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)

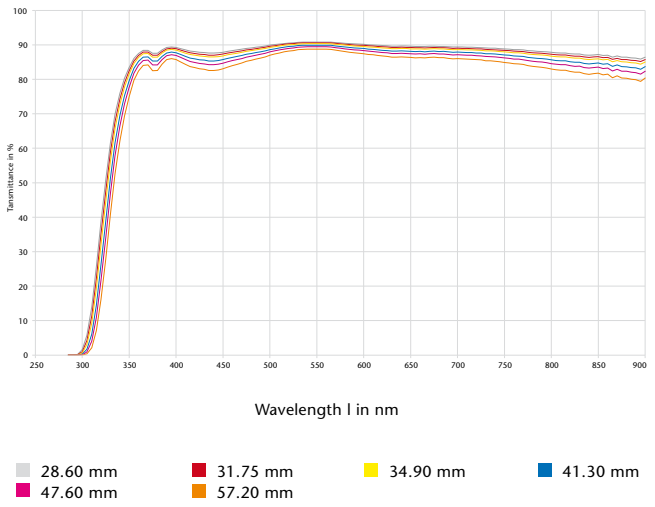
SUPREMAX® 33 rolled borosilicate glass can be cut to size within the standard sizes.

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
glass made of ideas

Technical Properties

Transmission



Spectral Transmittance

Optical Properties

Refractive Index n_d [λ 587.6 nm]	1.472
Stress Optical Coefficient [K]	4.0 x 10^{-6} mm^2 N^{-1}
Dispersion (n_F - n_c)	71.9 x 10^{-4}

Thermal Properties

Coefficient of Thermal Expansion α [20-300 °C/68-572 °F]	3.25 x 10^{-6} 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 δ [at 25 °C and 1MHz]	37 x 10^{-4}
Specific Electric Volume Resistivity	
lg ρ 250 °C	8.0 Ω x cm
lg ρ 350 °C	6.5 Ω x 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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