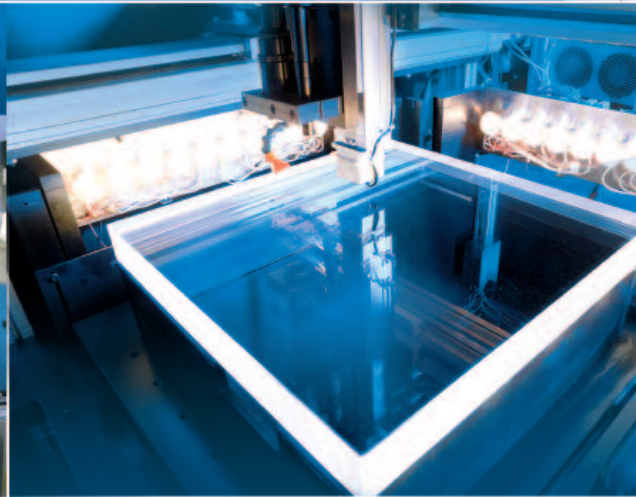
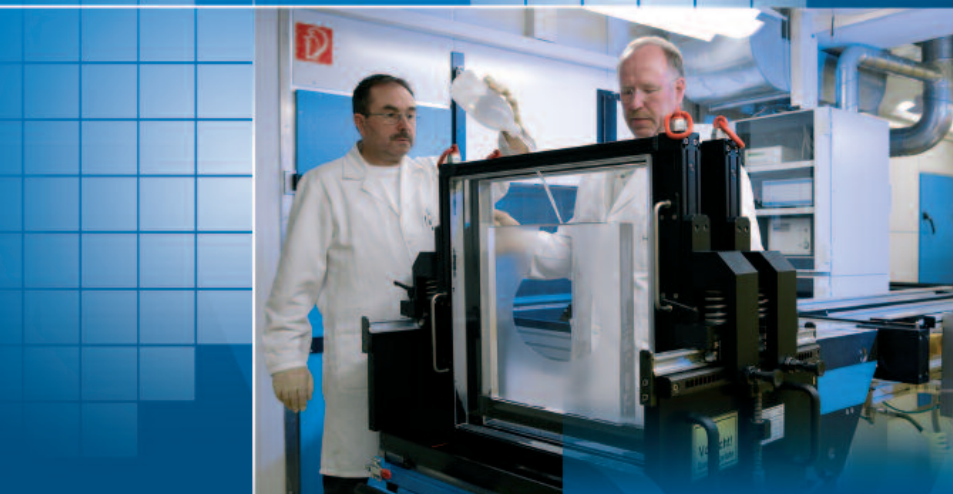
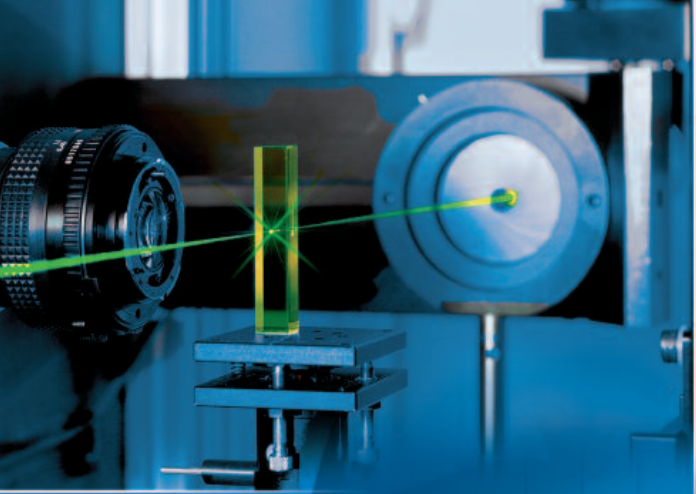


Heraeus



Heraeus Metrology Service

Heraeus Quarzglas provides service for:

Optical Homogeneity

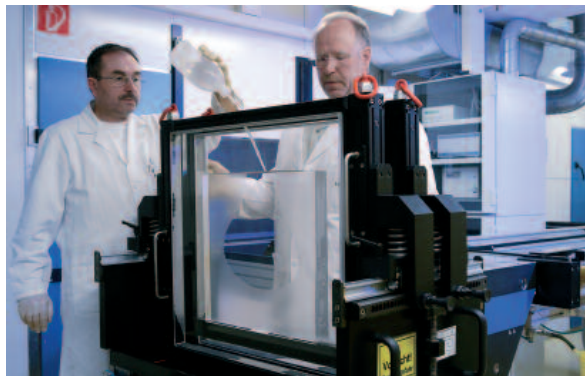
Interferometry → 2D maps with analysis

Measurement wavelength: 632.8 nm

Standard procedure:

Sample size: Thickness: 22 – 400 mm
 Diameter: ≤ 450 mm,
 rectangular plates
 accordingly smaller
 CA- Diameter: ≤ 430 mm,
 rectangular plates
 accordingly smaller

Accuracy: $2\sigma = 0.3$ ppm



Polished-plate-technique:

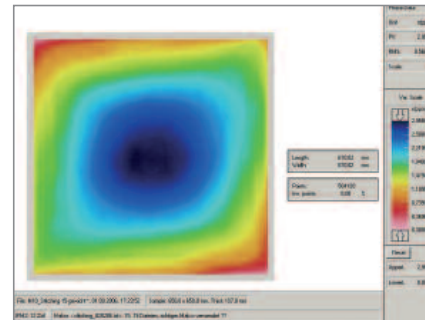
Sample size: Thickness: 20 – 80 mm
 Diameter: 135 – 345 mm
 CA-Diameter: 130 – 310 mm
 Surface polished better $\lambda/2$ with no
 short term aberrations, tilt of about
 4 arc minutes

Accuracy: $2\sigma = 0.05$ ppm

Stitching-technique:

Sample size: Thickness: 20 – 240 mm
 Dimension: ≤ 650 mm x 650 mm
 CA: ≤ 610 mm x 610 mm

Accuracy: $2\sigma = 1$ ppm



Birefringence

Stress induced birefringence → 2D maps with analysis

Measurement range: 0,01 nm – 260 nm

Inspection wavelength: 632.8 nm

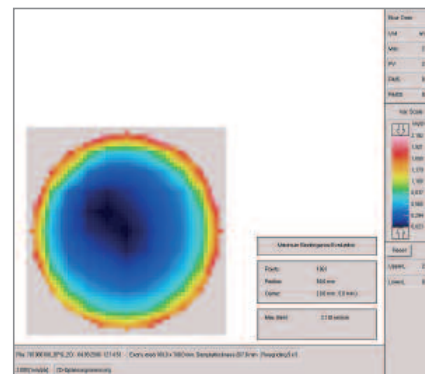
Laser spot size: 1 mm

Inspection grid: 1 mm x 1 mm

Standard inspection grid: 10 mm x 10 mm

Accuracy: < 0.05 nm/cm

Sample size: Thickness: ≤ 385 mm
 Dimensions: ≤ 450 mm x 450 mm
 CA: ≤ 450 mm x 450 mm



Transmission

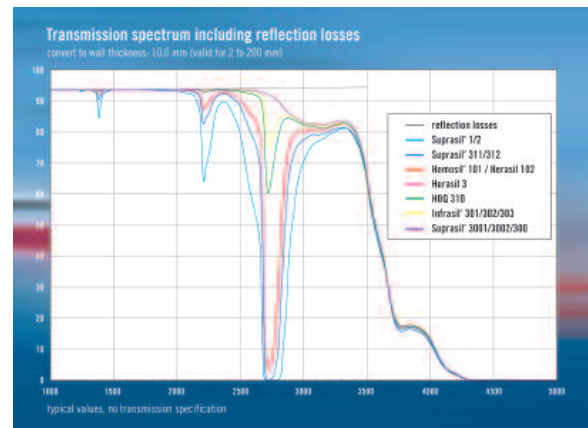
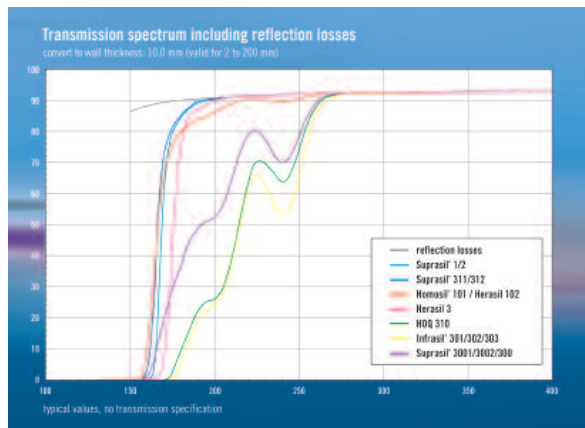
190 nm – 500 nm → Transmission spectrum or single wavelength measurements

Measurement range: 190 nm – 5000 nm

Data: 1 datapoint per nm

Accuracy: 0.5 %T

Sample size: Thickness of samples min. 10 mm, angular or round, min. area 20 x 20 mm², max. 100 x 100 mm²



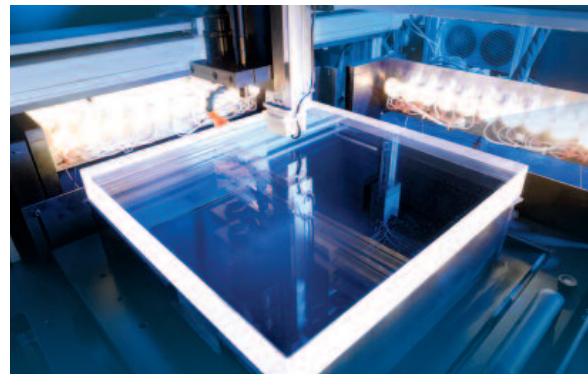
Bubble and Inclusion Inspection

Automated detection system down to 10 μm defect size → 3D maps with analysis

Measurement range: $\geq 10 \mu$

Accuracy: Defect size $\pm 20 \%$,
Defect location $< 1 \text{ mm}$ in position

Sample size: 500 x 500 x 140 mm³



Density

Accuracy: 0.01 g/cm²

Sample size: Sample volume approx. 1 cm³

Viscosity

Measurement range: 1000°C – 1500°C

Sample size: 55 x 5 mm,
thickness between 1 – 3 mm

Accuracy: lg 0.2 dPa s

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