



Solid Carbide 30°, 45° & 60° Degree Single Flute Engraving Router Bits
Operating RPM: 18,000

Material	(Tip Width) 0.005" - 0.090" 30°		(Tip Width) 0.025" - 0.042" 45°		(Tip Width) 0.005" - 0.090" 60°	
	Feed Rate IPM*	Chip Load Per Tooth IPR**	Feed Rate IPM*	Chip Load Per Tooth IPR**	Feed Rate IPM*	Chip Load Per Tooth IPR**
	Soft Wood	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"
Hard Wood	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"
Soft Plastic	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"
Hard Plastic	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"
Aluminum	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"
Solid Surface	50" - 125"	0.003" - 0.007"	50" - 125"	0.003" - 0.007"	70" - 100"	0.004" - 0.006"

Tool Reference #'s		
30°	45°	60°
45620	—	—
45621	—	—
—	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

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)

- Depth of Cut:**
- 1 x D Use recommended chip load
 - 2 x D Reduce chip load by 25%
 - 3 x D Reduce chip load by 50%