

SAPPHCOM
SAPPHIRE
COMPETENCE

SAPPHCOM | SAPPHIRE COMPETENCE

Product Data





OVERVIEW

03 BLANKS

04 WINDOWS

05 LENSES

06 PRISMS

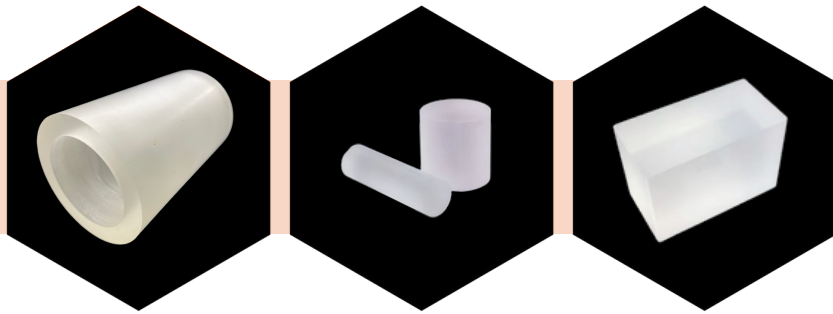
07 CUSTOMIZATIONS

07 COATINGS

08 ABOUT SAPPHCOM

DATASHEET BLANKS

BLANKS



For sapphire blanks in the form of tubes, round disks, flat plates or prism cuts, the surfaces are simply roughened or finely ground.

Blanks are preferably used for mechanical, electrical and thermal applications.

	Standard-Tolerances	Best Tolerances
Thickness (>0,1 mm)	+/- 0,05 mm	+0/-0,01 mm
Diameter (1-250 mm)	+/- 0,1 mm	+/-0,01 mm (up to 50 mm)
Crystal Orientation c-plane, r-plane, m-plane	+/- 3°	+/- 1°
Parallelism	< 1'	<10"
Flatness	1 λ per inch @ 633 nm (PV)	λ /10 per inch @ 633 nm (PV)
Purity	Grade 3 (optical applications) or Grade 5 (all other applications)	Grade 2 (UV-Grade)

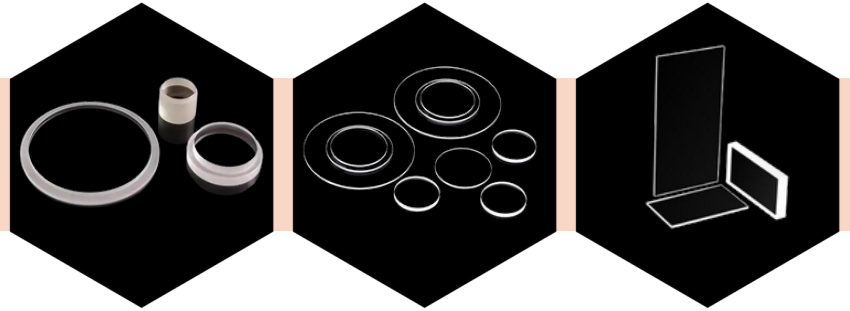


POSSIBLE APPLICATIONS

- Protective tubes for high temperature applications
- (Sliding) bearings for wear-resistant applications
- Electrical insulators

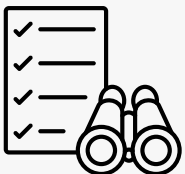
DATASHEET WINDOWS

WINDOWS



We supply our sapphire windows in various designs and sizes. Step windows, cylindrical windows or windows with holes are also possible.

	Standard-Tolerances	Best Tolerances
Thickness (>0,1 mm)	+/- 0,05 mm	+0/-0,01 mm
Diameter (1-250 mm)	+/- 0,1 mm	+/-0,01 mm (up to 50 mm)
Crystal Orientation c-plane, r-plane, m-plane	+/- 3°	+/- 1°
Surface Quality	Up to 3 diamonds according to DIN 3140, or up to Ra 0.1µ, or 5/3×0.25 according to DIN 3140 (scratch dig 80-50)	Up to 4 diamonds according to DIN 3140 or up to Ra 0,01µ or 5/4×0,025 according to DIN 3140 (scratch dig 10-5)
Parallelism	< 1'	<10"
Flatness	1 λ per inch @ 633 nm (PV)	λ/10 per inch @ 633 nm (PV)
Purity	Grade 3 (optical applications) or Grade 5 (all other applications)	Grade 2 (UV-Grade)

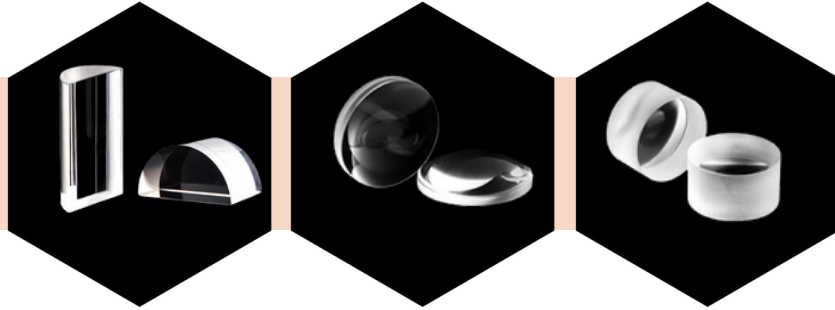


POSSIBLE APPLICATIONS

- View ports for high temperature applications
- UV and IR applications
- As windows in laser applications

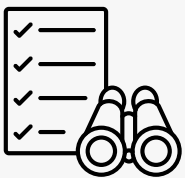
DATASHEET LENSES

LENSES



We supply sapphire lenses in various designs such as cylindrical lenses, spherical lenses, microlenses, converging lenses (biconvex, plano-convex, concavo-convex) and diverging lenses (biconcave, plano-concave, convex-concave).

	Standard-Tolerances	Best Tolerances
Surface accuracy	$N \leq 1 \Delta N \leq 0.5$	$N \leq 3 \Delta N \leq 0.5$
Mid thickness	+/- 0,05 mm	+/- 0,03 mm
Mid deviation	15"	15"
Tolerances	+/- 0,05 mm	+/- 0,03 mm

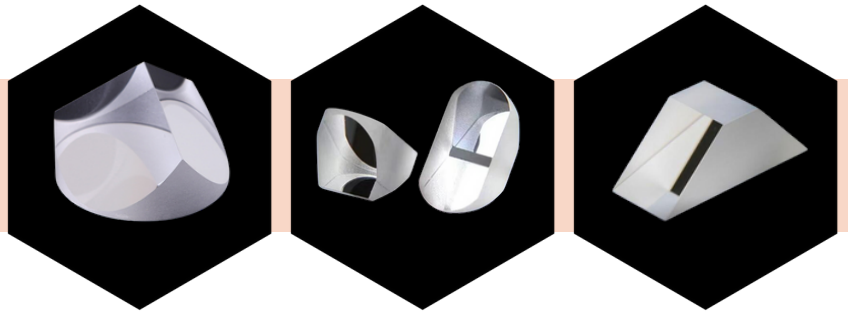


POSSIBLE APPLICATIONS

- In medical device imaging
- Aspherical lenses for high-power lasers

DATASHEET PRISMS

PRISMS



We supply sapphire prisms in various shapes, which are used as beam splitters for various applications.

	Tolerances
Dimensions	2 - 200 mm
Surface Quality	SD 60-40 (Standard Quality) up to SD 10-5 (Highest Quality)
Flatness	e.g. $\lambda/4$ per inch @ 633 nm (PV), depending on prism geometry and dimension (depending on drawing)
Angular error	<1' (Standard Quality), <5" (Highest Quality)

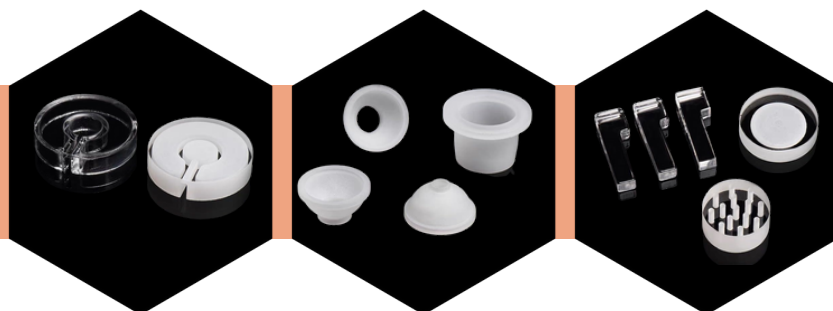


POSSIBLE APPLICATIONS

- Prism spectroscopy
- Chromatography
- High pressure research

CUSTOMIZATIONS

CUSTOMIZATIONS



We advise and supply you with our custom-made sapphire products. Prototypes from batch size 1 are also feasible. Contact us to discuss and realize your project.

COATINGS

COATINGS AR (ANTI-REFLEXION), DLC (DIAMOND-LIKE-COATING)

We offer our windows, lenses and prisms with anti-reflection coatings. The residual reflections that can be achieved are typically $R < 0.2\%$, depending on the specification.

COATING TYPES

- Single layers (MgF₂): for ultraviolet, visual or near-infrared spectrum
- Two-point anti-reflection layers: optimized for two wavelengths
- Broadband anti-reflection layers
- Anti-reflective V-coating (line coating): optimized for a narrow wavelength range
- Diamond-Like Coating (DLC): for mechanically stressed sapphire optics



Diamond-Like Coating (DLC): Due to the low scratch resistance of common coatings, **mechanically stressed sapphire optics** are refined with a diamond-like carbon (DLC). The DLC is characterized by outstanding hardness, resistance to friction, wear and corrosion. It is used in particular for the infrared range (2 μ m - 14 μ m).

About SAPPHCOM



EXPERTISE

Over 15 years of development and manufacturing of hard materials.
Focus on sapphire.



FAST DELIVERY

Through our partner network, we guarantee fast delivery times.



CONSULTING

From specification, prototype manufacturing, quality agreement to serial production.



CUSTOMER FOCUS

Your project and your requirements are our priority.



QUALITY

Using state-of-the-art measurement technology. Certificates and measurement protocols included.



RESPONSIVENESS

Receive your offer within 24 hours.



WORLDWIDE NETWORK

Long-lasting partnerships in Europe and Asia.

ARE YOU ALREADY SAPPHIRE-COMPETENT?

✉ info@sapphcom.de

☎ +49 911 56923071

🌐 www.sapphcom.de

Löslein Solutions GmbH | Bahnhofstraße 8 | 90522 Oberasbach | GERMANY

