

**ZrN Coated Solid Carbide Aluminum Cutting Spiral
Single 'O' Flute Router Bits**

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

Diameter	IPM at	Spindle Speed	Chip Load
	18,000 RPM (Inches Per Minute)	SFM (Surface Feet Per Minute)	Per Tooth

1/32" (0.03125)	35" - 70"	600 - 1,000	0.002" - 0.004"
1.5mm	35" - 70"	600 - 1,000	0.002" - 0.004"
1/16" (0.0625)	35" - 70"	600 - 1,000	0.002" - 0.004"
3/32" (0.0938)	35" - 70"	600 - 1,000	0.002" - 0.004"
1/8" (0.125)	35" - 70"	600 - 1,000	0.002" - 0.004"
3/16" (0.1875)	55" - 110"	600 - 1,000	0.003" - 0.006"
1/4" (0.250)	55" - 110"	600 - 1,000	0.003" - 0.006"
5/16" (0.3125)	55" - 110"	600 - 1,000	0.003" - 0.006"
8mm	70" - 145"	600 - 1,000	0.004" - 0.008"
3/8" (0.375)	70" - 145"	600 - 1,000	0.004" - 0.008"

Tool Reference #'s		
Up-Cut	Down-Cut	Dia.
—	51380-Z	1.5mm
—	51488-Z	1/16"
51372-Z	—	3/32"
51373-Z	—	1/4"
51376-Z	—	1/32"
51377-Z	—	1/4"
51402-Z	51502-Z	1/4"
—	51503-Z	1/8"
51406-Z	51506-Z	1/8"
51408-Z	51508-Z	3/16"
51454-Z	—	1/8"
51456-Z	—	3/16"
51458-Z	—	1/4"
51459-Z	—	1/8"
51470-Z	—	1/16"
51471-Z	—	1/8"
51472-Z	—	3/32"
51474-Z	—	1/8"
51476-Z	—	1/4"
51477-Z	—	3/16"
51478-Z	—	3/16"
51479-Z	—	1/4"
51480-Z	—	1/4"
51481-Z	—	1/4"
51482-Z	—	1/8"
51484-Z	—	3/8"
51486-Z	—	1/8"
51498-Z	—	8mm
—	51775-Z	1/4"
—	51777-Z	1/8"
—	51778-Z	1/8"
—	51779-Z	3/16"
—	51786-Z	1/4"
51642-Z	—	5/16"
51810-Z	—	1/4"
—	51838-Z	3/16"

† **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