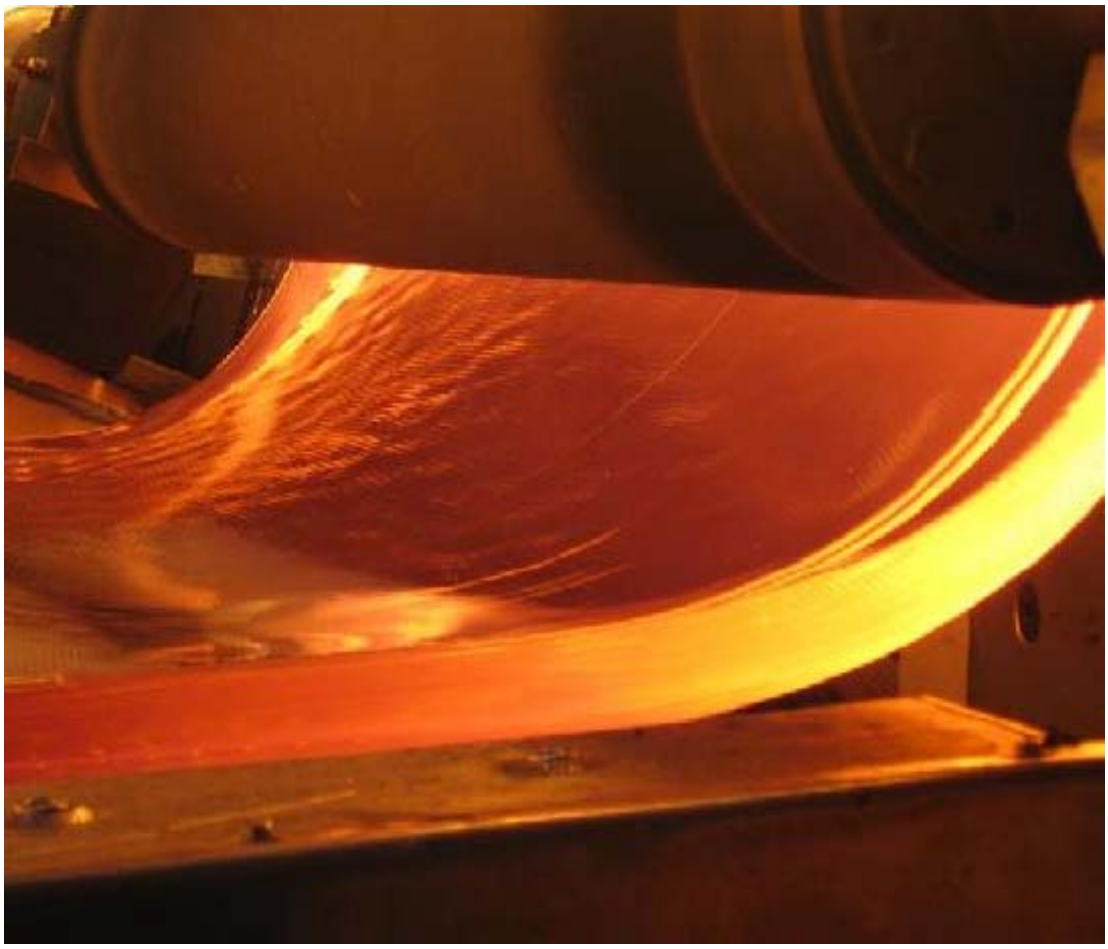
SUPREMAX® 33 Rolled Sheet Borosilicate Glass



SUPREMAX® 33 Rolled Sheet Borosilicate Glass for unlimited applications

SUPREMAX® 33 is a rolled borosilicate glass utilizing the unique SCHOTT rolled sheet glass process. This manufacturing technique offers a wide range of glass thicknesses with appealing surface quality. The glass composition is identical to BOROFLOAT® 33.

Benefits

• Low thermal expansion technical flat glass (C.T.E.: 3.3 x $10^{-6} K^{-1}$)
• High thermal resistance (long term up to 450° C, short term up to 500° C)
• Excellent light transmission from UV to NIR
• Low density (12 % lighter than soda lime glass)
• Excellent chemical durability
• Available in wide thickness range (28.6 mm - 66.7 mm)

Product Properties

Mechanical Properties	
Density	2.2 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

Thermal Properties	
Coefficient of Thermal Expansion α [20-300°C]	3.25 x 10^{-6} K^{-1}
Heat Capacity Cp [20-100°C]	0.83 x 103 J / (kg x K)
Thermal Conductivity λ [90°C]	1.2 W / (m x K)
Softening Point [107.6 dPas]	820° C
Annealing Point [1013 dPas]	560° C
Strain Point [1014.5 dPas]	518° C

Chemical Durability		
Acid Resistance	[ISO 1776 / DIN 12116]	1
Alcaline Resistance	[ISO 695 / DIN 52322]	A2
Hydrolytic Class	[ISO 719 / DIN 12111]	HGB 1
	[ISO 720]	HGA 1

Optical Properties	
Refractive Index nd [λ 587.6nm]	1.4714
Stress Optical Coefficient [K]	4.0 x 10^{-6} mm^2 N^{-1}

Electrical Properties	
Dielectric Constants 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°	6.5 Ω x cm
t_{k100}	250° C