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### Appearance

Glass-ceramic sealing glass white colored in powder form.

### Chemical Composition

Calcium oxide (CaO)

Alumina (Al<sub>2</sub>O<sub>3</sub>)

Silica (SiO<sub>2</sub>)

Barium oxide (BaO)

### Physical Properties

Specific Gravity	3.2 (g/cm <sup>3</sup> )
Softening Temperature (T <sub>d</sub> )	754 ± 10 °C
Glass Transition Temperature	724 ± 10 °C
Crystallization Temperature (DSC)	1037 ± 10 °C
Coefficient of Thermal Expansion (annealed glass)	9.6 ± 1 x 10 <sup>-6</sup> /°C (50 - 600 °C)
Coefficient of Thermal Expansion (crystallized)	9.1 ± 1 x 10 <sup>-6</sup> /°C (50 - 900 °C)
Dielectric Constant (1kHz, RT) (annealed glass)	8.44
Loss Tangent (1kHz, RT) (annealed glass)	0.0262

### Recommended Firing Conditions

Ramp to 1020 °C and hold for 0.5 to 1 hour.

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

### Applications

Operational Temperature: up to 910 °C

The typical application of GL1870 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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