



CRYSTAL MATERIALS INDEX

Calcium Fluoride

CaF₂

Widespread IR and near UV application as spectroscopic windows, prisms and lenses. Useful application in the UV as Eximer laser windows. Available doped with europium as a gamma ray scintillator

Properties	Value
Absorption Coefficient (cm ⁻¹)	7.8x10 ⁻⁴ at 2.7μ
Apparent Elastic Limit (MPa)	36.54
Bulk Modulus (K) (GPa)	82.71
Cleavage Planes	(111)
Density (g.cm ⁻³)	3.18
Dielectric Constant	6.76 at 1MHz
Elastic Coefficient C11	164
Elastic Coefficient C12	53
Elastic Coefficient C44	33.7
Hardness (knoop)	158.3
Melting Point (K)	1633
Poisson Ratio	0.26
Reflection Loss (%)	5.4 at 5μ
Refractive Index	1.40 at 0.5μ
Reststrahlen Peak (μ)	35
Shear Modulus (G) (GPa)	33.77
Solubility (g/100g H ₂ O)	0.0017 at 293K
Specific Heat Capacity (J·kg·m ⁻¹ ·K ⁻¹)	854
Stability	Stable
Structure	Cubic
Thermal Conductivity (W·m ⁻¹ ·K ⁻¹)	9.71
Thermal Expansion (K ⁻¹ at 300K)	18.9
Transmission Range (μ)	0.13-10.0
Youngs Modulus (E) (GPa)	75.8

(All data is for information only and believed to be correct. Hilger Crystals does not accept any liability otherwise.)