

Appearance

Glass-ceramic sealing glass light grey colored in powder form.

Chemical Composition (by weight)

Bismuth oxide (Bi ₂ O ₃)	46 - 52 %
Silica (SiO ₂)	17 - 23 %
Boron oxide (B ₂ O ₃)	15 - 21 %
Alumina (Al ₂ O ₃)	2 - 4 %
Sodium oxide (Na ₂ O)	2 - 4 %
Potassium oxide (K ₂ O)	2 - 4 %
Titanium oxide (TiO ₂)	2 - 4 %
Lithium oxide (Li ₂ O)	0.5 - 1.5 %

Physical Properties

Specific Gravity	3.7 (g/cm ³)
Glass Transition Temperature	440 ± 10 °C
Crystallization Temperature	610 ± 10 °C
Softening Temperature (T _d)	500 ± 10 °C
Coefficient of Thermal Expansion (crystallized)	9.5 x 10 ⁻⁶ /°C (50 - 450 °C)
Dielectric Constant (1kHz, RT) (crystallized)	10.22
Loss Tangent (1kHz, RT) (crystallized)	0.0134

Recommended Firing Conditions

Ramp to between 650 and 850 °C and hold for 2 to 4 hours.

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

Applications

Operational Temperature: up to 600 °C

The typical application of GL1724 sealing glass is to seal ceramics and metals at high temperatures. GL1724 glass is resistant to alkali. 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.