

# Plane Parallel Polished Substrates

## Product Information

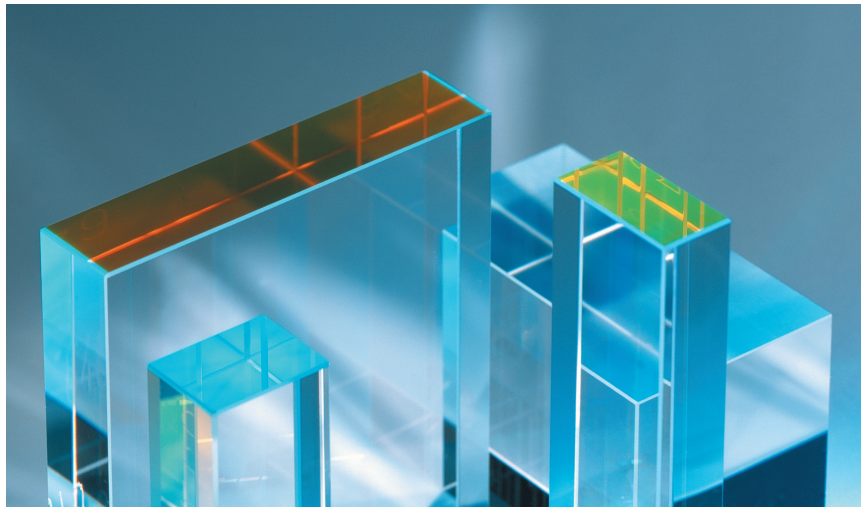
SCHOTT is a specialist in the production of thick or thin plane parallel polished substrates of the highest precision. Over the years we have developed very high expertise in the technique of flat polishing and achieved excellent quality in surface roughness, flatness and cosmetic surface properties. We produce polished substrates according to customers' drawings and specifications. Additionally we offer our in-house high-quality coating capabilities.

## Applications

Industrial end-users are active in laser optics, microlithography, medical sectors, digital projection, electronics, telecommunication, etc.

Our product portfolio includes

- Substrates for optics and electronics,
- Windows,
- Mirrors,
- Filters,
- Light guides,
- Wafers
  - also with non-repolished surfaces: coverglass D 263, AF 45, Borofloat®,
- Test glasses,
- Protective glasses and more.



## Materials

- Optical glass
- Technical glass
- Filter glass
- Fused silica LITHOSIL®
- Glass ceramic ZERODUR®
- Borosilicate glasses Borofloat® 33
- Ceran

## Forms of Supply

We manufacture and supply plane parallel polished substrates in various forms and dimensions according to customers' specifications.

Thickness: from 0.15 mm

Dimensions/size: from 5x5 mm (smaller sizes on request) up to 600 mm diameter / 450x450 mm



## Specifications

In consideration of the variety of possible applications, the range of substrates is not limited to certain standard sizes and thicknesses; rather they can be produced to specification, subject to each individual glass type's maximum allowable dimensions and thickness. The plane parallel polished substrates are manufactured according to customers' drawings, according to ISO 10110 as well as according to MIL-specs.

- Diameter or inscribed rectangle: 1 to 600 mm polishing capability
- Flatness: up to  $\lambda/4$  on 100 mm diameter
- Parallelism: 0.001 mm on 100 mm diameter (up to 2 arc sec)
- Roughness P4: up to < 1 nm Rq on request, depending on size and material
- Minimum thickness: 0.1 to 0.7 mm, depending on size
- Thickness tolerance: up to 0.001 mm depending on size and thickness

## Quality Assurance

Our quality control is based on self-checking during production and 100% final inspection. Surface quality inspection is completed with 200x microscopes. Roughness measurement is carried out with White Light Interferometer (0.1 nm Rq accuracy). Interferometer measurements for flatness are routinely conducted (250 mm diameter,  $\lambda/10$  accuracy). As well, we have clean room for final inspection and packing.

### For more information please contact:

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