

Key Cutters Speeds & Feeds

Workpiece Material	Speed (SFM)
Aluminum (2021-6061)	300
Brass	250
Bronze	230
Copper (101-707)	100
Copper (834-978)	200
Cast Iron - Ductile	180
Cast Iron - Gray	140
Cast Iron - Malleable	100
Hastelloy	80
Inconel	80
Magnesium (AZ, AM, EZ, ZE, HK)	300
Monel	80
Nickel (200-230)	80
Nylon	200
Phenolic	180
Plastic - Glass Filled	150
Stainless Steel (201-385)	100
Stainless Steel (405-446)	110
Stainless Steel (15-5PH, 16-6PH, 14-4PH)	120
Steel (1005-1029)	180
Steel (1030-1055)	180
Steel (1060-1095)	170
Steel (10L45-10L50)	165
Steel (12L13-12L15)	160
Steel (4140-4150)	140
Steel (4140 (35 HRC))	130
Steel (41L30-41L50)	150
Steel (8617-8622)	120
Steel (A2-A9 , 01-07)	80
Steel (D2-D7)	90
Steel (H10-H19)	100
Steel (M1-M6)	110
Steel (M-50, 52100)	60
Steel (W1, W2)	70
Titanium (TI-9Al-6V)	90
Teflon	200
Waspalloy	80

Speeds Formula for Calculating RPM

$$\frac{\text{SFM} \times 4 = F}{\text{Diameter of Cutter}} = \text{RPM}$$

EXAMPLE: 1/2" ø Cutter in Aluminum

$$\frac{\text{SFM (300)} \times 4 = 1200 (F)}{.500} = 2400 \text{ RPM}$$

Feeds Formula for Calculating IPM

.001 X # of Teeth in Cutter X RPM = IPM

EXAMPLE: 1/2" ø Cutter in Aluminum

$$.001 \times 6 \times 2400 = 14.4 \text{ IPM}$$

NOTES: Speeds and Feeds listed are estimated and will vary by application.

