

## 6 Flute Solid Carbide ZrN Coated CNC Compression Honeycomb Cutting Router Bits

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

Material	Tool Reference #'s	40301		46302		46303 / 46308		46307	
	Diameter	Ø1/8" (0.125)		Ø1/4" (0.250)		Ø3/8" (0.375)		Ø1/2" (0.500)	
	Spindle Speed SFM*	Feed Rate IPM**	Chip Load Per Tooth	Feed Rate IPM**	Chip Load Per Tooth	Feed Rate IPM**	Chip Load Per Tooth	Feed Rate IPM**	Chip Load Per Tooth
Carbon, Carbon Graphite, Unfilled Plastics	500 - 1,500	40" - 80"	0.0004" - 0.0007"	90" - 140"	0.0008" - 0.0013"	100" - 270"	0.0010" - 0.0025"	160" - 430"	0.0015" - 0.0040"
Composites	300 - 800	30" - 65"	0.0003" - 0.0006"	75" - 130"	0.0007" - 0.0012"	160" - 270"	0.0015" - 0.0025"	210" - 430"	0.0020" - 0.0040"
Fiberglass Filled Plastics	300 - 700	40" - 100"	0.0004" - 0.0010"	90" - 210"	0.0008" - 0.0020"	320" - 600"	0.0030" - 0.0055"	540" - 760"	0.0050" - 0.0070"
Honeycomb Flute Cardboard	500 - 1,500	40" - 100"	0.0004" - 0.0010"	90" - 210"	0.0008" - 0.0020"	320" - 600"	0.0030" - 0.0055"	540" - 760"	0.0050" - 0.0070"
Aluminum Honeycomb Panel	500 - 1,000	40" - 100"	0.0004" - 0.0010"	90" - 210"	0.0008" - 0.0020"	320" - 600"	0.0030" - 0.0055"	540" - 760"	0.0050" - 0.0070"

\*SFM Surface feet per minute

\*\*IPM Inches per minute

† **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.