SCHOTT SUPREMAX® 33
Multifunctional rolled borosilicate glass for unlimited applications
SUPREMAX® 33
Rolled Borosilicate Glass

SUPREMAX® 33 is a rolled borosilicate glass available in sheet form with a chemical composition identical to SCHOTT’s floated borosilicate glass BOROFLOAT® 33.

The outstanding physical and chemical properties of SUPREMAX® 33 offer the benefits of low thermal expansion, high thermal resistance, excellent light transmission and impressive chemical durability. SUPREMAX® 33 is also a low density glass that is 12 % lighter than soda lime glass. This, in combination with the availability of a broad thickness range (up to 66.7 mm), makes SUPREMAX® 33 a highly versatile material suitable for an unlimited array of applications.

SUPREMAX® 33 is a borosilicate glass type 3.3 as specified in the international standard ISO 3585. The quality of SUPREMAX® 33 is guaranteed by our ISO 9001 certified quality assurance system.

SUPREMAX® 33 is environmentally friendly and made of non-hazardous inorganic and natural raw materials. The glass can be recycled several times and disposed of without difficulties.

Sheet Sizes and Tolerances

Standard Sheet size
Gross Dimensions in mm (inch): 1,200 x 1,500 (47.24 x 59.06)
Net Dimensions in mm (inch): 1,000 x 1,500 (39.37 x 59.06)

Available Thicknesses
Thickneses | Tolerances
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in mm (inch) | in mm (inch)
28.60 (1 1/8) | ± 1.0 (± 0.040)
31.75 (1 1/4) | ± 1.0 (± 0.040)
34.90 (1 3/8) | ± 1.6 (± 0.064)
41.30 (1 5/8) | ± 1.6 (± 0.064)
47.60 (1 7/8) | ± 3.2 (± 1.125)
57.20 (2 1/4) | ± 6.4 (± 0.250)
66.70 (2 5/8) | ± 8.3 (± 0.325)

SUPREMAX® 33 rolled borosilicate glass can be cut to size within the standard sizes.
Technical Properties

Optical Properties

- Refractive Index $n_d$ [λ 587.6 nm]: 1.472
- Stress Optical Coefficient [K]: $4.0 \times 10^{-6} \text{ mm}^2 \text{ N}^{-1}$
- Dispersion ($n_f - n_c$): $71.9 \times 10^{-4}$

Thermal Properties

- Coefficient of Thermal Expansion $\alpha$ [20-300°C/68-572°F]: $3.25 \times 10^{-6} \text{ K}^{-1}$
- Specific Heat Capacity $C_p$ [20-100°C/68-212°F]: 0.83 kJ/(kg x K)
- Thermal Conductivity $\lambda$ [90°C/194°F]: 1.2 W/(m x K)
- Softening Point [107.6 dPas]: 820°C/1508°F
- Annealing Point [1013 dPas]: 560°C/1040°F
- Strain Point [1014.5 dPas]: 518°C/964°F
- Transformation Temperature $T_g$: 530°C/986°F

Electrical Properties

- Dielectric Constant $\varepsilon_r$ [at 25°C and 1MHz]: 4.6
- Loss Tangent $\tan \delta$ [at 25°C and 1MHz]: $37 \times 10^{-4}$
- Specific Electric Volume Resistivity:
  - $\lg \rho$ 250°C: $8.0 \, \Omega \times \text{ cm}$
  - $\lg \rho$ 350°C: $6.5 \, \Omega \times \text{ cm}$
  - $\lg \rho_{100}$: 250°C/482°F

Chemical Durability

- Acid Resistance [ISO 1776]: 1
- Alkali Resistance [ISO 695]: A2
- Hydrolytic Class [ISO 719]: HGB 1
  - [ISO 720]: HGA 1

Mechanical Properties

- Density: 2.23 g/cm³
- Young's Modulus [E]: 64 GPa
- Poisson's Ratio: 0.2
- Shear Modulus: 27 GPa
- Vickers Hardness [0.2/15]: 568
- Knoop Hardness [0.1/20]: 480