



Glass and Polymer
Technologies

Glass Type

Borosilicate PYREX

Available in rolled sheet from 3/32" to 2-1/8" and in polished plate as specified

Mechanical Metric English

Density 2.23 g/cm³ 139.2 lb/ft³

Young's Modulus 6.4 x 10³ kg/mm² 9.1 x 10⁶ psi

Poisson's Ratio 0.20

Shear Modulus 2.67 x 10³ kg/mm² 3.8 x 10⁶ psi

Knoop Hardness (KHN₁₀₀) 418

Viscosity

Working Pt. (10⁴ poises) 1252°C 2286°F

Softening Pt. (10^{7.6} poises) 821°C 1510°F

Annealing Pt. (10¹³ poises) 560°C 1040°F

Strain Pt. (10¹⁴ poises) 510°C 950°F

Thermal

Coefficient of Expansion (0-300°C) 32.5 x 10⁻⁷/°C 18.1 x 10⁻⁷/°F

(25C to Set Point 515°C) 35.0 x 10⁻⁷/°C 19.5 x 10⁻⁷/°F

Specific Heat, 25°C 0.18 cal/g°C 0.18 Btu/lb°F

Thermal Conductivity, 25°C 0.0027 cal cm / sec cm²·C h ft²·F

Thermal Diffusivity, 25°C 0.0069 cm²/sec 0.00107 in²/sec

Optical

Refractive Index (589.3 nm) 1.474

Birefringence Constant 394 nm/cm
kg/mm²

Transmission @ 440 nm 91.0%*

@ 560nm 91.8%*

* Through a sample thickness 1.0 mm

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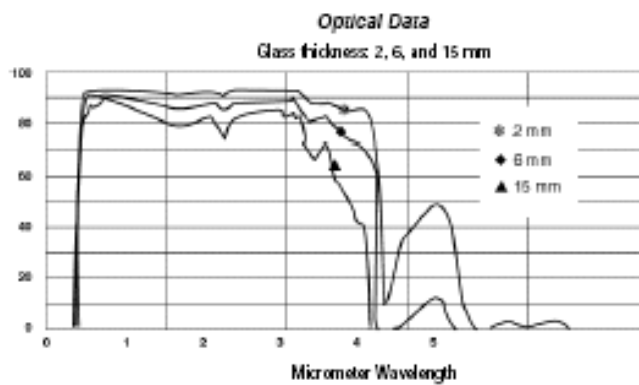
Electrical

Log₁₀ Volume Resistivity @ 250°C 8.1 ohm-cm

@ 350°C 6.6 ohm-cm

Dielectric Constant @ 20°C; 1 MHz 4.6

Loss Tangent @ 20°C; 1 MHz 0.4%



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