

PRISMS

Product

BERLINER GLAS produces prism optics to the strictest tolerances according to DIN 58158 or customized for the following applications: laser technology, metrology, reproduction engineering, medical engineering, research and others.

Material

Optical materials such as quartz, glass ceramics, borosilicate glass, CaF₂, MgF₂, germanium, filter glass and other special materials are used.

Specifications

Types of prisms	Size in mm	Accuracy in angular seconds
Reflecting prisms:		
Pentaprism	10 - 60	up to 1"
90° prism	5 - 100	up to 3"
Triple prism	10 - 70	up to 1"
Dove prism	10 - 80	up to 3"
45° - 60° prism	10 - 70	up to 3"
Roof prism	10 - 60	up to 1"
Rhomboid prism	10 - 70	up to 3"
Dispersing prisms:		
Equilateral dispersing prism	10 - 70	up to 3"
Beam splitting prism:		
Beam splitting cube	5 - 100	up to 5"

Flatness: Up to $\lambda/30$ PV measured at 632.8 nm depending on the critical area in reflection and wavefront depending also on material. Evaluation: According to ISO 10110, Part 5 or DIN 3140, Part 5

Surface defects: ISO 10110, Part 7 or DIN 3140, Part 7 up to 5/1 x 0.001 depending on the critical area

Micro-roughness: Ra up to 0.3 nm depending on the material

Quality Assurance

In addition to permanent process and production control there is a very careful final inspection for which sophisticated measuring devices are available.

Notes

We manufacture monolithical optics (integration of more than one optical function in one glass component) as well as multifunctional optics (integration of mechanical functions in a glass component).

Measuring Instruments for Quality Assurance

Wavefront:	Interferometer 4-24", Shack-Hartmann-Wavefront-Sensor (UV and DUV)
Resolution:	Computer-supported MTF measurement
Centering:	Objective metrology station, Laser centering station
Angle Precision:	Goniometer, interferometer
Transmission/ Reflection:	Spectrometer, diode array
Surface defects:	Automatic microscope
Micro-Roughness:	White light interferometer, AFM
Dimension:	3D Coordinate-measurement, caliper, CCD-Micrometer, Stitching interferometer