

Rods

Fused silica



Description

Rods made from fused silica for the manufacturing of special fibers and optical components.

A distinction is made between three types of fused silica

- **SQ** → Fused silica rods made of undoped silica with high OH content
- **j-plasil** → Fused silica rods made of undoped silica with low OH content
- Special dopings e.g.
 - BDSR** → Boron-doped fused silica rods

SQ → High OH fused silica rods from undoped glass

Undoped silica for application in the UV / VIS range. It is used for efficient manufacturing of optical components such as lenses mirrors and plates, as well as for the production of special pre-forms. The highly pure material offers best optical and physical properties and highest homogeneity in the refractive index. SQ is being produced using a special melting technology, by which highest concentrations of OH and H₂ can be brought into the material.

The result is a material with optimum transmission properties in the UV / VIS range and highest laser durability.

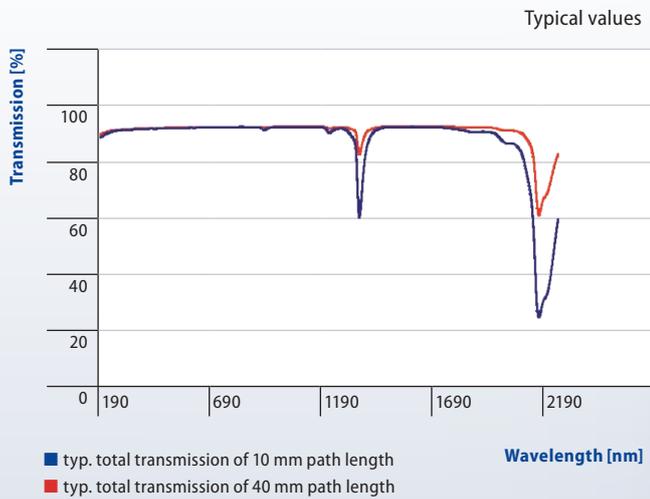
Properties (for fiber optics)

- Absence of inclusions and bubbles
- High OH / H₂ content
- Excellent UV transmittance
- Very low fluorescence
- High laser durability
- Low residual stress
- Very low thermal expansion coefficient
- High thermal stability

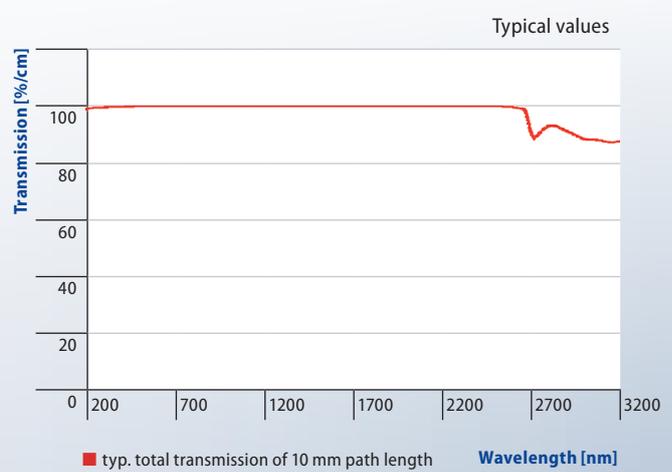
Application

- Design and production of preforms
- Process-controlled manufacturing of optical high-power fibers

Transmission SQ fused silica



Transmission j-plasil fused silica



j-plasil → Fused silica rods from undoped glass

For the VIS, NIR and IR range. The low OH high-performance fused silica material was developed particularly for the transmission in the VIS to IR wavelength range and offers a further optimizing for the application in the IR range. It is produced using a plasma based deposition technique, which creates the chemical coating conditions for fused silica with low OH content.

Undoped fused silica rods are the basis for the production of preforms for the manufacturing of special fibers such as PCF.

Properties (for rods and optical elements)

- Undoped fused silica with high homogeneity
- Low OH content
- Diameter 25 to 80 mm
- Rod length 200 to 800 mm
- Cylinder faces: fire polished or lapped

Application

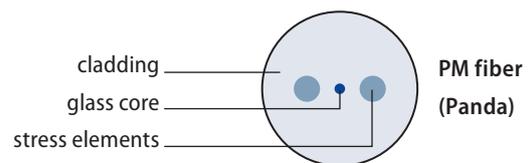
- Application range covers UV, VIS, NIR and IR, optimised for near infrared.

Special dopings

In order to support your specific applications we offer various doping materials such as Germanium, Fluorine and Boron.

BDSR → Boron-doped fused silica rods

are used for the production of polarization maintaining (PM) fibers in the so-called Panda design.



Properties

- Tight geometrical tolerances
- Customer-determined geometry stress elements for easy insertion in Panda design preforms
- High yield in PM fiber manufacturing
- Core Ø 3 to 13 mm
- Boron content up to 20 wt. %
- Length of rod 200 to 600 mm

Application

- Production of Panda fibers