Borosilicate

SCHOTT Supremax® Rolled Borosilicate

Description
SCHOTT Supremax® 33 is identical in its properties to Borofloat 33, the only difference being slightly lower surface quality due to the rolled process. It is a versatile borosilicate glass with excellent thermal properties, chemical resistance, and good light transmission material of this thickness. Its unique properties make it desirable in many different applications. Supremax® 33 also maintains a low density compared to that of soda lime glass.

Features
- Large thickness range
- Very good optical properties
- Low thermal expansion
- High chemical durability
- Low density

Applications
- High temperature windows for lighting
- Photovoltaics
- Optical windows, filters, and mirrors
- Chemically resistant view ports
- Bulletproof glass systems

Physical Properties

Mechanical
- Density (25°C) $\rho$: 2.2 g/cm$^3$ = 137.3 lb/ft$^3$
- Young’s Modulus $E$: 64 kN/mm$^2$ = 9.28 Mpsi
- Poisson’s Ratio $\mu$: 0.2
- Knoop Hardness $HK_{0.1/20}$: 480
- Bending strength $\sigma$: 25 MPa = 3.63 x 10$^3$ psi

Viscosity
- Working Point (10$^4$ poises): 1270 °C = 2318 °F
- Softening Point (10$^7.6$ poises): 820 °C = 1508 °F
- Annealing Point (10$^{13}$ poises): 560 °C = 1040 °F
- Strain Point (10$^{14.5}$ poises): 518 °C = 964 °F

Thermal Expansion
- 0 – 300 °C (32 – 572 °F): 3.25 x 10$^{-6}$/K

Optical
- Index of Refraction @ 435.8nm: 1.4802
- @ 479.9nm: 1.4768
- @ 546.1nm: 1.4731
- @ 589.3nm: 1.4713
- @ 643.8nm: 1.4695
- @ 656.3.3nm: 1.4692

Electrical
- Log10 Volume Resistivity: (250°C, 482°F) 8.0
  (350°C, 932°F) 6.5

Dimensions
- Thicknesses: 28.6mm – 66.7mm
  (1 ⅛” – 2 ⅝”)
- Sizes: Up to 90” x 67”
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SCHOTT Supremax® Rolled Borosilicate (cont.)

Spectral Transmittance