

Appearance

Low temperature sealing glass with gray color in powder form.

Chemical Composition

Zinc oxide (ZnO)

Bismuth oxide (Bi₂O₃)

Boron oxide (B₂O₃)

Physical Properties

Specific Gravity	4.5 (g/cm ³)
Glass Transition Temperature (by dilatometry)	478 ± 10 °C
Softening Temperature (T _d)	505 ± 10 °C
Coefficient of Thermal Expansion	6.3 - 7.5 x 10 ⁻⁶ /°C (50 - 400 °C)
Interfacial Bond Strength (Shear)	20.5 MPa
Interfacial Bond Strength (Tensile)	14.3 MPa
Dielectric Constant (1kHz, RT)	11.05
Loss Tangent (1kHz, RT)	0.0454

Recommended Firing Conditions

Ramp to 560 - 590 °C and hold for 1 - 2 hours.

Heating or cooling rate: 3 to 10 °C/min

Applications

Operational Temperature: up to 400 °C

The typical application of GL1819 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.