



Calcium Fluoride

Optical

Transmission Range :	125 nm to 10.5 μm
Refractive Index :	1.3991 at 5 μm
Fresnel Losses :	5.4% at 5 μm (losses from two surfaces)
Absorption Coefficient :	$7.8 \times 10^{-4} \text{ cm}^{-1}$ @ 2.7 μm

Physical

Density :	3.18 g/cc
Melting Point :	1360 $^{\circ}\text{C}$
Thermal Conductivity :	$9.71 \text{ W m}^{-1} \text{ K}^{-1}$
Linear CTE :	$18.85 \times 10^{-6} / ^{\circ}\text{C}$ at RT
Specific Heat Capacity :	$854 \text{ J Kg}^{-1} \text{ K}^{-1}$

Mechanical

Youngs Modulus (E) :	75.8 GPa
Shear Modulus (G) :	33.77 GPa
Bulk Modulus (K) :	82.71 GPa
Rupture Modulus :	36.54 MPa
Hardness :	158.3 Knoop (500g indenter)
Poisson Ratio :	0.26

Chemical

Chemical Formula:	CaF_2
Solubility :	0.0017g/100g H_2O
Molecular Weight :	78.08 g/mole

Notes

IR, UV, and VUV grades are available