

Lumiglas[®]

Ultra-high pressure sapphire glass; Ultra-high pressure sapphire glass tube

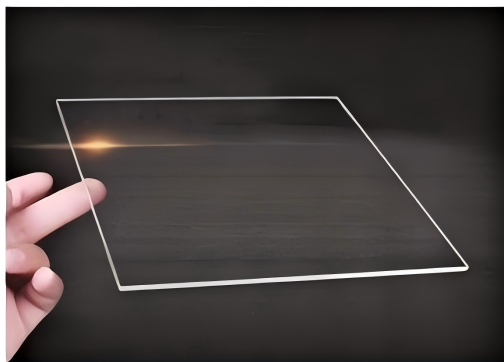
Lumistar specializes in the production of sapphire glass and high pressure sapphire glass tubes.

Sapphire has excellent optical properties, capable of transmitting deep ultraviolet, visible light, near infrared, and mid-wave infrared light from 0.18 to 5.5 μ m.

Sapphire has outstanding mechanical strength, with a flexural strength of up to 850MPa, making the preferred material for high-temperature and high-pressure glass view windows. Lumistar can calculate various pressure strengths under different temperature curves for users.

Lumistar can design and manufacture all kinds of high temperature and high pressure sapphire glass windows, sapphire glass tubes, pressure resistance to meet the pressure requirements of high vacuum to ultra-high pressure $1E^{-13}$ to 150MPa, and can also be coated with waterproof film, oilproof film, AR anti-reflection film and so on according to the needs of users.

Maximum specifications available: diameter 400mm.



Ultra-high pressure sapphire glass tube

Sapphire performance

General performance	Chemical Formula	Al_2O_3
	Crystal System	Trigonal
	Class	Hexagonal-scalenohedral
	Melting Temperature	2050°C
Thermal performance	Thermal Expansion	Parallel to C-axis: 6.7×10^{-6}
		Perpendicular to C-axis: 5.0×10^{-6}
	Specific Heat	0.18 Cal/gm°K(25°C)
Mechanical properties	Density	3.99-4.10g/cm ³
	Hardness	9 Moh's Scale
		(Hv) $\geq 1700 \text{ kg/mm}^2$
	Modulus Of Elasticity	340-380Gpa
	Compressive Strength	2.1Gpa
	Tensile Strength	0.19Gpa
Optical performance	Index of Refraction	Parallel to C-axis: 1.769
		Perpendicular to C-axis: 1.76
	Index of IR Transmission	3-5.5um $\geq 90\%$ (coated with anti-reflective film)
Electrical performance	Electrical Resistance	$10^{11} \text{ } \Omega/\text{cm}$
		$10^6 \text{ } \Omega/\text{cm}$
		$10^3 \text{ } \Omega/\text{cm}$
	Dielectric Constant	7.5-10
Chemical performance	Corrosion Resistance	Can not be corroded by acid or alkali at normal temperature, only can be corroded by HF at 300°C