

High precision substrates

Cleanroom

Handling in semiconductor manufacturing environment:

Metal contamination $< 1 * 10^{10}$ atoms/cm² (measured by ICP-MS at Silica glass wafer)



Automatic cleaning equipment
Class 10 (@0.1 µm)



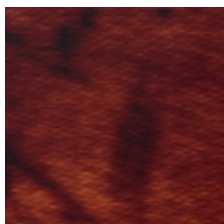
Inspection: Clean bench,
Class 1 (@0.1 µm)

Achievable Surface Roughness

Handling in semiconductor manufacturing environment:

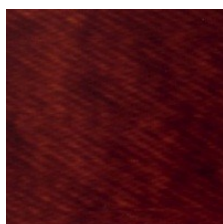
Metal contamination $< 1 * 10^{10}$ atoms/cm² (measured by ICP-MS at Silica glass wafer)

PP



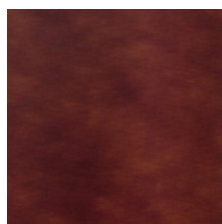
Ra ≈ 1.2 nm

SF



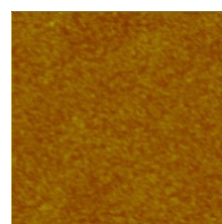
Ra ≈ 0.6 nm

ST



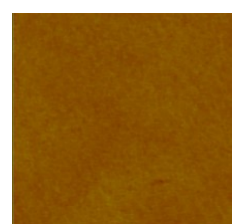
Ra ≈ 0.3 nm

SP



Ra ≈ 0.2 nm

SSP



Ra ≈ 0.1 nm

Dimensions and Optics

- Wafer type: 4" - 12" (accord. to SEMI Standard)
- Thickness from 200 µm ±10 µm to...
- Round/square shape up to Ø/□ 400 mm * 40 mm
- Flat or notch, Irregular or Special shape, Laser labeling,

...

High precision substrates

Application

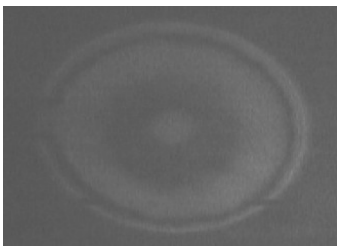
High temp. Poly-Si TFT-LCD, Micro lens array, Si back grinding support wafer, MEMS cover glass, Nano imprinting mold, Bio chip, Chemical chip, Optical communication parts,...

Material

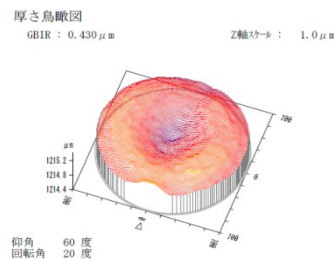
OHARA-Quartz, OHARA Optical Glass, OHARA Glass Ceramic, Quartz, Borofloat, AF45, Eagle, Soda-Lime,...

High Precision

i.e.: TTV, Flatness, GBIR, LTV



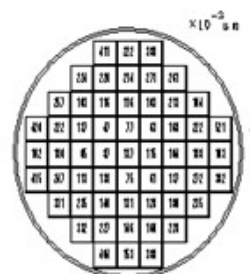
Interferometer photograph
8" wafer (0.3 $\mu\text{m}/\text{fringe}$)



Bird view thickness
82 wafer (GBIR = 0.4 μm)



Ultra Precision Flatness measuring
system NANOMETRO 300TT for
12" wafer



Site flatness of 12" wafer
(LTV = 0.5 μm)