



Solid Carbide 30°, 45° & 60° Degree Single Flute Engraving Router Bits

CNC Operating Spindle Speed: 18,000 RPM / Depth of Cut: 1 x Tool Diameter

Material	(Tip Width) 0.005" - 0.090" 30°		(Tip Width) 0.025" - 0.042" 45°		(Tip Width) 0.005" - 0.090" 60°		Tool Reference #'s		
	Feed Rate IPM*	Chip Load Per Tooth IPR**	Feed Rate IPM*	Chip Load Per Tooth IPR**	Feed Rate IPM*	Chip Load Per Tooth IPR**	30°	45°	60°
Soft Wood	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"	45620	—	—
Hard Wood	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"	45621	—	—
Soft Plastic	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"	45630	—	—
Hard Plastic	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"	—	45601	—
Aluminum	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"	—	45602	—
Solid Surface	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"	—	45622	—
							—	45623	—
							45771	—	45760
							45772	—	45761
							45773	—	45763
							45774	—	45765
							45775	—	45766
							45776	—	45767
							45777	—	45768
							45779	—	45769

IPM* Inches per minute

IPR** Inches per revolution

Depth of Cut: 1 x D Use recommended feed rate
 2 x D Reduce feed rate by 25%
 3 x D Reduce feed rate by 50%

Simple Machining Calculations:

To find **RPM:** (SFM x 3.82) / diameter of tool

To find **SFM:** 0.262 x diameter of tool x RPM

To find **Feed Rate IPM:** RPM x # of flutes x chip load

To find **Chip Load:** Feed Rate IPM / (RPM x # of flutes)

To find **Ramp Down:** Feed Rate IPM / # of flutes

Disclaimer: It is important to understand that these values are only recommendations.

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