

2 Flute 45°, 60° & 90° Engraving CNC Router Bits with ZrN Coating for V-Grooving
CNC Operating Spindle Speed: 18,000 RPM / Depth of Cut: 1 x Tool Diameter †

Material	#45608 / #45609 1/8" (0.125)		#45610 3/16" (0.1875)		#45612 / #45613 / #45615 1/4" (0.250)		#45614 3/8" (0.375)	
	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
Aluminum, Brass, Bronze, Copper, Gold, Silver, Solid Surface (Corian®, Formica®, etc.), Hard Plastics, Soft Plastics, Hardwood, Softwood, Laminated Chipboard/Plywood, Composites, MDF & Veneer	100" - 210"	0.003" - 0.006"	100" - 210"	0.003" - 0.006"	100" - 210"	0.003" - 0.006"	100" - 210"	0.003" - 0.006"

* 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.

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