



573-364-2338



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### Appearance

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

### Chemical Composition (by weight)

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

### Physical Properties

Specific Gravity	3.7 (g/cm <sup>3</sup> )
Glass Transition Temperature	440 ± 10 °C
Crystallization Temperature	610 ± 10 °C
Softening Temperature (T <sub>d</sub> )	500 ± 10 °C
Coefficient of Thermal Expansion (crystallized)	9.5 ± 1 x 10 <sup>-6</sup> /°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.

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