

SCHOTT B 270[®]

The clear choice.

SCHOTT B 270[®] offers outstanding optical performance in a wide range of thicknesses. Suitable for a broad range of applications, customers across a wide variety of industries have relied on this highly transparent, super-white modified soda-lime glass for decades thanks to its high quality.



UV-A – NIR

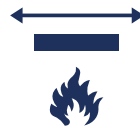
Outstanding transmission



Homogenous refractive index



High stability against solarization



High coefficient of thermal expansion



Fire-polished surface

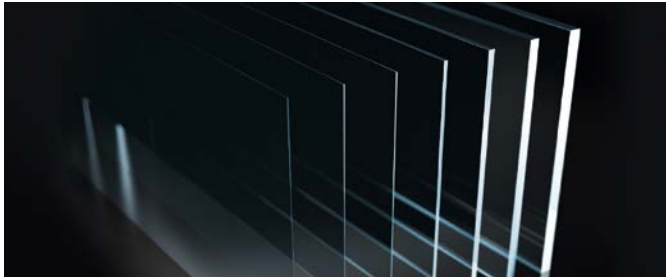
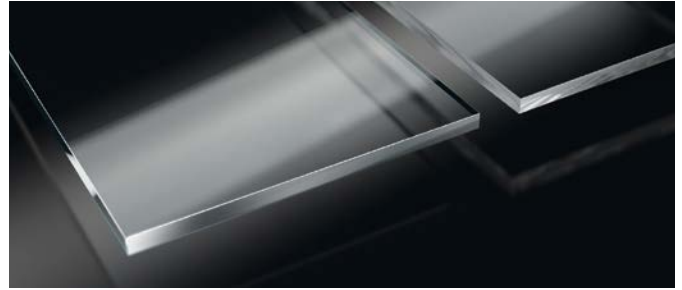


Easy-to-process

SCHOTT
glass made of ideas

Crystal-clear performance

The crown glass B 270® is designed to deliver consistent transmittance of light across a range of wavelengths, from ultraviolet to near-infrared. SCHOTT uses a selection of high-purity raw materials for the manufacture of this modified soda-lime glass to avoid any discoloration, which gives the glass a beautifully pure super-white look and exceptional clarity.



Wide thickness range

SCHOTT ensures that B 270® fits the broad spectrum of customer requirements by offering a wide thickness portfolio. SCHOTT B 270® is available in a thickness range from 0.3 mm up to 10 mm. This means the need for further processing is reduced to a minimum, if not avoided altogether.

Easy to process

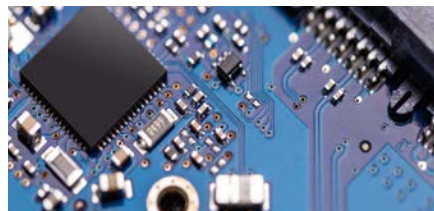
Easy processing of B 270® enables highly cost-effective processing. One of its advantages is the **fast edge processing** – similar to standard soda-lime glass. The **high CTE** of 9.4 (in $10^{-6}\cdot\text{K}^{-1}$) is a unique feature compared to other specialty glass materials and makes it **ideal for thermal toughening**. The **high alkaline content** enables **chemical strengthening**. Thanks to its chemically identical **fire-polished surfaces** on both sides, B 270® is well suited for **coating processes**, without additional effort of polishing or tracking of the “tin side”.

A broad range of applications

As one of our most popular products, B 270® has been relied upon for decades by our customers for a wide variety of applications, from standard optical components to packaging solutions for consumer electronics. A true all-rounder, B 270® continues to provide versatility and reliability in a vast number of areas.



Filter substrates



IC Packaging



Optical components



Coating substrates



Biotech

SCHOTT B 270[®]

Key Properties

General

| Technical data* in mm | |
|-----------------------|---|
| Dimensions | <ul style="list-style-type: none">• 1.680 x 900• 900 x 840• 406 x 258 |
| Standard thicknesses | <ul style="list-style-type: none">• 0.9• 1.0• 1.65• 2.0• 2.3• 2.5• 3.0• 3.5• 4.0• 5.0• 10.0 |

* Other formats and thicknesses upon request

Optical

| Properties | Value |
|------------------------|----------------|
| Refractive index n_e | 1.5251 ± 0.001 |
| Abbe value v_e | 58.3 ± 0.6 |

Transmittance values

| Luminous transmittance at thickness in mm | $\tau_{V_{D65}}$ in % | Edge wavelength λ_c ($\tau = 0,46$) at thickness in mm | Wavelength in mm |
|---|-----------------------|--|------------------|
| 0.9 | 91.9 | 0.9 | 300 |
| 2.0 | 91.7 | 2.0 | 310 |
| 6.0 | 91.6 | 6.0 | 323 |

Electrical properties

| Dielectric constant ϵ_r (at $\vartheta = 25^\circ\text{C}$) | Value | Dissipation factor $\tan \delta$ (at $\vartheta = 25^\circ\text{C}$) | Value |
|---|-------|---|--------------------|
| at 1 MHz | 7.5 | at 1 MHz | $32 \cdot 10^{-4}$ |
| at 1 GHz | 6.7 | at 1 GHz | $59 \cdot 10^{-4}$ |
| at 5 GHz | 6.7 | at 5 GHz | $84 \cdot 10^{-4}$ |

Chemical

| Hydrolytic resistance (acc. to DIN ISO 719) | Value | Acid resistance (acc. to DIN 12116) | Value | Alkali resistance (acc. to DIN ISO 695) | Value |
|---|-------|--|-------|---|-------|
| Class | HGB 3 | Class | S 2 | Class | A 1 |
| Equivalent of alkali per gram glass grains in $\mu\text{g/g}$ | 136 | Half surface weight loss after 6 hours in mg/dm^2 | 0.7 | Surface weight loss after 3 hours in mg/dm^2 | 71 |

Thermal

| General Properties | Unit | Value |
|---|---|-------|
| CTE (Coefficient of thermal expansion) α | in $10^{-6} \cdot \text{K}^{-1}$ (20 °C; 300 °C) | 9.4 |
| Mean specific heat capacity c_p | in $\text{J}/(\text{g}\cdot\text{K})$ (20 °C to 100 °C) | 0.8 |
| Transformation temperature T_g | in °C | 542 |

| Viscosities | Viscosity $\lg \eta$ in dPas | Temperature ϑ in °C |
|-----------------|------------------------------|-------------------------------|
| Strain point | 14.5 | 507 |
| Annealing point | 13.0 | 535 |
| Softening point | 7.6 | 711 |

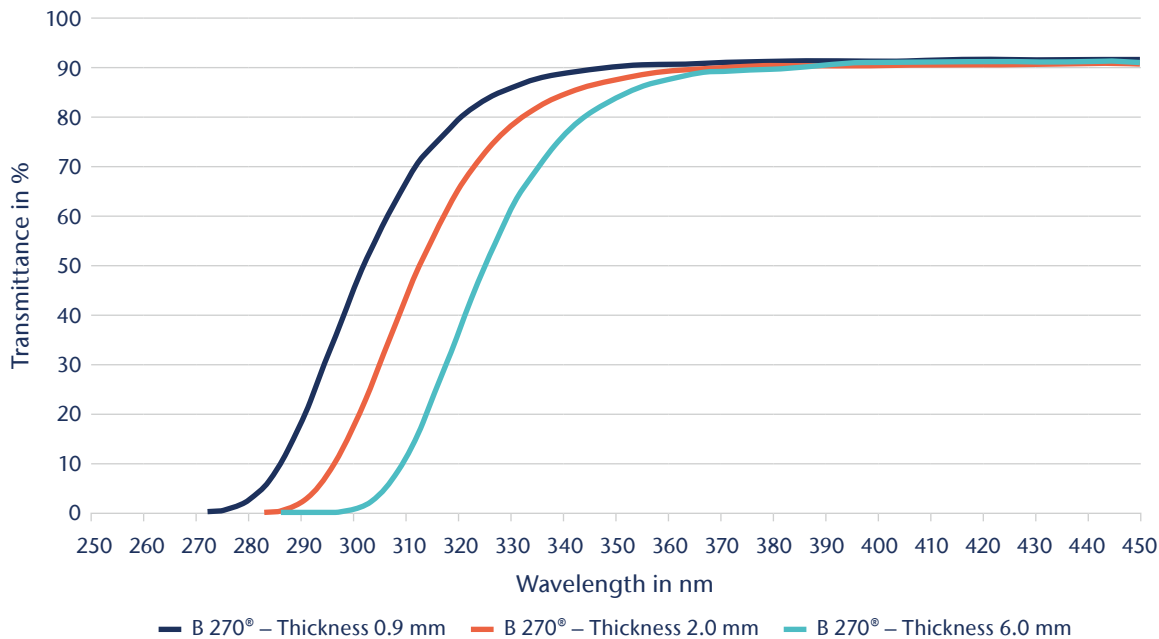
Mechanical

| Properties | Unit | Value |
|-----------------------|----------------------------|-------|
| Density ρ | in g/cm^3 | 2.56 |
| Young's modulus E | in kN/mm^2 | 71.1 |
| Poisson's ratio μ | | 0.22 |
| Torsion modulus G | in kN/mm^2 | 29 |
| Knoop hardness | HK 0.1/20 | 500 |
| Vickers hardness | HV 0.2/25 | 510 |

SCHOTT B 270[®]

Spectral transmittance

Spectral transmittance B 270[®]
 $\lambda = 250 \text{ nm to } 450 \text{ nm}$



Spectral transmittance B 270[®]
 $\lambda = 250 \text{ nm to } 3200 \text{ nm}$

