



APPLICATION:

Sapphire monocrystal sight glasses are required wherever visual inspection of processes in vessels must be ensured under extreme pressure, thermal and chemical stress. Sapphire glass consists of 99.997% Al₂O₃ and is therefore very suitable for transmission in the UV range. It is characterized by above-average chemical resistance. Additionally it is the best choice for **extreme high temperature applications**.

OPERATING CONDITIONS:

The production and quality tests during the process guarantee the quality values of the glass and the tight dimensional tolerances. With these outstanding properties, these sight glasses are suitable for extreme conditions.

OPTICAL PROPERTIES:

Sapphire glass offers good spectral transmission from 200nm. Therefore sapphire glass offers excellent optical transmittance from UV

DELIVERY FORMS AND DIMENSIONS:

We supply natural quartz glass sight glasses in round, longitudinal, square, tubular or special shapes. Dimensions on request.

Operating conditions:

Temperature:	up to 2000 °C
Pressure:	depending on dimensions and thickness

Technical Information:

Coefficient of expansion at 25 °C/50 °C	6,6 x 10 ⁻⁶ cm °C ⁻¹
modulus of elasticity	E 4,6 * 10 ² GNm
Thermal conductivity at 25 °C	0,08 cal cm ⁻¹ s ⁻¹ °C ⁻¹

Chemical resistance:

Water resistance acc. to DIN ISO 719/720	Hydrolysis class 1
Acid resistance acc. to DIN 12116	Acid class 1
Alkali resistance acc. to DIN 52332	Alkali class 1

QUALITY:

Sapphire glass offers very different qualities. Due to the growth of sapphire crystals, these are completely arbitrary and can be determined after testing. Synthetic sapphire glass undergoes evaluation to ensure that it is suitable for the intended application. Either optical, mechanical, etc. A very high quality sapphire crystal produces little or no light scattering or lattice distortion and is mainly used for the most demanding optical applications.

Less high quality sapphire glasses may exhibit high light scattering or grating distortion and are therefore mainly used for mechanical, structural and less demanding optical applications. Nevertheless, sapphire glass, in all its qualities, is of very high quality compared to other materials such as borosilicate glass.