



Zinc Sulfide (multispectral)

Optical

Transmission Range :	370 nm to 13.5 μm
Refractive Index :	2.2008 at 10 μm
Reflective Losses :	24.7% at 10 μm (losses from two surfaces)
Absorption Coefficient :	0.0006 cm^{-1} at 3.8 μm

Physical

Density :	4.09 g/cm^3
Melting Point :	1827 $^{\circ}\text{C}$
Thermal Conductivity :	27.2 $\text{W m}^{-1} \text{K}^{-1}$ at RT
Linear CTE :	$6.5 \times 10^{-6} /^{\circ}\text{C}$ at RT
Specific Heat Capacity :	515 $\text{J Kg}^{-1} \text{K}^{-1}$

Mechanical

Youngs Modulus (E) :	74.5 GPa
Shear Modulus (G) :	29.1 GPa
Rupture Modulus :	68.9 MPa
Hardness :	160 Knoop (50g indenter)
Poisson Ratio :	0.28

Chemical

Chemical Formula:	ZnS
Solubility :	65×10^{-6} g/100g water
Molecular Weight :	97.43 g/mole

Notes

Zinc Sulfide sublimes under vacuum at 300 $^{\circ}\text{C}$ and oxidizes in air.
ZnS windows should not be used above 250 $^{\circ}\text{C}$.