

Appearance

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

Chemical Composition (by weight)

Boron oxide (B ₂ O ₃)	34.37 - 45.62 %
Barium oxide (BaO)	29.91 - 36.55 %
Alumina (Al ₂ O ₃)	9.91 - 12.11 %
Strontium oxide (SrO)	4.48 - 6.72 %
Zinc oxide (ZnO)	3.52 - 5.28 %
Calcium oxide (CaO)	2.42 - 3.64 %
Nickel oxide (NiO)	0.66 - 0.98 %
Cobalt oxide (CoO)	0.33 - 0.49 %

Physical Properties

Specific Gravity	3.2 (g/cm ³)
Glass Transition Temperature	563 ± 10 °C
Softening Temperature (T _d)	598 ± 10 °C
Coefficient of Thermal Expansion	8.0 x 10 ⁻⁶ /°C (50 - 500 °C)

Recommended Firing Conditions

Ramp to between 800 °C and 850 °C and hold between 2 to 4 hours.
Heating/ cooling rate: 3 to 10°C/minute

Applications

Operational Temperature: up to 800 °C

The typical application of GL1705 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.