

Code: 7059F

Description – Bariaborosilicate glass
Forms Available – Fusion drawn sheet
Principal Uses – Substrates for Active Matrix flat panel displays, image sensors, dichroic color filters and high reliability passive matrix LCDs.

Properties

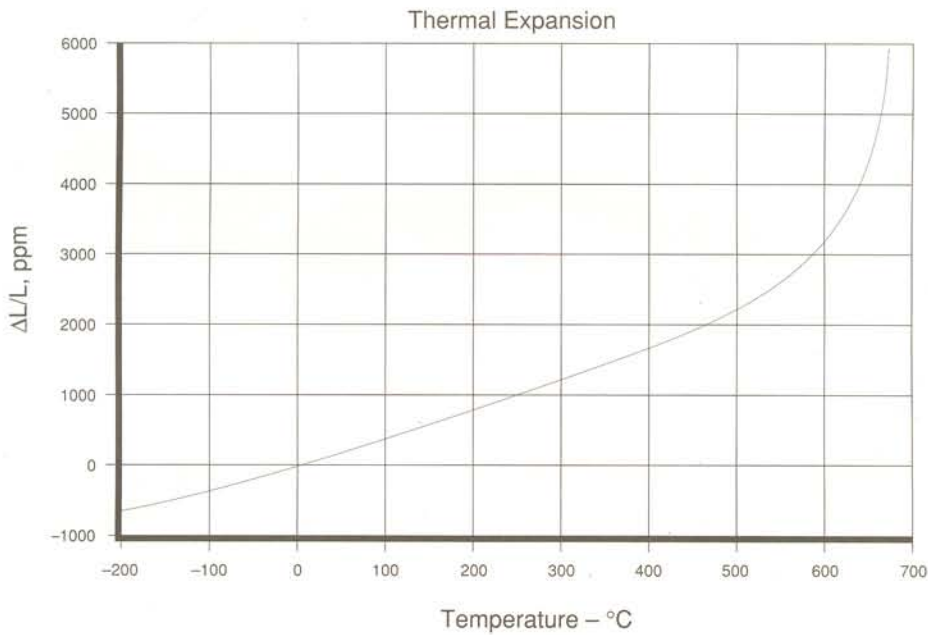
Where applicable, units are stated in Metric and English

Mechanical

	<u>Metric</u>	<u>English</u>
Density (20°C, 68°F)	2.76 g/cm ³	172.3 lb/ft ³
Young's Modulus	6.89 x 10 ³ kg/mm ²	9.8 x 10 ⁶ psi
Poisson's Ratio	.28	.28
Shear Modulus	2.67 x 10 ³ kg/mm ²	3.8 x 10 ⁶ psi

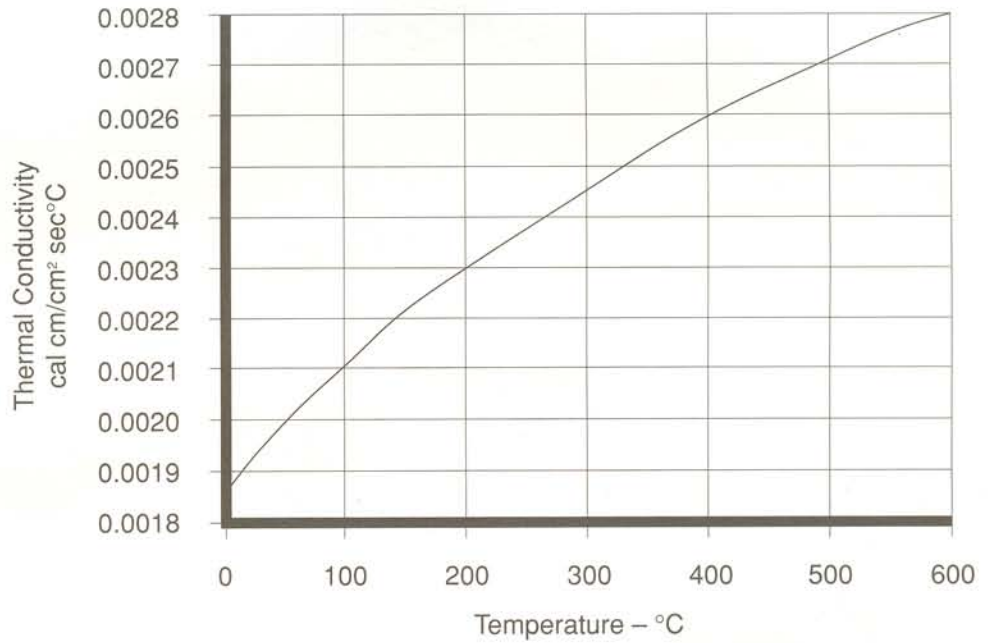
**Thermal
Expansion**

Expansion	46 x 10 ⁻⁷ /°C (0-300°C)	25.6 x 10 ⁻⁷ /°F (32-572°F)
Room Temperature to Setting Point	50.1 x 10 ⁻⁷ /°C (25-598°C)	27.9 x 10 ⁻⁷ /°F (77-1108°F)



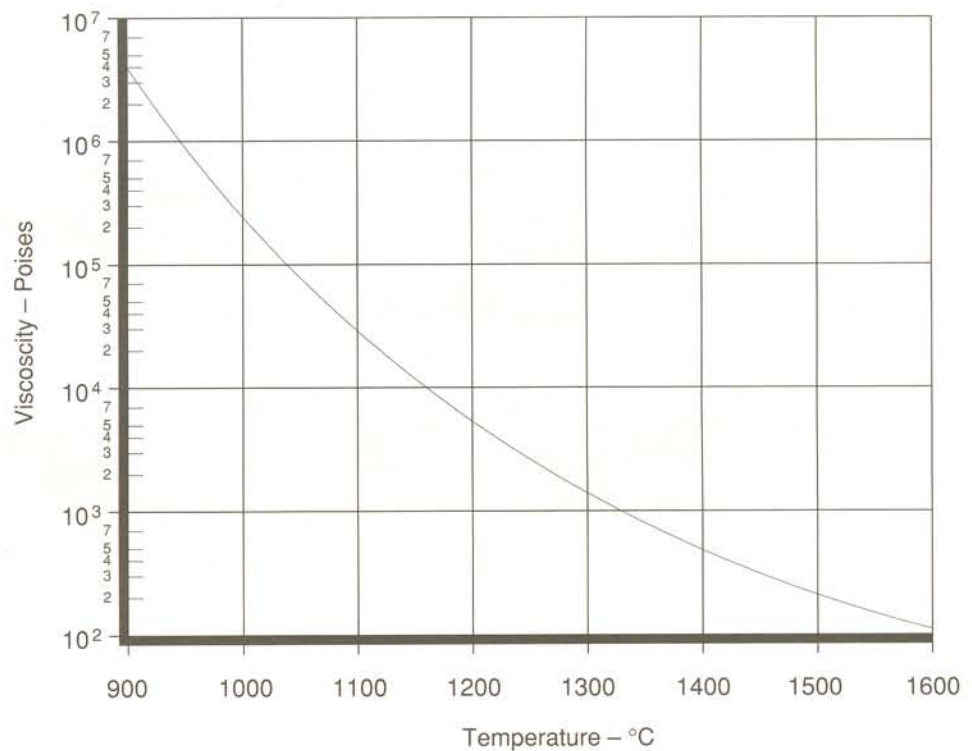
Thermal Conductivity

Thermal Conductivity is a calculated value, and is equal to the product of Thermal Diffusivity multiplied by Specific Heat multiplied by Density of the glass.



Viscosity

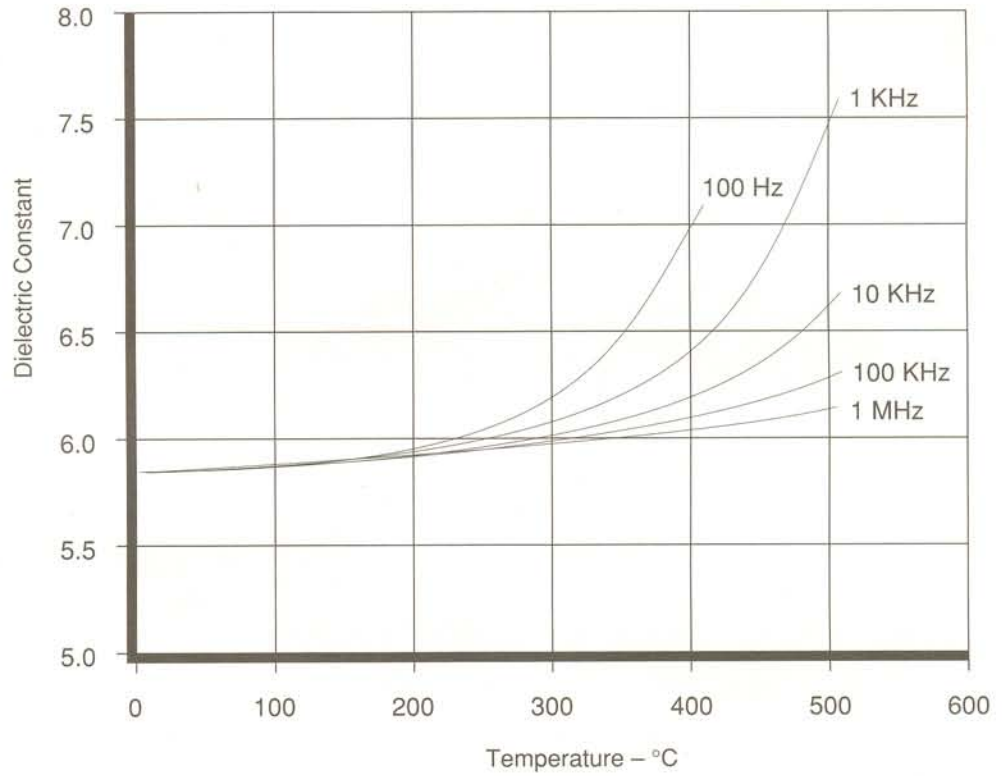
Working Point (10^4 poises)	1160°C	2120°F
Softening Point ($10^{7.6}$ poises)	844°C	1551°F
Annealing Point (10^{13} poises)	639°C	1182°F
Strain Point ($10^{14.5}$ poises)	593°C	1099°F



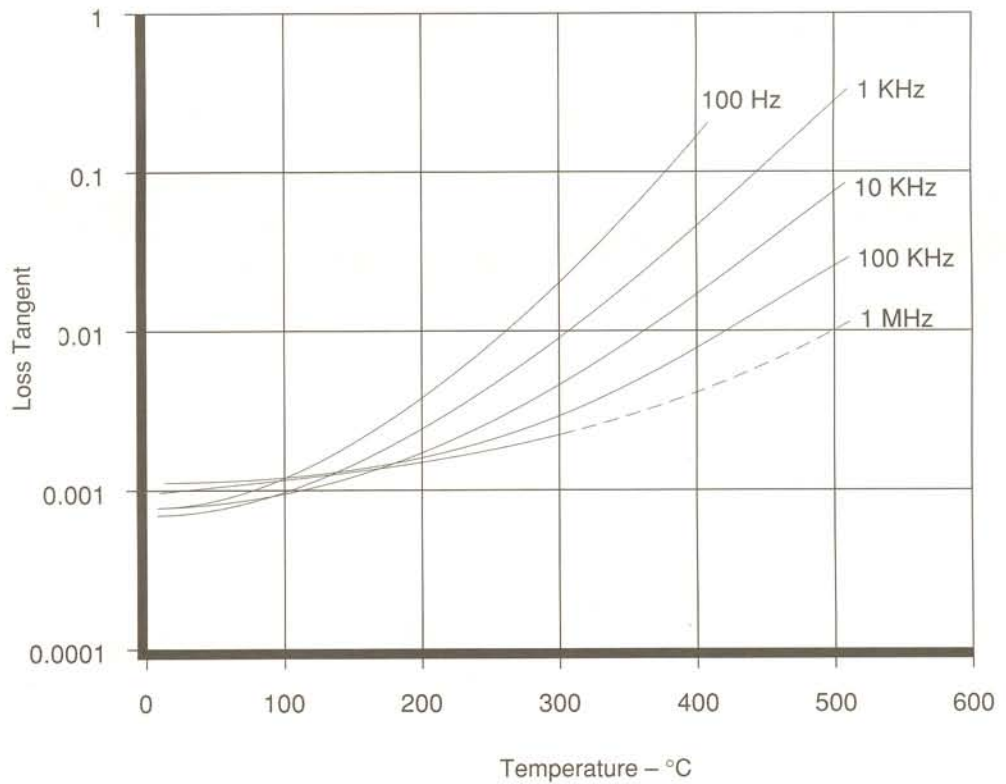
Electrical

Log₁₀ Volume Resistivity:
 (250°C, 482°F) – 13.1; (350°C, 662°F) – 11.0; (500°C, 932°F) – 9.2

Dielectric Constant:
 5.84 (20°C, 68°F
 and 1 MHz)



Loss Tangent:
 0.10% (20°C, 68°F
 and 1 MHz)



Chemical

Weathering 1 Weathering is defined as corrosion by atmospheric borne gases and vapors such as water and carbon dioxide. Glasses rated 1 will almost never show weathering effects; those rated 2 will occasionally be troublesome, particularly if weathering products cannot be removed; those glasses rated 3 require more careful consideration.

Acid Durability 4 Acid Durability classifies glasses according to their behavior in 5% hydrochloric acid at 95°C (203°F) for 24 hours.

Classification	Thickness Loss (in.)
1	$<10^{-6}$
2	$10^{-6} - 10^{-5}$
3	$10^{-5} - 10^{-4}$
4	$>10^{-4}$

Values are listed with four degrees of accuracy. Those that are underscored (e.g. 2) result from recent determinations and are reliable. Values not underscored are estimates offered with confidence.

Other Alkali Content less than 0.3%
(Typical 0.15%)

Optical

Wavelength	435.8nm	480.0nm	486.1nm	546.1nm	589.3nm	643.8nm	656.3nm
Index of Refraction	1.5440	1.5398	1.5393	1.5354	1.5333	1.5311	1.5306
Birefringence Constant	<u>320 μ/cm</u> kg/mm ²						

Transmittance

