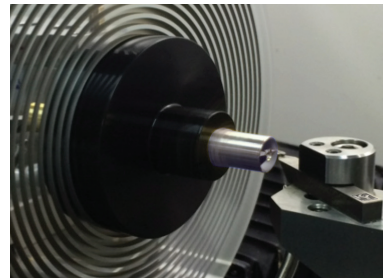
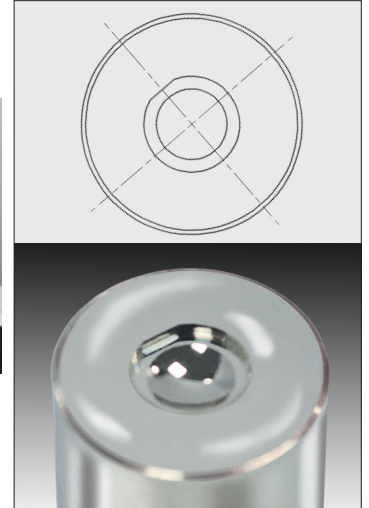




Nanoform® X



Setup Photo



Part Photo

Goal:

Demonstrate the capability and present key metrology results and process data for a non-axisymmetric D-Pocket used as a registering feature in lens molds, for more accurate indexing

Process Parameters:

- XZ High speed diamond turning for lens
- XZC Diamond turning for D-Pocket
- Single machine setup

Part Details:

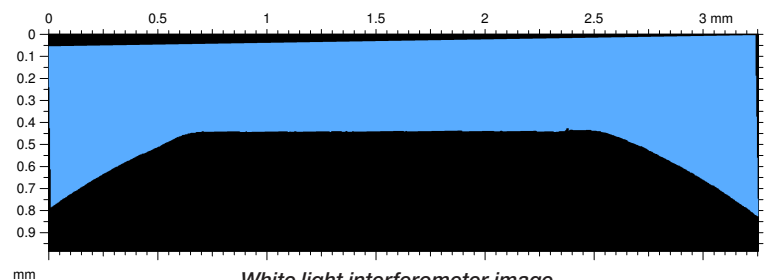
- **Material:** 12.5 mm Electroless Nickel pin
- **Lens diameter:** 4 mm
- **Pocket diameter:** 5.431 ± 0.001 mm
— Concentricity to lens: ± 0.001 mm
- **D-Pocket parameters:**
 - Flat offset: 2.55 mm (sag: 0.165 mm)
 - Corner radii: 0.5 mm
 - Depth: $0.6 \text{ mm} \pm 0.001$ mm

Machining Details:

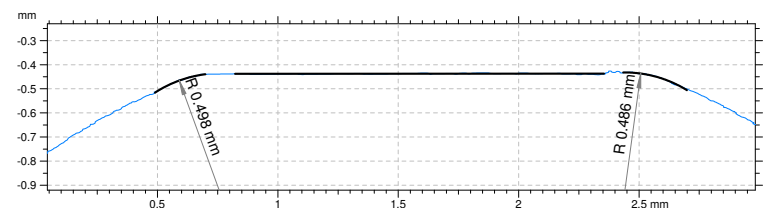
- **Lens spindle speed:** 3,000 RPM
- **D-Pocket parameters:**
 - Spindle speed: 85 RPM
 - Depth of cut: $10 \mu\text{m}$
 - Feed per rev: $10 \mu\text{m}$
 - Cycle time: 20 minutes
- **Coolant:** Odorless mineral spirits (OMS)

Tool Details:

- K&Y single point diamond tool with 20° clearance
- Radius: $53 \mu\text{m}$



White light interferometer image
(taken on a Taylor Hobson CCI)



Corner radii and flat straightness detail