

Specialty Glass Products Technical Reference Document

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Borosilicate

Corning® 0211 Microsheet Flexible Thin Glass

Description

Corning 0211 is a thin, drawn borosilicate that provides exceptional optical performance. It is also lightweight and flexible, making it a great substrate for miniature display components. The draw process used to produce 0211 results in excellent surface quality, making it ready for coating without further processing.

Features

- Strong
- Thin
- High light transmission
- Good surface quality
- Easy to coat

Applications

- Micro-display
- Coating substrate
- Touch panels
- Cover glass

Physical Properties

Mechanical

- | | | |
|--------------------------------------|---|----------------------------|
| • Density | 2.53g/cm ³ | 157.9 lb/ft ³ |
| • Young's Modulus | 7.59 x 10 ³ kg/mm ² | 10.8 x 10 ⁶ psi |
| • Poisson's Ratio | 0.22 | |
| • Shear Modulus | 3.09 x 10 ³ kg/mm ² | 4.4 x 10 ⁶ psi |
| • Knoop Hardness (KHN ₁) | 458 | |

Viscosity

- | | | |
|--|--------|--------|
| • Working Pt. (10 ⁴ poises) | 1008°C | 1846°F |
| • Softening Pt. (10 ^{7.6} poises) | 720°C | 1328°F |
| • Annealing Pt. (10 ¹³ poises) | 550°C | 1022°F |
| • Strain Pt. (10 ¹⁴ poises) | 508°C | 946°F |

Thermal

- | | | |
|--------------------------------------|-------------------------------------|---------------------------------|
| • Coefficient of Expansion (0-300°C) | 73.8 x 10 ⁻⁷ /°C | 41.0 x 10 ⁻⁷ /°F |
| (25°C to Set Point 513°C) | 84.0 x 10 ⁻⁷ /°C | 46.7 x 10 ⁻⁷ /°F |
| • Thermal Conductivity, 0°C | .0023 cal cm/sec cm ² °C | .54 Btu ft/h ft ² °F |

Optical

- | | |
|------------------------------|-------|
| • Refractive Index (589.3nm) | 1.523 |
| • Transmission @ 420 nm | 92%* |
| 2200 nm | 92%* |

*Sample thickness of 1.0 mm

Electrical

- | | |
|------------------------------------|------------|
| • Log10 Volume Resistivity @ 250°C | 8.3 ohm-cm |
| 350°C | 6.7 ohm-cm |
| • Dielectric Constant @ 20°C | 1 MHz 6.7 |
| • Loss Tangent @ 20°C | 1 MHz .46% |

Dimensions

- Thicknesses: 0.145mm and 0.500mm
- Sizes: Up to 17" x 16"

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