steel - Soft	50-150	.0005	.0005	.0020	.0040
Stainless Steel - Hard	30-90	.0005	.0005	.0010	.0015
Titanium - Soft	60-200	.0005	.0020	.0040	.0050
Titanium - Hard	45-200	.0005	.0008	.0020	.0040

Note: All speed and feed data are suggested starting points. They may be increased or decreased depending on machine condition, hole depth, finish required, coolant, etc. If drill depth exceeds 3 diameters, reduce speed and feed for carbide drills.

