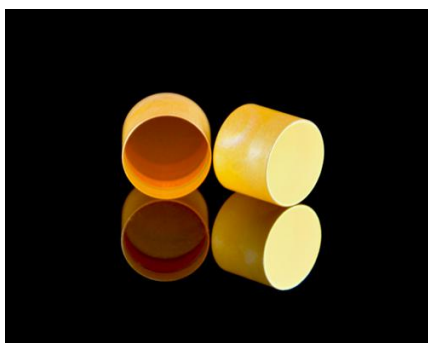


Zinc Selenide (ZnSe) Windows



Features:

- High transmission from 3 μm to 12 μm
- Low dispersion and low absorption coefficient
- Ideal for thermally demanding environments

Descriptions:

Zinc Selenide (ZnSe) windows is an excellent choice for any IR applications due to its broad wavelength range (3 μm to 16 μm). Zinc Selenide is a chemically vapor deposited material commonly used in thermal imaging and medical systems. Zinc Selenide (ZnSe) windows has a high index of refraction which normally requires an anti-reflection coating to achieve high transmission. Zinc Selenide is relatively soft with low scratch resistance thus not recommended for use in harsh environment. Extra caution is required during cleaning, handling, and mounting.

Specifications:

Materials	CVD ZnSe crystals	Diameter Range	~ 200mm
Aperture	>90%	Dimension Tolerance	+0.0/-0.2mm
Thickness Tolerance	+/-0.2mm	Surface Quality	60/40 S/D
Parallelism	1 arc minute	Chamfer	0.3-0.5mmx45degree
Coating	AR/AR		

Physical and Optical Properties:

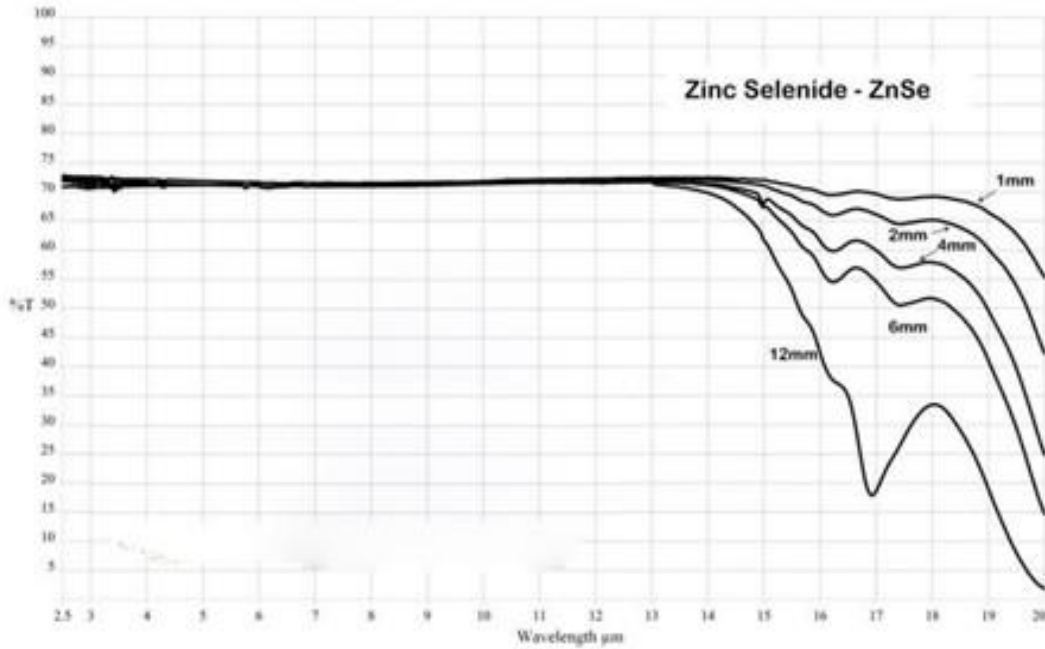
Transmission Range	0.6 to 21.0 μm	Refractive Index	2.4028 @ 10.6 μm
Reflection Loss	29.1% at 10.6 μm (2 surfaces)	Absorption Coefficient	0.0005 cm^{-1} at 10.6 μm
Reststrahlen Peak	45.7 μm	dn/dT	+61 x 10 ⁻⁶ /°C at 10.6 μm at 298K
dn/d μ = 0	5.5 μm	Density	5.27 g/cc
Melting Point	1525°C (see notes below)	Thermal Conductivity	18 W m ⁻¹ K ⁻¹ at 298K
Thermal Expansion	7.1 x 10 ⁻⁶ /°C at 273K	Hardness	Knoop 120 with 50g indenter
Specific Heat Capacity	339 J Kg ⁻¹ K ⁻¹	Dielectric Constant	n/a
Youngs Modulus (E)	67.2 GPa	Shear Modulus (G)	n/a
Bulk Modulus (K)	40 GPav	Elastic Coefficients	Not Available
Apparent Elastic Limit	55.1 MPa (8000 psi)	Poisson Ratio	0.28



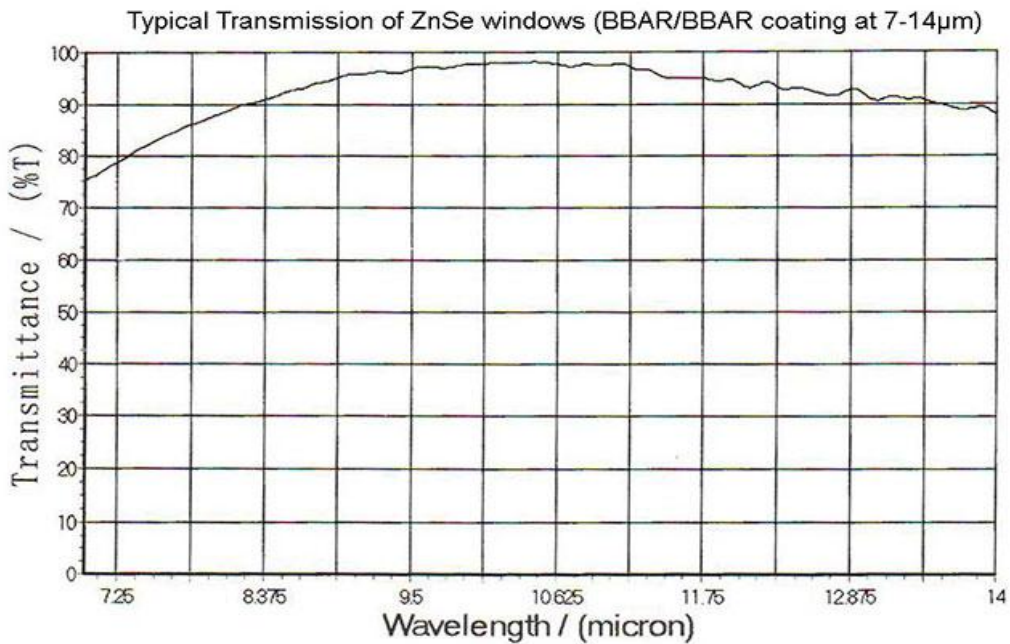
Solubility	0.001g/100g water	Molecular Weight	144.33
Class/Structure	HIP polycrystalline cubic, ZnS, F43m		

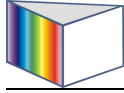
Technical Images:

1. Transmission curve of the ZnSe windows no coating



2. Transmission curve of ZnSe windows with BBAR/BBAR coating





Related products:

- 1) Infrared windows -> Ge windows
- 2) Infrared windows -> Sapphire windows
- 3) Infrared lenses -> ZnSe lenses