

Appearance

Compliant (viscous) sealing glass white colored in powder form.

Chemical Composition (by weight)

Boron oxide (B ₂ O ₃)	32.84 - 40.84 %
Barium oxide (BaO)	30.45 - 34.45 %
Silica (SiO ₂)	13.95 - 19.95 %
Alumina (Al ₂ O ₃)	6.19 - 8.19 %
Strontium oxide (SrO)	3.26 - 5.26 %
Calcium oxide (CaO)	1.31 - 3.31 %

Physical Properties

Specific Gravity	3.0 (g/cm ³)
Glass Transition Temperature	604 ± 10 °C
Softening Temperature (T _d)	655 ± 10 °C
Coefficient of Thermal Expansion	7.3 x 10 ⁻⁶ /°C (50 - 500 °C)
Interfacial Bond Strength (Shear)	35.3 MPa
Interfacial Bond Strength (Tensile)	19.0 MPa
Dielectric Constant (1kHz, RT)	7.08
Loss Tangent (1kHz, RT)	0.0014

Recommended Firing Conditions

Ramp to 850 °C and hold for 2 to 4 hours.
 Heating or cooling rate: 3 to 10 °C/min

Applications

Operational Temperature: up to 850 °C

The typical application of GL1709 sealing glass is to seal ceramics and metals at high temperatures. Common applications of sealing glass include: solid oxide fuel cells (SOFCs), solar cells, sodium ion batteries, high-temperature sensors, and other sealing, bonding, or coating applications.