



To be used only on CNC machines and routers with automatic feeding.

Produce super clean, smooth cuts especially in acrylic materials (Plexiglas® Lucite®) other plastics and wood. Bits are made according to strict tolerances from an exclusive carbide grade and polished to a mirror finish using Amana's unique process. Designed to eject chips up. Ideal for industrial applications and CNC machines. Right hand helix right hand cut. Specifically designed for a variety of CNC machining applications excellent for cutting:

Excellent for cutting:

- Plastic/Acrylic
- Acetal and Nylon
- Acrylic Stone
- Acrylonitrile Butadiene Styrene (ABS)
- Aluminum Composite Material (ACM)
- Alupanel®
- Corian
- Coroplast®**
- Corrugated Plastics* such as Correx Boards and Polypropylene
- Crosslinked Polyethylene (XPE, PEX, XLPE)
- Delrin
- Dibond®
- Extruded Acrylic
- Foam Board
- Fomex®
- Gatorfoam®***
- Hard Plastic
- High Density Polyethylene (HDPE)
- High Density Urethane (HDU Board)
- High Impact Polystyrene (HIPS)
- High Impact Polystyrene (HIPS) for digital printing
- High Pressure Laminates (HPL)
- Hydroxy-Terminated Polyether (HTPE)
- King ColorCore® The Multi-Color Engravable Polymer Sheet.
- Laminate
- Low Density Polyethylene (LDPE)
- LubX®
- Lucite®
- Mechanical/Engineered Plastics
- Perspex® Cast Acrylic Sheet
- Plexiglas®
- Poly (methyl methacrylate) (PMMA)
- Polycarbonate (Lexan™)†
- Polyethylene Terephthalate Glycol-Modified (PETG / PET-G)
- Polyoxymethylene (POM), also known as Acetal, Polyacetal and Polyformaldehyde.
- Polystyrene (PS)
- PVC
- Sign Foam
- Sintra PVC
- Solid Surface
- StarBoard® (King StarBoard 'R') High Density Polyethylene Sheet (HDPE)
- Teflon®
- Thermoplastic Polyolefin (TPO)
- Trespa® Meteon®****
- Ultra High Molecular Weight Polyethylene (UHMWPE)
- Urethane
- Vinyl Flooring
- Wood

*Corrugated Plastics such as Correx refers to a wide range of extruded twinwall plastic-sheet products produced from high-impact Polypropylene resin with a similar make-up to corrugated fiberboard. They are used in a variety of applications including boat building packaging signage outdoor advertising and the production of pet cages.

** A soft plastic cardboard made with super soft super flexible PVC.

*** Gatorfoam® Foam Board a polystyrene foam board bonded between two layers of Luxcell® wood-fiber veneer.

**** Decorative high-pressure compact laminate (HPL) with an integral surface.

† Recommendation: Use the slowest suggested feed rates and the shortest bits necessary for cutting and routing Lexan™.

Benefits of Mirror-Finish:

- Razor sharp cutting edge
- Effortless chip removal
- Helps prevent chip re-welding
- Extends tool life
- Exceptional cut quality
- Dissipates heat well and prevents melting

Maximum RPM: 35,000



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

Depth of Cut: 1 x Tool Diameter †

Diameter	MMPM at 18,000 RPM (Millimeters Per Minute)	Spindle Speed MPM (Meters Per Minute)	Chip Load Per Tooth (Millimeters)
1.59mm	889 - 1778	152.4 – 365.76	0.0508 - 0.1016
2mm	889 - 1778	152.4 – 365.76	0.0508 - 0.1016
2.38mm	1397 - 2286	152.4 – 365.76	0.0762 - 0.127
3mm	1778 - 2794	152.4 – 365.76	0.1016 - 0.1524
3.18mm	1778 - 2794	152.4 – 365.76	0.1016 - 0.1524
3.97mm	2794 - 3683	152.4 – 365.76	0.1524 - 0.2032
4mm	2794 - 3683	152.4 – 365.76	0.1524 - 0.2032
4.76mm	2794 - 3683	152.4 – 365.76	0.1524 - 0.2032
5mm	2794 - 3683	152.4 – 365.76	0.1524 - 0.2032
5.56mm	2794 - 3683	152.4 – 365.76	0.1524 - 0.2032
6mm	3683 - 5588	152.4 – 365.76	0.2032 - 0.3048
6.35mm	3683 - 5588	152.4 – 365.76	0.2032 - 0.3048
7.14mm	3683 - 5588	152.4 – 365.76	0.2032 - 0.3048
7.94mm	4064 - 5969	152.4 – 365.76	0.2286 - 0.3302
8mm	4064 - 5969	152.4 – 365.76	0.2286 - 0.3302
8.33mm	4572 - 6350	152.4 – 365.76	0.254 - 0.3556
8.73mm	4572 - 6350	152.4 – 365.76	0.254 - 0.3556
9mm	5080 - 7366	152.4 – 365.76	0.2794 - 0.4064
9.53mm	5080 - 7366	152.4 – 365.76	0.2794 - 0.4064
10mm	5080 - 7366	152.4 – 365.76	0.2794 - 0.4064
12mm	6858 - 9144	152.4 – 365.76	0.381 - 0.508
12.7mm	6858 - 9144	152.4 – 365.76	0.381 - 0.508

† **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:** (MPM x 3.82) / diameter of tool

To find **MPM:** 0.262 x diameter of tool x RPM

To find **Feed Rate MMPM:** RPM x # of flutes x chip load

To find **Chip Load:** Feed Rate MMPM / (RPM x # of flutes)

To find **Ramp Down:** Feed Rate MMPM / # of flutes

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

Tool Reference #'s		
Up-Cut	Down-Cut	Dia.
51403	—	6.35mm
51404	51504	6.35mm
51405	51505	6.35mm
51407	51507	6.35mm
51409	—	6.35mm
51410	51510	3.18mm
51411	51511	3.18mm
51412	51512	4.76mm
51413	51513	6.35mm
51414	51514	9.53mm
51415	51515	1.59mm
51416	—	3.18mm
51417	51517	4.76mm
51418	—	4.76mm
51419	—	6.35mm
51421	51524	6.35mm
51423	—	4.76mm
51424	—	5.56mm
51425	—	6.35mm
51426	51509	9.53mm
51427	—	9.53mm
51428	—	12.7mm
51429	—	9.53mm
51437	—	3.18mm
51441	—	1.59mm
51442	—	4.76mm
51443	—	3.18mm
51444	—	6.35mm
51445	—	3.18mm
51446	—	3.18mm
51447	51516	3.97mm
51448	51518	4.76mm
51449	—	4.76mm
51453	—	3.18mm
51491	—	3mm
51493	—	5mm
51495	—	6mm
51497	—	6mm
51499	—	6mm
—	51519	6.35mm
—	51526	3mm
—	51527	6mm
51634	—	2mm
51636	—	4mm
51638	—	6mm
51644	—	12.7mm
51646	—	6.35mm
51647	—	2.38mm
51648	—	12.7mm
57310	—	2mm
57311	—	2mm
57312	—	2.5mm
57313	—	2.5mm
57314	—	3mm
57315	—	3mm
—	57329	12mm
57316	—	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
57327	—	10mm
57329	—	12mm
—	57335	8mm



Amana Tool® is an industry leader for over 50 years specializing in industrial quality cutting tools, including solid carbide, insert carbide and carbide-tipped tooling, for the woodworking, plastics, aluminum, composite, and metal industries.

We provide many solutions for manufacturers, fabricators, sign and display makers, cabinet professionals as well as hobbyists. Amana Tool's full line includes CNC router bits, router bits, saw blades, shaper cutters, countersinks, dowel drills, boring bits, and more that offers efficient and time saving solutions aimed at cutting a wide range of materials, including but not limited to, wood, plywood, MDF/HDF, plastics, solid surface, aluminum/non-ferrous, ACM, and composites.

In particular, our range of Solid Carbide Extreme Tool Life Spektra™ Coated CNC router bits offer outstanding value and performance by extending tool life by up to 2.5 times compared to uncoated bits.

Our devotion to consistently supply the highest quality of tools and a passion for customer service has proudly made Amana Tool® a worldwide leading tool provider. With our fully stocked U.S.A. corporate headquarters and distribution centre located in New York and our same-day shipping policy, our products are easily at your reach overnight domestically or within a few short days globally.

