

Appearance

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

Chemical Composition (by weight)

Boron oxide (B ₂ O ₃)	32.37 - 39.57 %
Barium oxide (BaO)	31.69 - 38.73 %
Silica (SiO ₂)	13.5 - 17.5 %
Strontium oxide (SrO)	4.76 - 7.14 %
Alumina (Al ₂ O ₃)	4.68 - 7.02 %
Calcium oxide (CaO)	2.58 - 3.86 %

Physical Properties

Specific Gravity	3.2 (g/cm ³)
Glass Transition Temperature	624 ± 10 °C
Softening Temperature (T _d)	660 ± 10 °C
Coefficient of Thermal Expansion	7.72 x 10 ⁻⁶ /°C (50 - 500 °C)
Interfacial Bond Strength (Shear)	23.2 MPa
Interfacial Bond Strength (Tensile)	14.1 MPa
Dielectric Constant (1kHz, RT)	7.51
Loss Tangent (1kHz, RT)	0.0077

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 GL1681 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.