

LiF

Lithium Fluoride



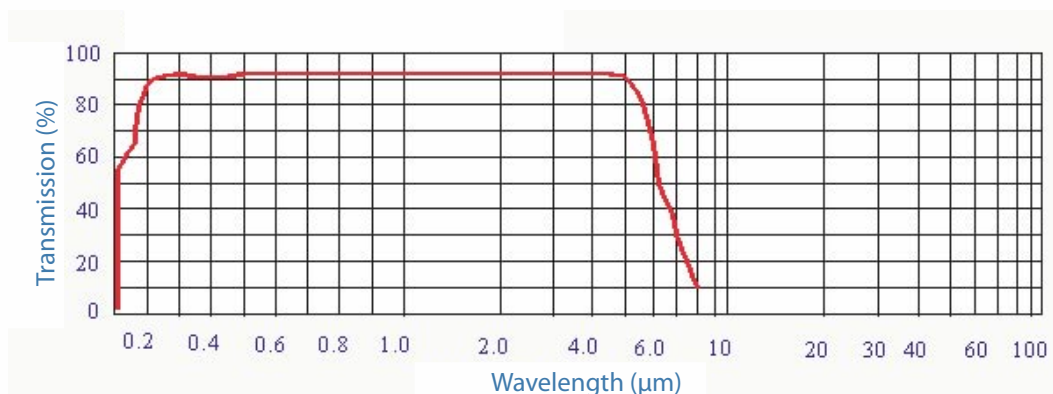
LiF is used for windows, mirrors, and refracting components in the ultraviolet, visible, and infrared. LiF has the lowest refractive index of all common infrared materials. It also transmits ultraviolet radiation more efficiently than any other material, with a transmission range of 150 – 6000 nm.

LiF optics are used in many applications, including imaging, thermal imaging, astronomy, microlithography, x-ray monochromators, heat sink materials, laser research and for the study of fundamental properties and defects in crystals. LiF optics are available as lenses, windows, beam splitters, optical filters, wedges and prisms.

Physical and Optical Properties

Transmission Range	0.12 to 8.5 microns
Refractive Index	1.3943 at 0.5 microns
Reflection Loss	5.3% at 0.5 microns (2 surfaces)
Restrahlen Peak	25 microns
dN/dT	-12.7 x 10 ⁻⁶ /°C at 0.6 microns
Density	2.63905 gm/cc
Melting Point	870 °C
Thermal Conductivity	4.01 Wm ⁻¹ °K ⁻¹ at 41 °C
Thermal Expansion	37 x 10 ⁻⁶ /°C
Hardness	Knoop 102 to 113 with 600gm indenter
Specific Heat Capacity	1562 JKgm ⁻¹ °K ⁻¹ at 10 °C
Dielectric Constant	9.1 at 25 °C
Young's Modulus (E)	64.79 GPa
Shear Modulus (G)	55.14 GPa
Bulk Modulus (K)	62.03 GPa
Elastic Coefficients	C ₁₁ =97.4 C ₁₂ =40.4 C ₄₄ =55.4
Apparent Elastic Limit	11.2 MPa
Poisson Ratio	0.326

Transmission Spectrum of LiF



DEL MAR PHOTONICS

4119 Twilight Ridge, San Diego, CA 92130, USA Tel:: (858) 876-3133 Fax:: (858) 630-2376
E-mail:: sales@dmphotonics.com URL:: www.dmphotonics.com