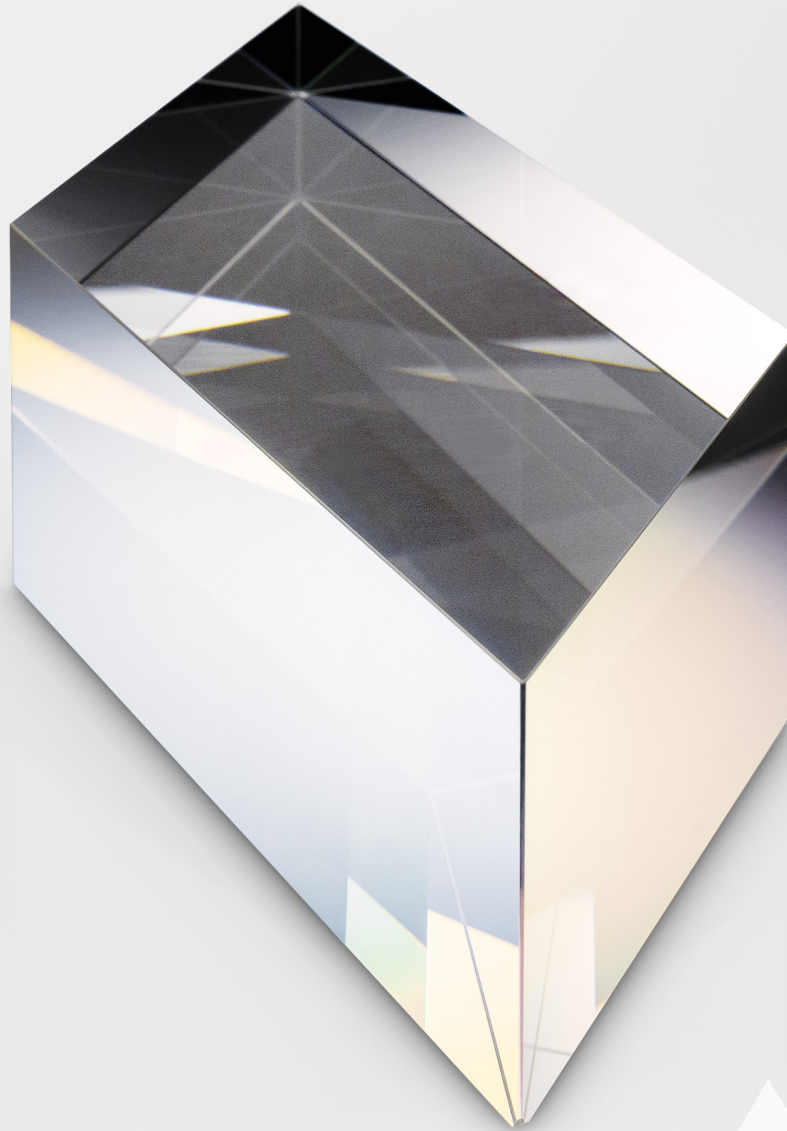


# PRISM & PRISM SYSTEMS.

LIGHT REFRACTION AND REFLECTION  
LEAD TO THE GOAL.



# PRISM & PRISMS SYSTEMS.

Berliner Glas produces prism optics and prism systems to the strictest tolerances according to ISO 10110 or customer specification for the following applications: semiconductor industry, laser technology, space technology, metrology and medical technology.

## SPECIFICATIONS\*

### Prisms

Materials	optical glass, quartz glass, glass ceramics, special materials
Dimensions	≥ 2–500 mm, other dimensions on request
Flatness	up to $\lambda/100$ PV (@ 633 nm)
Angular accuracy	≤ 0.5"
Pyramidal error	≤ 1"
Deflection accuracy	≤ 0.5"
Roughness	≤ 0.2 nm rms
Surface defects	from 5/1 x 0.004 (depending on the material)

### Additional specifications for prism systems

Spectral range	193–5,000 nm
Wave front error	$\lambda/50$ PV (@633) low-stress gluing techniques, deterministic system corrections
Assembly	fine cemented/scattered in air-conditioned clean rooms
Active adjustment	with its own high-precision assembly tool with collimator or interferometer (≤ 0.5" deflection accuracy)

## FINE CORRECTING PROCEDURES

- ▶ Mechanical fine correction
- ▶ Ion beam figuring
- ▶ Portal-/robot polishing
- ▶ Magnetorheological finishing (MRF)
- ▶ Active system correction on an adjustment surface (deflection angle and wavefront deformation)

## PRISM ASSEMBLIES

### Beam splitting prisms

- ▶ Cemented, scattered

### Assemblies

- ▶ High quality cemented prism assemblies with the highest wavefront and deflection accuracy

## METROLOGY

Wavefront	interferometer (4–24"), Shack-Hartmann wavefront sensor (UV, DUV, VIS, NIR), radii metrology, multiple area metrology, stitching interferometer
Form deviation	3D coordinate measuring device, aliper, CCD micrometer, interferometer
Surface defects	various microscopic methods
Roughness	white light interferometer, atomic force microscope
Centering	lens test control unit, laser centering station
Additional functional measurements	enviromental/climatic tests acc. to ISO and MIL standards abrasion and adhesion tests, various chemical and resistance testings, autoclaving, surface measurements, resistance measurements

\* The following error and tolerance data indicates possible limit values. Specified and assessed according to ISO/MIL/DIN. Limit values cannot be combined freely.