CORNING SAS - Specialty Glass
Rue St Laurent - CS 10243 Bagneaux sur Loing - 77797 NEMOURS CEDEX - FRANCE

Glass designation : **Borosilicate** Code **7070**

Color : **White**
Glass type : **Borosilicate**

CORNING

*Excellent thermal expansion match to silicon, high electrical resistivity, suitable to anodic bonding to silicon*

## Mechanical

| | Metric | English |
|---|---|---|
| Density | 2.13 g/cm3 | 139.2 lb/ft$^3$ |
| Youngs Modulus | 5.2 x10$^3$ kg/mm$^2$ | 7.42 x 10$^6$ psi |
| Poissons Ratio | 0.22 | |

## Viscosity

| | | |
|---|---|---|
| Working Point (10$^4$ poise) | 1068 °C | 1954 °F |
| Softening Point (10$^{7.6}$ poise) | 755 °C | 1391 °F |
| Annealing Point (10$^{13}$ poise) | 507 °C | 945 °F |
| Strain Point (10$^{14}$ poise) | 460 °C | 860 °F |

## Thermal

| | | |
|---|---|---|
| Coefficient of Expansion (0 °C - 300 °C) | 32.0 x 10$^{-7}$ / °C | 17.7 x 10$^{-7}$ / °F |
| (25 °C to set point 461 °C) | 39.0 x 10$^{-7}$ / °C | 21.7 x 10$^{-7}$ / °F |

## Optical

| | |
|---|---|
| Refractive index (589.3nm) | 1.47 |

## Electrical

| | |
|---|---|
| $Log_{10}$ Volume Resistivity @ 250 °C | 11.2 ohm-cm |
| $Log_{10}$ Volume Resistivity @ 350 °C | 9.1 ohm-cm |
| Dielectric Constant @ 20 °C, 1 MHz | 4.1 |
| Loss Tangent @ 20 °C, 1 MHz | 0.06% |

## Chemical

**Weathering: 2**
**Acid Durability: 2**

Weathering is defined as corrosion by atmospheric-borne gases and vapors such as water an carbon dioxide. Glasses rated(1) will almost never show weathering effects;those rated (2) will occasionally be troublesome,particulary if weathering products cannot be removed; those glasses rated (3) will require more carreful consideration.
Acid durability classified glasses according to their behavior in 5% hydrochloric acid at 95 °C (203 °F) for 24 hours.
Classification: Thickness loss (inches) (1) < $10^{-6}$ (2) $10^{-6}$ - $10^{-5}$ (3) $10^{-5}$ – $10^{-4}$ (4) > $10^{-4}$

**Non-toleranced numerical values are typical values**

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