

Double Edge V-Grooving ZrN Coated Router Bits with Flat Bottom for ACM Materials
Operating RPM: 18,000

Material	Spindle Speed SFM*	Chip Load Per Tooth Based On Depth Of Cut				
		< 1/8" (< 3mm)	1/8" - 3/16" (3mm - 5mm)	3/16" - 5/16" (5mm - 8mm)	5/16" - 9/16" (8mm - 14mm)	9/16" - 23/32" (14mm - 18mm)
Aluminum	656 - 1,312	0.0004" - 0.001"	0.001" - 0.002"	0.002" - 0.003"	0.003" - 0.005"	0.005" - 0.006"
Brass	492 - 984	0.0003" - 0.0008"	0.0008" - 0.0016"	0.001" - 0.002"	0.002" - 0.003"	0.003" - 0.004"
Bronze	328 - 492	0.0003" - 0.0008"	0.0008" - 0.0016"	0.001" - 0.002"	0.002" - 0.003"	0.003" - 0.004"
Plastics-Bakelite	164 - 328	0.001" - 0.0016"	0.002" - 0.003"	0.003" - 0.005"	0.005" - 0.008"	0.008" - 0.010"
Plastics-PVC	328 - 656	0.001" - 0.002"	0.002" - 0.004"	0.004" - 0.007"	0.006" - 0.008"	0.008" - 0.011"
Thermoplastics, Acetate, Plexiglass, Nylon	984 - 1,640	0.0004" - 0.0014"	0.001" - 0.002"	0.002" - 0.003"	0.003" - 0.006"	0.006" - 0.007"
Wood	984 - 1,312	0.0005" - 0.0014"	0.001" - 0.002"	0.002" - 0.003"	0.003" - 0.005"	0.005" - 0.006"
Titanium Composite Material (TCM)	164 - 295	0.0003" - 0.0005"	0.0004" - 0.001"	0.001" - 0.002"	0.002" - 0.003"	0.003" - 0.004"

* SFM Surface feet per minute

Simple Machining Calculations:

To find **RPM**: $(SFM \times 3.82) / \text{diameter of tool (diameter of flat bottom of tool D1)}$

To find **SFM**: $0.262 \times \text{diameter of tool} \times \text{RPM}$

To find **Feed Rate**: $\text{RPM} \times \# \text{ of flutes} \times \text{chip load}$

To find **Chip Load**: $\text{IPM} / (\text{RPM} \times \# \text{ of Flutes})$

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%

Disclaimer: These values are based on test results using 18,000 RPM. Your results may vary. It is important to understand that these values are only recommendations.

Tool Reference #'s	Angle
45741	135°
45743	135°
45745	90°
45747	90°
45781	108°
45785	108°