

CUTTING TOOL GEOMETRY INSPECTION

In the last decade, one of the most significant advancements in cutting tool manufacturing has been the ability to create extremely fine edge preparations on complex contoured edge geometries. This capability, coupled with the consistent production of millions of cutting tools, highlights the importance of measuring these edge preparations to build customer confidence.

OMIC R&D developed best practices for optimizing the edge preparation of drills. We monitored the cutting tool microgeometries using the Zoller Titan, a seven-axis CNC-controlled measuring system known for its high resolution and accuracy.

Additionally, OMIC R&D studied the effects of edge preparation on cutting forces using CARON Engineering Software to monitor spindle power.

This work helps manufacturers optimize edge preparations for their specific machining operations, ensuring repeatable and reliable performance at the lowest total cost without compromising part quality.

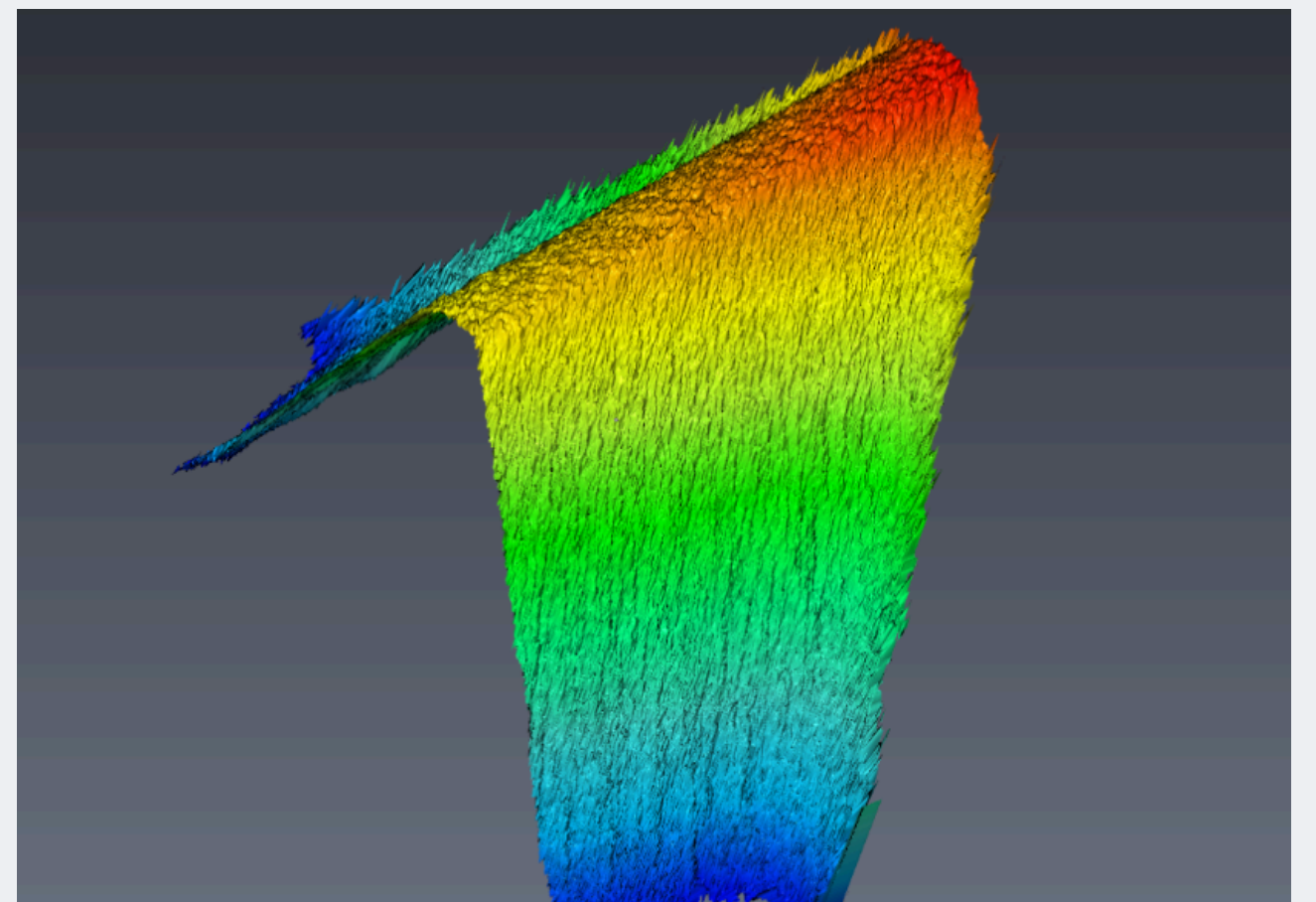


Fig 1 -Image of Sample Edge-Preparation

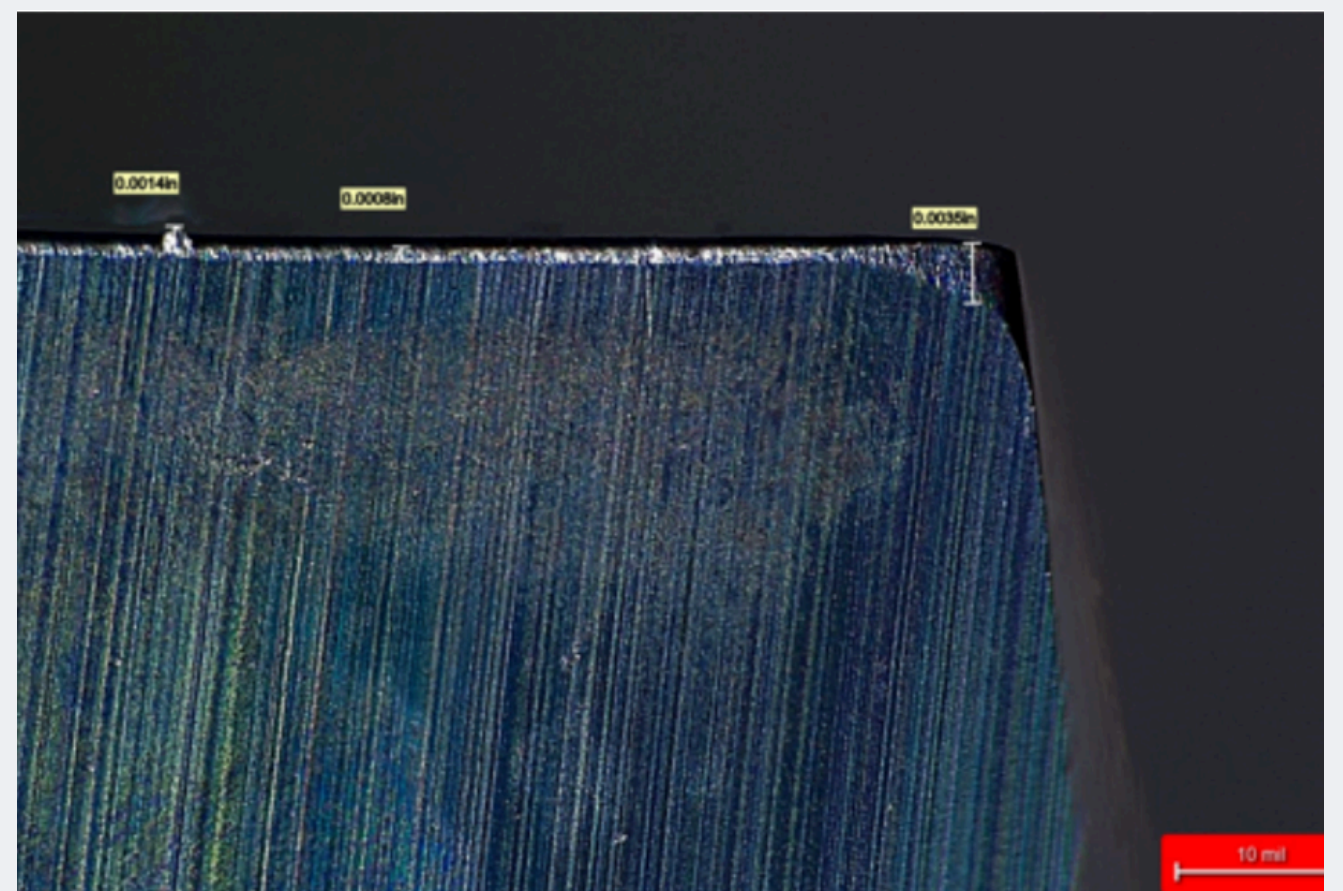


Fig 2 -Cutting Tool after 20 holes

Research was conducted primarily by Dr. Mostafa Saber of Oregon Tech.

Industry participants include:

Zoller
OSG
Boeing
Caron Engineering

