

PROPERTIES of Calcium Fluoride (CaF₂)

MECHANICAL PROPERTIES

Young Modulus	: 75.79 GPa
Shear Modulus	: 33.76 GPa
Bulk Modulus	: 83.03 GPa
Knoop Hardness	: 1.6 GPa
Mohs Hardness	: 4
Modulus of Rupture	: 36.5 MPa
Poisson's Ratio	: 0.28
Elastic Coefficients	: C ₁₁ =164; C ₁₂ =53; C ₄₄ =33.7
Apparent Elastic Limit	: 36.54 MPa
Solubility	: 0.0017g in 100g of water @ 23°C
Density	: 3.18 g/cm ³

THERMAL PROPERTIES

Melting Point	: 1360°C
Specific Heat	: 0.204 cal/(g·°C) @ 0°C
Thermal Expansion Coefficient	: 18.85x10 ⁻⁶ °C ⁻¹
Thermal Conductivity	: 9.71 W/(m·°C) @ 36°C

ELECTRICAL PROPERTIES

Dielectric Constant for 105Hz	: 6.76
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OPTICAL PROPERTIES

Transmission Range	: 0.13...9µm
Transmittance	: > 90% (0.3...7µm; 3mm thick)
Refractivity	: 1.39908 @ 5µm
Cleavage Plane	: (111)

TRANSMISSION CURVE

