

Appearance

Sealing glass white colored in powder form

Chemical Composition (by weight)

Phosphorus oxide (P ₂ O ₅)	66.52 - 72.52 %
Zinc oxide (ZnO)	9.28 - 13.25 %
Potassium oxide (K ₂ O)	5.96 - 7.96 %
Sodium oxide (Na ₂ O)	3.58 - 5.58 %
Boron oxide (B ₂ O ₃)	3.5 - 5.5 %
Lithium oxide (Li ₂ O)	1.21 - 3.21 %
Alumina (Al ₂ O ₃)	0 - 2 %

Physical Properties

Specific Gravity	2.6 (g/cm ³)
Glass Transition Temperature	330 ± 10 °C
Softening Temperature (T _d)	370 ± 10 °C
Coefficient of Thermal Expansion	16.0 x 10 ⁻⁶ /°C (40 - 320 °C)
Interfacial Bond Strength (Shear)	7.48 MPa
Interfacial Bond Strength (Tensile)	8.81 MPa
Dielectric Constant (1kHz, RT)	6.67
Loss Tangent (1kHz, RT)	0.0037

Recommended Firing Conditions

Ramp to between 450°C and 500°C and hold for 1 to 2 hours.
 Heating or cooling rate: 3 to 10 °C/min

Applications

Operational Temperature: up to 500 °C

The typical application of GL1732 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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