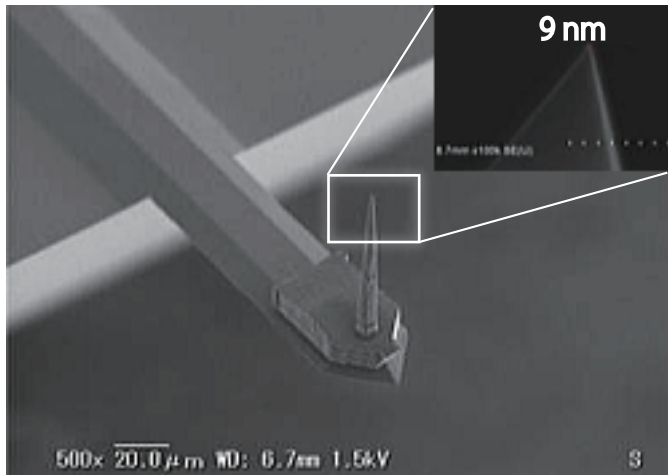


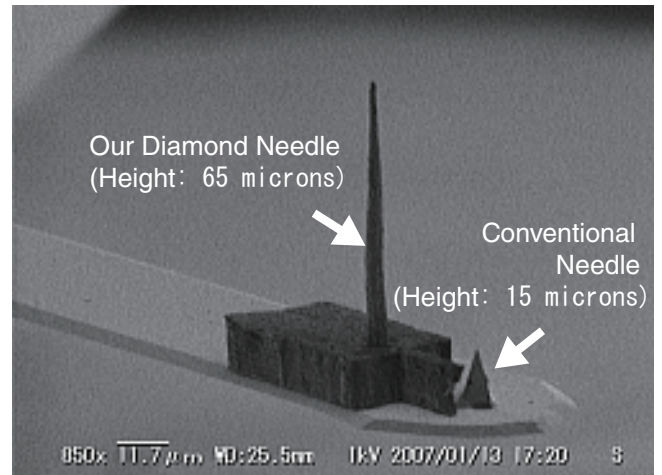
Diamond Needle

- High durability
- Electrical conductivity by impurity doping
- High aspect ratio (>20) and 60 μ m length.
- Atomic level top point (Top radius < 10nm)

< Atomic level point >

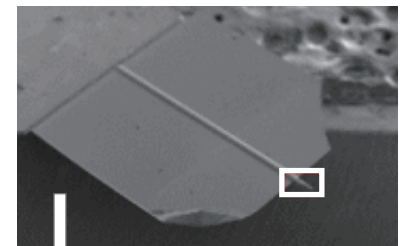


< High aspect ratio >

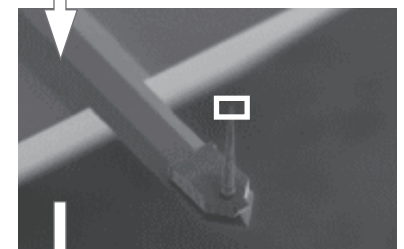


< Application of Diamond Needle >

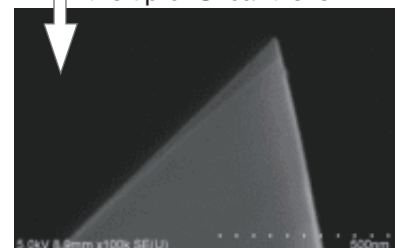
- Applications using the durability and the hardness
 - Large area measurement and repeat scan
 - SPM lithography
 - Magnetic material coated diamond probe for Magnetic Force Microscopy
 - Photo mask repair
- Applications using the durability and the electrical conductivity
 - Scanning Spread Resistance Microscopy
 - Scanning Capacitance Microscopy
- Applications using the high thermal conductivity
 - Scanning Thermal Microscopy
- Applications using the high aspect ratio
 - Deep trench measurement
 - Side wall measurement
 - Cell manipulation



Compatible cantilever with conventional SPM



Diamond tip glued on the tip of Si cantilever



Atomic level top point

Diamond Scriber

Namiki has been manufacturing styluses for music records since 1971. Based on this extensive diamond stylus manufacturing experience, we developed techniques for producing diamond scriber in the latter half of the 1970s. The normal type of scribing line is 3 points, but we also handle custom orders. Our diamond scriber are almost entirely free of chipping, and ensure a narrow and deep scribing line. Since the shape of the cutter is like a knife, adverse impact on the wafer and chippings are minimized.

● Usage

Dicing on semiconductor wafers and substrates.
GaAs, In, GaN, SiC, Si, Al₂O₃ etc...

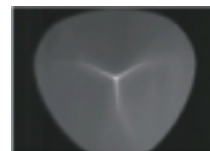
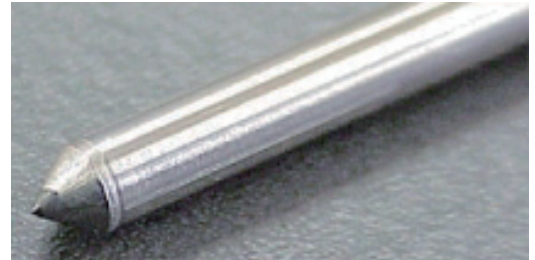
● Features

Based on our extensive diamond stylus manufacturing experience, we select the most suitable natural diamond for scribes. In addition, our precise crystal orientation brazing, processing of various angles, and forming for a wide range of applications ensure steady sharp cutting and long life.

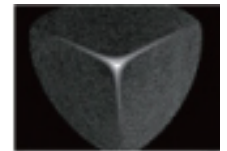
Also, Namiki's highly advanced QC System guarantees high-quality scribing.

Namiki can provide scribes to meet the materials and shapes you need:

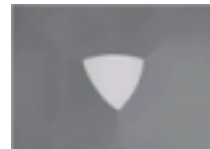
- Cutting points: 3P, 4P, 8P
- Angle and shape of the tip: 90 to 110 degrees.
- R/Sharper/Flatter
- Shapes of the shank:
 - angular shanks and round shanks, with or without D-cut



▲3P-1



▲3P



▲3PA



▲4PT

For Samples, please contact us.

< Namiki Hand Scriber >

Models	Wafer Material	Recommended Angle	Recommended Load
3P-1	GaAs	58° (55° ~ 60°)	5 ~ 20g
3P	GaAs	58° (55° ~ 60°)	5 ~ 20g
3PA	Sapphire (LDLED)	66° (65° ~ 70°)	20 ~ 70g
4PH	Sapphire & GaAs (LED)	53° (52° ~ 53°)	20 ~ 40g
4PT	Sapphire & GaAs (LED)	70° (57° ~ 70°)	20 ~ 40g
8P	Sapphire & GaAs (LED)	Toe point : 57° Heel point : 53°	20 ~ 40g

Hand Scriber

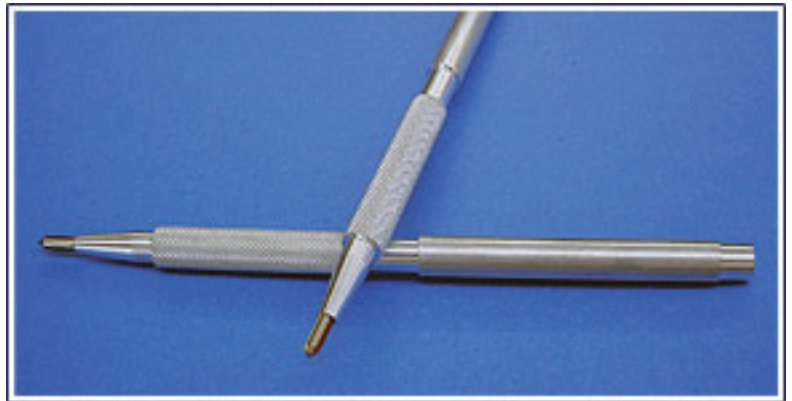
Thanks to the use of single-crystal diamond with the strongest angles, this product offers steady sharp cutting and a long life.

The DS-10 can cut GaAs/sapphire substrates, semiconductor wafers, nano-tech materials and many others.

The device cuts the materials with the color lines upwards and on the three cutting points.

● Features

- Full length of the holder: 149 mm
- Diameter of the handle: 8.65 mm
- 3 points available
- Possible to use 60-degree angle to material surface
- Scribe with 20 to 70 force



Note

Crushing and excessive load may damage the diamond tip.