

### Appearance

Glass-ceramic sealing glass light grey colored in powder form

### Chemical Composition

Bismuth oxide (Bi<sub>2</sub>O<sub>3</sub>)

Zinc oxide (ZnO)

Boron oxide (B<sub>2</sub>O<sub>3</sub>)

Sodium oxide (Na<sub>2</sub>O)

### Physical Properties

Specific Gravity	5.6 (g/cm <sup>3</sup> )
Glass Transition Temperature	400 ± 10 °C
Softening Temperature (T <sub>d</sub> )	424 ± 10 °C
Coefficient of Thermal Expansion	9.4 x 10 <sup>-6</sup> /°C (50 - 300 °C)
Dielectric Constant (1kHz, RT)	14.60
Loss Tangent (1kHz, RT)	0.0316

### Recommended Firing Conditions

Ramp to 510°C and hold for 0.5 to 1 hr.

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

### Applications

Operational Temperature: up to 350 °C

The typical application of GL1846 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.