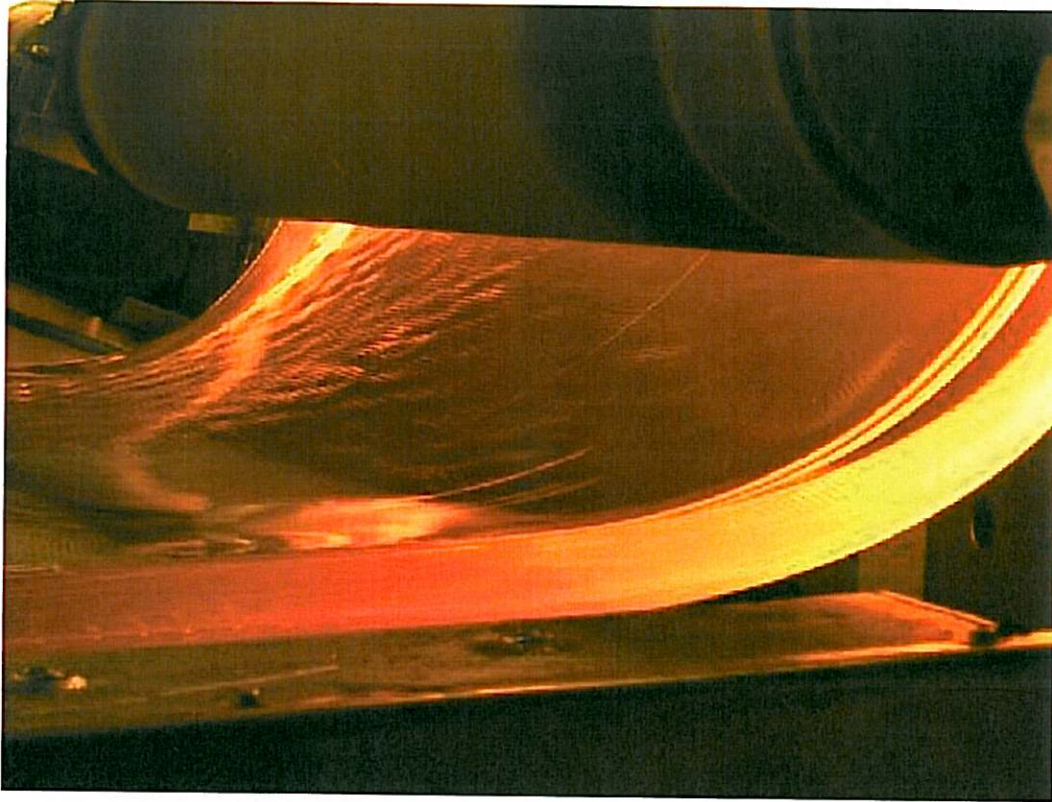


## SUPREMAX<sup>®</sup> 33 Rolled Sheet Borosilicate Glass



### SUPREMAX<sup>®</sup> 33 Rolled Sheet Borosilicate Glass for unlimited applications

SUPREMAX<sup>®</sup> 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<sup>®</sup> 33](#).

#### Benefits

- Low thermal expansion technical flat glass (C.T.E.:  $3.3 \times 10^{-6} \text{ K}^{-1}$ )
- 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 - 57.2 mm)

# Product Properties

## Mechanical Properties

Density	2.2 g/cm <sup>3</sup>
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 • [20-300°C]	3.25 x 10 <sup>-6</sup> K <sup>-1</sup>
Heat Capacity Cp [20-100°C]	0.83 x 10 <sup>3</sup> J / (kg x K)
Thermal Conductivity • [90°C]	1.2 W / (m x K)
Softening Point [10 <sup>7.6</sup> dPas]	820° C
Annealing Point [10 <sup>13</sup> dPas]	560° C
Strain Point [10 <sup>14.5</sup> 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] [ISO 720]	HGB 1 HGA 1

## Optical Properties

Refractive Index n <sub>d</sub> [• 587.6nm]	1.47140
Stress Optical Coefficient [K]	4.0 x 10 <sup>-6</sup> mm <sup>2</sup> N <sup>-1</sup>

## Electrical Properties

Dielectric Constants • <sub>r</sub> [at 25° C and 1MHz]	4.6
Loss Tangent tan • [at 25 °C and 1MHz]	37 x 10 <sup>-4</sup>
Specific Electric Volume Resistivity	
lg • 250° C	8.0 • x cm
lg • 350°	6.5 • x cm
t <sub>k100</sub>	250° C