



Appearance

Glass-ceramic sealing glass white colored in powder form

Chemical Composition (by weight)

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

Physical Properties

Specific Gravity	3.8 (g/cm ³)
Glass Transition Temperature	660 ± 10 °C
Softening Temperature (T _d)	693 ± 10 °C
Crystallization Temperature	830 ± 10 °C
Coefficient of Thermal Expansion (crystallized)	5.5 ± 1 x 10 ⁻⁶ /°C (50 - 500 °C)
Dielectric Constant (1kHz, RT) (annealed glass)	9.21
Loss Tangent (1kHz, RT) (annealed glass)	0.0070

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.

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