

SUPREMAX® 33

Multifunctional rolled borosilicate glass for unlimited applications.

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



SUPREMAX® 33 ultra thick borosilicate glass.



SUPREMAX® 33 is available in a broad thickness range.

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 57.2 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

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

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

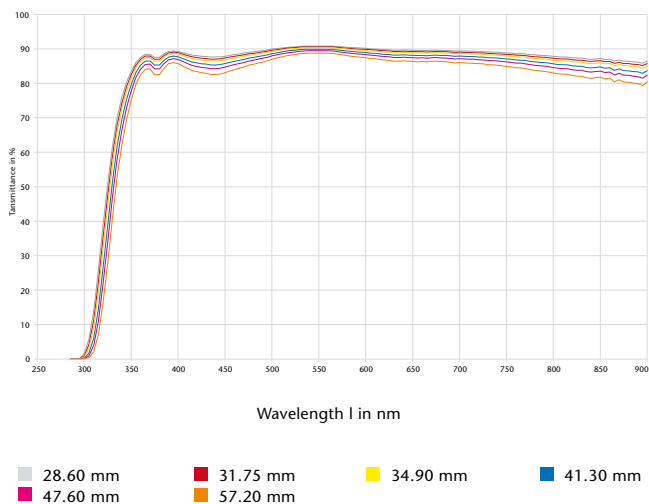
Available Thicknesses

Thicknesses in mm (inch)	Tolerances 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)

SCHOTT
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Technical Properties

Transmission



Spectral Transmittance

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 ($n_f - n_c$)	71.9×10^{-4}

Thermal Properties

Coefficient of Thermal Expansion α [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 λ [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

Optical index of refraction

Dielectric Constant ϵ_r [at 25 °C and 1MHz]	4.6
Loss Tangent $\tan \delta$ [at 25 °C and 1MHz]	37×10^{-4}

Specific Electric Volume Resistivity

$\lg \rho$ 250 °C	8.0 $\Omega \times \text{cm}$
$\lg \rho$ 350 °C	6.5 $\Omega \times \text{cm}$
t_{k100}	250 °C/482 °F



SUPREMAX® 33 is available in large sheet sizes.

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/cm ³
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

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