

## 2 & 3 Flute Solid Carbide Spiral Plunge Router Bits

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

### 2 Flute

Tool No.		Diameter	Wood/Plywood			MDF/Laminate		
			Feed Rate IPM *	Chip Load Per Tooth	Ramp Down	Feed Rate IPM *	Chip Load Per Tooth	Ramp Down
Up-Cut	Down-Cut							
46143**	46402**	1/64"	35"	.0010"	17.5"	35"	.0010"	17.5"
46145**	46229**	1/32"	35"	.0010"	17.5"	70"	.0020"	35"
46146**	46231**	3/64"	40"	.0012"	20"	80"	.0023"	40"
46009**	46403**	1/16"	70"	.0020"	35"	105"	.0030"	52.5"
46147**	46237**	1/16"	70"	.0020"	35"	105"	.0030"	52.5"
46003**	46406**	5/64"	70"	.0020"	35"	105"	.0030"	52.5"
46004**	46239**	3/32"	80"	.0023"	40"	160"	.0046"	80"
46005**	46235**	7/64"	80"	.0023"	40"	160"	.0046"	80"
46127	46227	1/8"	145"	.0040"	72.5"	180"	.0050"	90"
46100	46200	1/8"	145"	.0040"	72.5"	180"	.0050"	90"
46333	46433	1/8"	145"	.0040"	72.5"	180"	.0050"	90"
46125	46225	1/8"	145"	.0040"	72.5"	180"	.0050"	90"
46310	46410	5/32"	70"	.0019"	35"	140"	.0039"	70"
46101	46201	3/16"	180"	.0050"	90"	215"	.0060"	107.5"
46131	46331	3/16"	180"	.0050"	90"	215"	.0060"	107.5"
46062	—	5mm	180"	.0050"	90"	215"	.0060"	107.5"
46314	46414	7/32"	100"	.0028"	50"	190"	.0055"	95"
46337	46437	1/4"	180"	.0050"	90"	215"	.0060"	107.5"
46338	46438	1/4"	180"	.0050"	90"	215"	.0060"	107.5"
46102	46202	1/4"	180"	.0050"	90"	215"	.0060"	107.5"
46102-S	46202-S	1/4"	180"	.0050"	90"	215"	.0060"	107.5"
46315	46415	1/4"	180"	.0050"	90"	215"	.0060"	107.5"
46321	46421	1/4"	180"	.0050"	90"	215"	.0060"	107.5"
46317	46417	9/32"	170"	.0048"	85"	290"	.0081"	145"
46117	46217	9/32"	170"	.0048"	85"	290"	.0081"	145"
46325	46422	5/16"	190"	.0054"	95"	320"	.0090"	160"
46119	46219	5/16"	190"	.0054"	95"	320"	.0090"	160"
46318	—	5/16"	190"	.0054"	95"	320"	.0090"	160"
46063	—	8mm	190"	.0054"	95"	320"	.0090"	160"
46064	—	8mm	190"	.0054"	95"	320"	.0090"	160"
46339	46439	3/8"	230"	.0064"	115"	390"	.0108"	195"
46103	46203	3/8"	230"	.0064"	115"	390"	.0108"	195"
46007	—	3/8"	230"	.0064"	115"	390"	.0108"	195"
46320	46420	3/8"	230"	.0064"	115"	390"	.0108"	195"
46323	46423	3/8"	230"	.0064"	115"	390"	.0108"	195"
46104	46204	3/8"	230"	.0064"	115"	390"	.0108"	195"
—	46445	3/8"	230"	.0064"	115"	390"	.0108"	195"
46065	—	10mm	230"	.0064"	115"	390"	.0108"	195"
46335	46435	7/16"	270"	.0075"	135"	450"	.0125"	225"
46210	46447	1/2"	200"	.0057"	100"	350"	.0096"	175"
46336	46436	1/2"	200"	.0057"	100"	350"	.0096"	175"
46106	46206	1/2"	200"	.0057"	100"	350"	.0096"	175"
46107	46207	1/2"	200"	.0057"	100"	350"	.0096"	175"
46329	46429	1/2"	200"	.0057"	100"	350"	.0096"	175"
46006	—	1/2"	200"	.0057"	100"	350"	.0096"	175"
46108	46208	5/8"	250"	.0072"	125"	430"	.0120"	215"
46121	—	5/8"	250"	.0072"	125"	430"	.0120"	215"
46149	—	1/4"	270"	.0050"	90"	325"	.0060"	109"
46114	46214	3/8"	340"	.0064"	114"	600"	.0108"	200"
46116	46216	1/2"	300"	.0057"	100"	500"	.0096"	167"
46118	46218	1/2"	300"	.0057"	100"	500"	.0096"	167"

### 3 Flute

#### † 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

\*\* **WARNING:** Due to the extremely small diameters involved, bits are not guaranteed against breakage. Please exercise caution to the accurate calculations of all feed and speed rates.

\* IPM: Inches Per Minute

**Disclaimer:** It is important to understand that these values are only recommendations.