

Solid Carbide Plastic Cutting Spiral Single 'O' Flute Router Bits

Diameter	IPM at 18,000 RPM (Inches Per Minute)	Spindle Speed SFM (Surface Feet Per Minute)	Chip Load Per Tooth
1/16" (0.0625)	35 - 70	500 - 1,200	0.002" - 0.004"
2mm	35 - 70	500 - 1,200	0.002" - 0.004"
3/32" (0.0938)	55 - 90	500 - 1,200	0.003" - 0.005"
3mm	70 - 110	500 - 1,200	0.004" - 0.006"
1/8" (0.125)	70 - 110	500 - 1,200	0.004" - 0.006"
5/32" (0.1563)	110 - 145	500 - 1,200	0.006" - 0.008"
4mm	110 - 145	500 - 1,200	0.006" - 0.008"
3/16" (0.1875)	110 - 145	500 - 1,200	0.006" - 0.008"
5mm	110 - 145	500 - 1,200	0.006" - 0.008"
6mm	145 - 220	500 - 1,200	0.008" - 0.012"
1/4" (0.250)	145 - 220	500 - 1,200	0.008" - 0.012"
9/32" (0.2813)	145 - 220	500 - 1,200	0.008" - 0.012"
5/16" (0.3125)	160 - 235	500 - 1,200	0.009" - 0.013"
8mm	160 - 235	500 - 1,200	0.009" - 0.013"
21/64" (0.3281)	180 - 250	500 - 1,200	0.010" - 0.014"
11/32" (0.3438)	180 - 250	500 - 1,200	0.010" - 0.014"
9mm	200 - 290	500 - 1,200	0.011" - 0.016"
3/8" (0.375)	200 - 290	500 - 1,200	0.011" - 0.016"
10mm	200 - 290	500 - 1,200	0.011" - 0.016"
12mm	270 - 360	500 - 1,200	0.015" - 0.020"
1/2" (0.500)	270 - 360	500 - 1,200	0.015" - 0.020"

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:** RPM x # of flutes x chip load

To find **Chip Load:** 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%

Tool Reference #'s		
Up-Cut	Down-Cut	Dia.
51403	—	1/4"
51404	51504	1/4"
51405	51505	1/4"
51407	51507	1/4"
51409	—	1/4"
51410	51510	1/8"
51411	51511	1/8"
51412	51512	3/16"
51413	51513	1/4"
51414	51514	3/8"
51415	51515	1/16"
51416	—	1/8"
51417	51517	3/16"
51418	—	3/16"
51419	—	1/4"
51421	51524	1/4"
51423	—	3/16"
51424	—	7/32"
51425	—	1/4"
51426	51509	3/8"
51427	—	3/8"
51428	—	1/2"
51429	—	3/8"
51437	—	1/8"
51441	—	1/16"
51442	—	3/16"
51443	—	1/8"
51444	—	1/4"
51445	—	1/8"
51446	—	1/8"
51447	51516	5/32"
51448	51518	3/16"
51449	—	3/16"
51453	—	1/8"
51491	—	3mm
51493	—	5mm
51495	—	6mm
51497	—	6mm
51499	—	6mm
—	51519	1/4"
—	51526	3mm
—	51527	6mm
51634	—	2mm
51636	—	4mm
51638	—	6mm
51641	51528	3/8"
51644	—	1/2"
51646	—	1/4"
57310	—	2mm
57311	—	2mm
57312	—	2.5mm
57313	—	2.5mm
57314	—	3mm
57315	—	3mm
—	57329	12mm
57316	57330	3mm
57317	—	4mm
57318	—	4mm
57319	57331	4mm
57320	—	4mm
57321	57332	5mm
57322	—	5mm
—	57333	6mm
—	57334	6mm
57323	—	6mm
57324	—	6mm
57325	—	8mm
57329	—	12mm
—	57335	8mm