



Zinc Selenide

Optical

Transmission Range :	480 nm to 20.5 μm
Refractive Index :	2.4028 at 10.6 μm
Reflection Loss :	29.1% at 10.6 μm (loses from two surfaces)
Absorption Coefficient :	$0.5 \times 10^{-3} \text{ cm}^{-1}$ at 10.6 μm

Physical

Density :	5.27 g/cm^3
Melting Point :	1525 $^{\circ}\text{C}$
Thermal Conductivity :	18 $\text{W m}^{-1} \text{ K}^{-1}$ at RT
Linear CTE :	$7.1 \times 10^{-6} /^{\circ}\text{C}$ at RT
Specific Heat Capacity :	339 $\text{J Kg}^{-1} \text{ K}^{-1}$

Mechanical

Youngs Modulus (E) :	67.2 GPa
Bulk Modulus (K) :	40 GPa
Rupture Modulus :	55.1 MPa
Hardness :	120 Knoop (50g indenter)
Poisson Ratio :	0.28

Chemical

Chemical formula	ZnSe
Solubility :	0.001g/100g H_2O
Molecular Weight :	144.33 g/mole

Notes

Zinc Selenide is microcrystalline.

Zinc Selenide oxidizes significantly at 300 $^{\circ}\text{C}$. The maximum safe operating temperature of Zinc Selenide in air is 250 $^{\circ}\text{C}$

Due to its low absorption coefficient at 10.6 mm Zinc Selenide often used for CO2 laser optics.