

**Appearance**

Compliant (viscous) sealing glass white colored in powder form

**Chemical Composition (by weight)**

Boron oxide (B <sub>2</sub> O <sub>3</sub> )	42.02 - 50.02%
Barium oxide (BaO)	31.78 - 35.78 %
Alumina (Al <sub>2</sub> O <sub>3</sub> )	9.23 - 13.23 %
Zinc oxide (ZnO)	6.97 - 11.97 %

**Physical Properties**

Specific Gravity	3.2 (g/cm <sup>3</sup> )
Glass Transition Temperature	550 ± 10 °C
Softening Temperature (T <sub>d</sub> )	577 ± 10 °C
Coefficient of Thermal Expansion	7.0 x 10 <sup>-6</sup> /°C (50 - 500 °C)
Interfacial Bond Strength (Shear)	25.6 MPa
Interfacial Bond Strength (Tensile)	18.5 MPa
Dielectric Constant (1kHz, RT)	6.76
Loss Tangent (1kHz, RT)	0.0041

**Recommended Firing Conditions**

Ramp to between 700°C and 750°C and hold for 2 to 4 hours.  
 Heating or cooling rate: 3 to 10 °C/min

**Applications**

Operational Temperature: up to 700 °C

The typical application of GL1745 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.

