IN-GROOVE™
CNC INSERT ENGRAVING SYSTEM

1 Flute V-Tip
RPM & Feed Rate Chart

RC-1074

RCK-505 45° V-Tip

RCK-506 60° V-Tip

RCK-507 90° V-Tip

inch/min Feed variations RPM (inch/min)

cutting diameter (Inch)	0.005	0.010	0.020	0.030	0.040	0.060	0.090
rotation speed (RPM)							
6000	19	47	94	142			
7000	22	55	110				
8000	25	63	126				
9000	28	71	142				
10000	31	79	157				
11000	35	87					
12000	38	94					
13000	41	102					
14000	44	110					
15000	47	118					
16000	50	126					
17000	54	134					
18000	57	142					
19000	60	150					
20000	63						
21000	66						
22000	69						
23000	72						
24000	76						
25000	79						
26000	82						
27000	85						
28000	88						

mm/min Feed variations RPM (mm/min)

cutting diameter (mm)	0.1	0.25	0.5	0.75	1	1.5	2.25
rotation speed (RPM)							
6000	480	1200	2400	3600			
7000	560	1400	2800				
8000	640	1600	3200				
9000	720	1800	3600				
10000	800	2000	4000				
11000	880	2200					
12000	960	2400					
13000	1040	2600					
14000	1120	2800					
15000	1200	3000					
16000	1280	3200					
17000	1360	3400					
18000	1440	3600					
19000	1520	3800					
20000	1600						
21000	1680						
22000	1760						
23000	1840						
24000	1920						
25000	2000						
26000	2080						
27000	2160						
28000	2240						

For Cutting

- Acrylic Stone
- Aluminum, Brass & Copper
- Carbon Fiber
- Corian
- Hard Wood
- HDPE
- King Starboard®/ Marine Building Material
- Laminated Materials
- MDF
- PCB Board
- Phenolic
- Plastics & Plexiglas®
- Poly (Methyl Methacrylate) (PMMA)
- Soft Wood
- Solid Surface
- Veneers

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 feed rate
2 x D Reduce feed rate by 25%
3 x D Reduce feed rate by 50%

To order replacement parts: www.amanatool.com/ingroove -or- Call 800-445-0077

Amana Tool®