



#45771-K

30° 'V' CARVING/ENGRAVING

Solid Carbide, for Fine-Line Engraving

Tip Width: **0.005"**
 Cutting Height: **0.440"**
 Shank: **1/4"**
 Length: **2-1/4"**
 Flutes: **1 Flute**

CNC Running Parameters:
 RPM: **18,000***
 Feed Rate: **40" IPM****
 Chip Load Per Tooth: **0.002"**
 Ramp Down Rate: **40" IPM****



- ▶ Carbide 3D-Shapeoko-Hardwood
- ▼ ▶ Spektra-Shapeoko-Hardwood
 - ▶ End Mills
 - ▶ Ball Mills
 - ▶ Vee
 - ▼ Engravers

Tapered Ball Nose (5.4°)

Cutter Information

Amana, 46282-K
#60

Geometry

Diameter: 0.062 in
 Flute Length: 0.500 in
 Included Angle: 5.4
 Num Flutes: 2

2D Cutting Parameters

Feed Rate: 30.0 in/min
 Cut Depth: 0.062 in
 RPM: 18000

3D Cutting Parameters

Feed Rate: 30.0 in/min
 Stepover: 20.0 %
 RPM: 18000
 Finish Allowance: 0.100 in



#46201-K

SPIRAL FLUTE PLUNGE

Solid Carbide, Down-Cut

Diameter: **3/16"**
 Cutting Height: **3/4"**
 Shank: **1/4"**
 Length: **2"**
 Flutes: **2 Flute Down-Cut**

CNC Running Parameters Based on 1 x Diameter Depth Per Pass:
 RPM: **18,000***
 Feed Rate: **60" IPM****
 Chip Load Per Tooth: **0.003"**
 Ramp Down Rate: **30" IPM****



- Carbide 3D-Shapeoko-Hardwood
- Spektra-Shapeoko-Hardwood
- End Mills

Spiral Flute Plunge (3/16"")

Spiral Flute Plunge (1/8"")

Spiral Flute Plunge (1/4"")

Ball Mills

Vee

Engravers

Tapered Ball Nose (5.4°)

Cutter Information

Amana, 46201-K
#20

Geometry

Diameter: 0.375 in
 Flute Length: 0.500 in
 Included Angle: 0.0
 Num Flutes: 2

2D Cutting Parameters

Feed Rate: 60.0 in/min
 Cut Depth: 0.250 in
 RPM: 18000

3D Cutting Parameters

Feed Rate: 60.0 in/min
 Stepover: 20.0 %
 RPM: 18000
 Finish Allowance: 0.100 in



#46200-K

SPIRAL FLUTE PLUNGE

Solid Carbide Spiral, Down-Cut

Diameter: **1/8"**

Cutting Height: **1/2"**

Shank: **1/4"**

Length: **2"**

Flutes: **2 Flute Down-Cu**

CNC Running Parameters Based on 1 x Diameter Depth Per Pass:

RPM: **18,000***

Feed Rate: **40" IPM****

Chip Load Per Tooth: **0.002"**

Ramp Down Rate: **20" IPM****



🔒 Carbide 3D-Shapeoko-Hardwood

👤 Spektra-Shapeoko-Hardwood

▼ End Mills

Spiral Flute Plunge (3/16"")

Spiral Flute Plunge (1/8"")

Spiral Flute Plunge (1/4"")

▶ Ball Mills

▶ Vee

▼ Engravers

Tapered Ball Nose (5.4°)

Amana, 46200-K

#40

Geometry

Diameter: 0.125 in

Flute Length: 0.500 in

Included Angle: 0.0

Num Flutes: 2

2D Cutting Parameters

Feed Rate: 40.0 in/min

Cut Depth: 0.125 in

RPM: 18000

3D Cutting Parameters

Feed Rate: 40.0 in/min

Stepover: 20.0 %

RPM: 18000

Finish Allowance: 0.100 in



#46202-K

SPIRAL FLUTE PLUNGE

Solid Carbide Spiral, Down-Cut

Diameter: **1/4"**

Cutting Height: **3/4"**

Shank: **1/4"**

Length: **2-1/2"**

Flutes: **2 Flute Down-Cu**

CNC Running Parameters Based on 1 x Diameter Depth Per Pass:

RPM: **18,000***

Feed Rate: **100" IPM****

Chip Load Per Tooth: **0.003"**

Ramp Down Rate: **50" IPM****



🔒 Carbide 3D-Shapeoko-Hardwood

👤 Spektra-Shapeoko-Hardwood

▼ End Mills

Spiral Flute Plunge (3/16"")

Spiral Flute Plunge (1/8"")

Spiral Flute Plunge (1/4"")

▶ Ball Mills

▶ Vee

▼ Engravers

Tapered Ball Nose (5.4°)

Amana, 46202-K

#40

Geometry

Diameter: 0.250 in

Flute Length: 0.500 in

Included Angle: 0.0

Num Flutes: 2

2D Cutting Parameters

Feed Rate: 100.0 in/min

Cut Depth: 0.250 in

RPM: 18000


3D Cutting Parameters

Feed Rate: 100.0 in/min

Stepover: 20.0 %

RPM: 18000


Finish Allowance: 0.100 in



#46376-K
SPIRAL BALL NOSE
 Solid Carbide, Up-Cut

Radius: **1/8"**
 Diameter: **1/4"**
 Cutting Height: **1"**
 Shank: **1/4"**
 Length: **2-1/2"**
 Flutes: **2 Flute Up-Cut**

CNC Running Parameters Based on 1 x Diameter Depth Per Pass:
 RPM: **18,000***
 Feed Rate: **100" IPM****
 Chip Load Per Tooth: **0.003"**
 Ramp Down Rate: **50" IPM****



- 🔒 Carbide 3D-Shapeoko-Hardwood
- 👤 Spektra-Shapeoko-Hardwood
- ▼ End Mills
 - Spiral Flute Plunge (3/16"")
 - Spiral Flute Plunge (1/8"")
 - Spiral Flute Plunge (1/4"")
- ▼ Ball Mills
 - Spiral Ball Nose (1/4"")**
- ▶ Vee
- ▼ Engravers
 - Tapered Ball Nose (5.4°)

Amana, 46376-K
#50

Geometry

Diameter: 0.250 in
 Flute Length: 0.500 in
 Included Angle: 0.0
 Num Flutes: 2

2D Cutting Parameters

Feed Rate: 100.0 in/min
 Cut Depth: 0.250 in
 RPM: 18000

3D Cutting Parameters

Feed Rate: 100.0 in/min
 Stepover: 20.0 %
 RPM: 18000
 Finish Allowance: 0.100 in



#46282-K
TAPERED BALL NOSE
 Solid Carbide Spiral, Up-Cut

Angle: **5.4°**
 Radius: **1/32"**
 Tip Diameter: **1/16"**
 Cutting Height: **1"**
 Shank: **1/4"**
 Length: **3"**
 Flutes: **4 Flute Up-Cut**

CNC Running Parameters Based on 1 x Diameter Depth Per Pass:
 RPM: **18,000***
 Feed Rate: **30" IPM****
 Chip Load Per Tooth: **0.0004"**
 Ramp Down Rate: **8" IPM****



- 🔒 Carbide 3D-Shapeoko-Hardwood
- 👤 Spektra-Shapeoko-Hardwood
- ▼ End Mills
 - Spiral Flute Plunge (3/16"")
 - Spiral Flute Plunge (1/8"")
 - Spiral Flute Plunge (1/4"")
- ▼ Ball Mills
 - Spiral Ball Nose (1/4"")
- ▶ Vee
- ▼ Engravers
 - Tapered Ball Nose (5.4°)**

Amana, 46282-K
#60

Geometry

Diameter: 0.062 in
 Flute Length: 0.500 in
 Included Angle: 5.4
 Num Flutes: 2

2D Cutting Parameters

Feed Rate: 30.0 in/min
 Cut Depth: 0.062 in
 RPM: 18000

3D Cutting Parameters

Feed Rate: 30.0 in/min
 Stepover: 20.0 %
 RPM: 18000
 Finish Allowance: 0.100 in