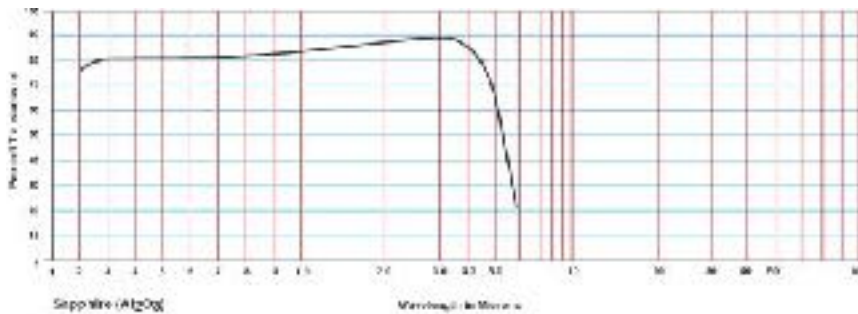


Optical Materials

Sapphire (Al₂O₃) Optical Crystals

Sapphire (Al₂O₃) is an extremely hard material which is useful for UV, NIR and IR applications through 5 microns. It is particularly useful for high pressure and high temperature applications.



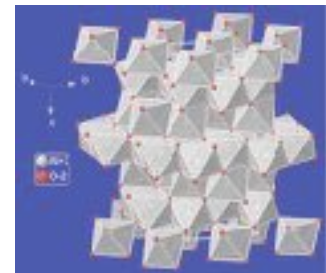
Optical Properties - Sapphire (Al₂O₃) Optical Crystals

Transmission Range: 150 nm to 5.5 microns
Refractive Index: 1.73 at 2.5 microns
Reflection Loss: 10% at 3 microns (2 surfaces)



Physical Properties - Sapphire (Al₂O₃) Optical Crystals

Melting Point: 2040° C
Hardness (Knoop): 2200 kg/mm²
Young's Modulus: 335 GPa
Modulus of Rupture: 65,000
Structure: Hexagonal-Rhombohedral



Chemical Properties - Sapphire (Al₂O₃) Optical Crystals

Solubility: 98 x 10⁻⁶ gm/100 gm water. Slightly soluble in acids and bases.

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