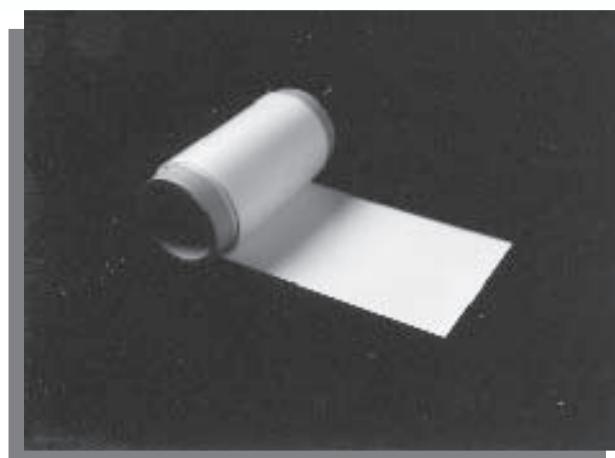
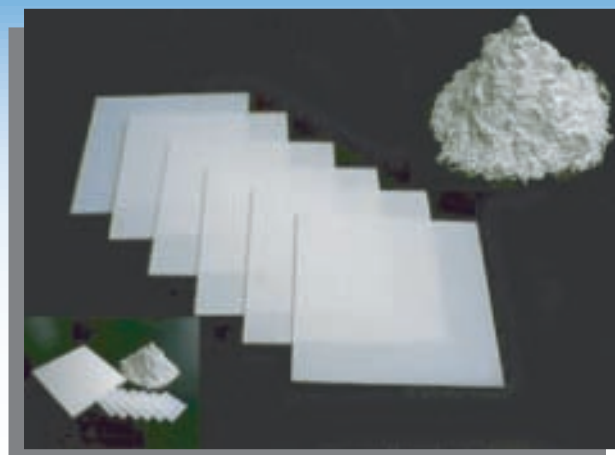


Lithium-Ion Conducting Glass-Ceramic (LIC-GC)

LIC-GC

Ohara has developed a high performance fast lithium-ion conducting glass-ceramic. The LIC-GC material has excellent chemical resistance and can be supplied in powder, solid plates, or flexible sheet. The unique properties of LIC-GC make it suitable for use as an electrolyte or separator in next generation lithium batteries, gas sensors and other electrochemical devices.



ADVANTAGES

- High Lithium-Ion Conductivity: The LIC-GC lithium-ion conductivity is higher than 10^{-1} S/m ($=10^{-3}$ S/cm) at room temperature. This value is one of the highest ion conductivity values for a solid electrolyte. LIC-GC's ionic conductivity obeys Arrhenius-type equations.
- Outstanding Chemical Properties: LIC-GC glass-ceramic has excellent chemical resistance. Water/moisture and acid have minimal influence on the lithium-ion conductivity.
- Excellent Physical and Mechanical Properties
- Various Forms Available: Powder, solid plates, and flexible sheet.

Lithium-Ion Conducting Glass-Ceramic (LIC-GC)

LIC-GC Properties

Electrical Properties (Plate, Powder)	Lithium-ionic Conductivity ($10^2 \text{S} \cdot \text{m}^{-1}$) (= $\text{S} \cdot \text{cm}^{-1}$)	-50°C	1.8×10^{-5} (Powder)
		25°C	1.2×10^{-3} (Powder)
			1.0×10^{-4} (Plate)
Thermal Properties (Plate)	Thermal Expansion Coefficient ($\times 10^{-7}/\text{K}$)	30~350°C	94
		350~600°C	82
Mechanical Properties (Plate)	Bending Strength (N/mm^2)		140
	Knoop Hardness* (Hk)		590
	Specific Gravity		3.05
Chemical Properties (Plate, Powder)	Water Resistance (Powder) RW (P)*		Class1
	Acid Resistance (Powder) RA (P)*		Class1
Specification subject to change along development. Mechanical properties are measured at room temperature except for CTE.			

* Ohara's classification

Lithium-ion Conductivity

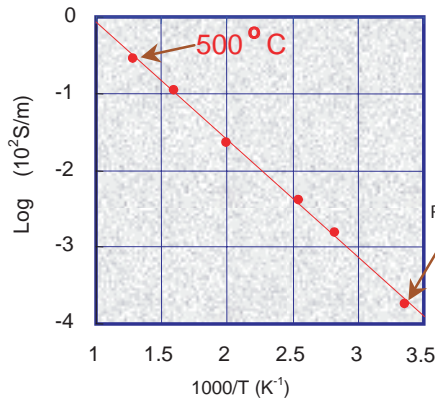
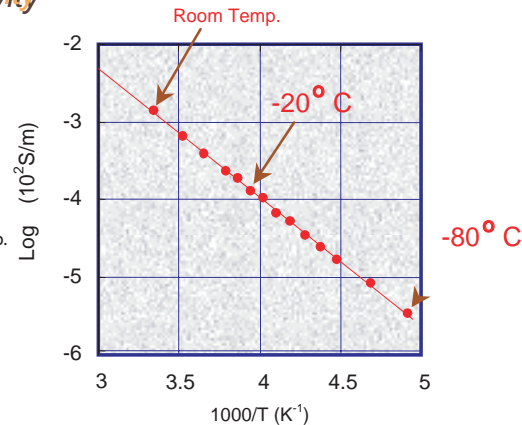


Plate: Room Temp. to 500°C



Powder: Room Temp. to -80°C

Standard Sizes:

Plate: 1x1 inch; thickness range: 0.3-2.0mm
Flexible Sheet: 150mm wide x 50 μm thick (under development)
Powder: Average of grain size 1-10 μm (D=50)

Please contact us to discuss your specific requirements.