

## 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		
Up-Cut	Down-Cut		* Feed Rate	Chip Load Per Tooth	* Ramp Down	* Feed Rate	Chip Load Per Tooth	* Ramp Down
—	46402 †	1/64"	35	.0010"	17.5	35	.0010"	17.5
—	46229 †	1/32"	35	.0010"	17.5	70	.0020"	35
—	46231 †	3/64"	40	.0012"	20	80	.0023"	40
46009 †	46403 †	1/16"	70	.0020"	35	100	.0031"	50
—	46237 †	1/16"	70	.0020"	35	100	.0031"	50
—	46239 †	3/32"	80	.0023"	40	160	.0046"	80
—	46235 †	7/64"	80	.0023"	40	160	.0046"	80
46127	46227	1/8"	60	.0016"	30	110	.0031"	55
46100	46200	1/8"	60	.0016"	30	110	.0031"	55
46333	46433	1/8"	60	.0016"	30	110	.0031"	55
46125	46225	1/8"	60	.0016"	30	110	.0031"	55
46310	46410	5/32"	70	.0019"	35	140	.0039"	70
46101	46201	3/16"	80	.0024"	40	160	.0047"	80
46131	46331	3/16"	80	.0024"	40	160	.0047"	80
46314	46414	7/32"	100	.0028"	50	190	.0055"	95
46337	46437	1/4"	60	.0016"	30	110	.0031"	55
46338	46438	1/4"	60	.0016"	30	110	.0031"	55
46102	46202	1/4"	60	.0016"	30	110	.0031"	55
46102-S	46202-S	1/4"	60	.0016"	30	110	.0031"	55
46315	46415	1/4"	60	.0016"	30	110	.0031"	55
46321	46421	1/4"	60	.0016"	30	110	.0031"	55
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
46339	46439	3/8"	230	.0064"	115	390	.0108"	195
46103	46203	3/8"	230	.0064"	115	390	.0108"	195
46320	46420	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
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
46108	46208	5/8"	250	.0072"	125	430	.0120"	215
46121	—	5/8"	250	.0072"	125	430	.0120"	215
46149	—	1/4"	90	.0016"	45	160	.0031"	80
46114	46214	3/8"	340	.0064"	170	600	.0108"	300
46116	46216	1/2"	300	.0057"	150	500	.0096"	250
46118	46218	1/2"	300	.0057"	150	500	.0096"	250

3 Flute

**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%

Simple Machining Calculations:

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

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

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

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

To find **Ramp Down:**  
 $\text{Feed Rate} / 2$

\* **IPM:** Inches Per Minute

† **▲ 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.