

PROPERTIES of Barium Fluoride (BaF₂)

MECHANICAL PROPERTIES

Young Modulus	: 53.05 GPa
Shear Modulus	: 25.4 GPa
Bulk Modulus	: 56.4 GPa
Knoop Hardness	: 0.78 GPa
Poisson's Ratio	: 0.343
Elastic Coefficients	: C ₁₁ =89.2; C ₁₂ =40; C ₄₄ =25.4
Apparent Elastic Limit	: 26.9 MPa
Solubility	: 0.17g in 100g of water @ 23°C
Density	: 4.89 g/cm ³

THERMAL PROPERTIES

Melting Point	: 1280°C
Specific Heat	: 0.096 cal/(g·°C) @ 13°C
Thermal Expansion Coefficient	: 18.10 ×10 ⁻⁶ °C ⁻¹ @ 0°C
Thermal Conductivity	: 11.7 W/(m·°C) @ 13°C

ELECTRICAL PROPERTIES

Dielectric Constant for 2 × 10 ⁶ Hz	: 7.33
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OPTICAL PROPERTIES

Transmission Range	: 0.15...12.5μm
Transmittance	: > 90% (0.35...10μm; 3mm thick)
Refractive Index within 0.26...12mm	: 1.5122...1.3703
Cleavage Plane	: (111)

TRANSMISSION CURVE

