

Precision lapping and polishing of materials including quartz, metals and alloys, correction of alumina plates, aluminium oxide and silicon carbide

Since 1972 the company produced custom quartz resonators and the expertise gained from this process was extended to other materials and industrial requirements.

The experience gained in the lapping and polishing of quartz is now available to industry in general with processing of the smallest crystalline substrates to a wide range of metallic materials and parallel face correction.

Our facility can process very small thin sections to large items using single or double side processing. Our experience is primarily very flat and parallel quartz substrates for frequency control but also encompasses metal and ceramic processing to the same exacting tolerances.

Chucks designed to support silicon wafers during the polishing process eventually wear reducing the overall quality of the silicone wafers. Laptech Precision can recondition plates of Aluminium Oxide or Silicon Carbide using a propriety lapping technique, returning the plates clean and ready for use.

General Lapping & Polishing Capabilities

- # Diameters up to 750 mm
- # Profiles from dead flat to 10 microns concave or convex
- # Undulation $\pm 100\text{nm}$
- # Edge Fade ~ 100nm in 5mm
- # Roughness in the range of 350 ~ 750 Ra
- # Rounding
- # Surface Grinding
- # Wafering # Etching # Dicing
- # X-Ray Goniometry
- # Automatic lapping control of double sided lapping machines
- # Thin film deposition thickness measurement
- # Microbalance mass sensor applications
- # Pressure sensors
- # Resonators

Quartz Orientation

- # Measurement and control of AT cut blank orientation using EFG X-Ray goniometer
- # ZZ angle sorted to a resolution of ± 7 seconds of arc
- # SC and IT Cut blank angles measured and corrected using EFG X Ray goniometer

Physical Characteristics

- # Surface finishes from lapped and etched to full optical polish
- # Thin film coatings in Aluminium, Silver, Chrome and Gold
- # Profiles from flat and parallel to bevelled and convex profiles

