DIAMOND TOOL EDGE QUALITY

Here are examples of a cutting tool edge in single crystal diamond from Contour.

This image shows the edge at 20,000x magnification and provides a visual image of how sharp the cutting edge can be.

However the real edge sharpness can only be seen under very high magnification available with a Scanning Electron.

The edge quality is also quite visible under interferometric imaging.

The cutting tool can fall under (2) classifications

1. **Non-Controlled Edge Waviness**
   An edge that typically has a waviness from the true circle of around 2.0µm (0.00008”). Non-Controlled Edge Waviness tools have applications for: Rotary axis (R-Theta) or Tool Normal, Roughing for 2-axis and Flycutting.

2. **Controlled Edge Waviness**
   1.0µm to < 0.05µm (50 nm…or 0.000002”)
   Peak to Valley over Full Arc. Controlled waviness tools have applications for: 2-axis turning & multi-axis milling. These tools are supplied with a Tool Waviness Certificate which is also available on Contours exclusive CLUB CFT.