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Appearance

Ultra-low temperature sealing glass is white in color and is in powder form.

Chemical Composition

Tin fluoride (SnF₂)

Tin oxide (SnO)

Phosphorus oxide (P₂O₅)

Physical Properties

| | |
|---|--|
| Specific Gravity | 3.68 (g/cm ³) |
| Glass Transition Temperature (measured by dilatometry) | 97 ± 10 °C |
| Softening Temperature (T _d) | 119 ± 10 °C |
| Coefficient of Thermal Expansion | 20 ± 1 x 10 ⁻⁶ /°C (25 - 90 °C) |
| Dielectric Constant (1kHz, RT) | 9.80 |
| Loss Tangent (1kHz, RT) | 0.0059 |

Recommended Firing Conditions

Ramp to 250 °C and hold for 1 to 2 hours.

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

Applications

Operational Temperature: up to 80 °C

The typical application of GL1648 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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