

### Appearance

Glass-ceramic sealing glass white colored in powder form

### Chemical Composition (by weight)

Strontium oxide (SrO)	32.47 - 36.47 %
Silica (SiO <sub>2</sub> )	29.29 - 35.29 %
Zinc oxide (ZnO)	25.07 - 29.07 %
Boron oxide (B <sub>2</sub> O <sub>3</sub> )	2.56 - 4.56 %
Alumina (Al <sub>2</sub> O <sub>3</sub> )	1.61 - 3.61 %

### Physical Properties

Specific Gravity	3.8 (g/cm <sup>3</sup> )
Glass Transition Temperature	660 ± 10 °C
Softening Temperature (T <sub>d</sub> )	693 ± 10 °C
Crystallization Temperature	830 ± 10 °C
Coefficient of Thermal Expansion (crystallized)	5.5 x 10 <sup>-6</sup> /°C (50 - 500 °C)

### Recommended Firing Conditions

Ramp to 760 °C and hold for 2 hours, then ramp to 830 °C and hold for 2 hours.  
Heating or cooling rate: 3 to 10 °C/min

### Applications

Operational Temperature: up to 900 °C

The typical application of GL1742 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.