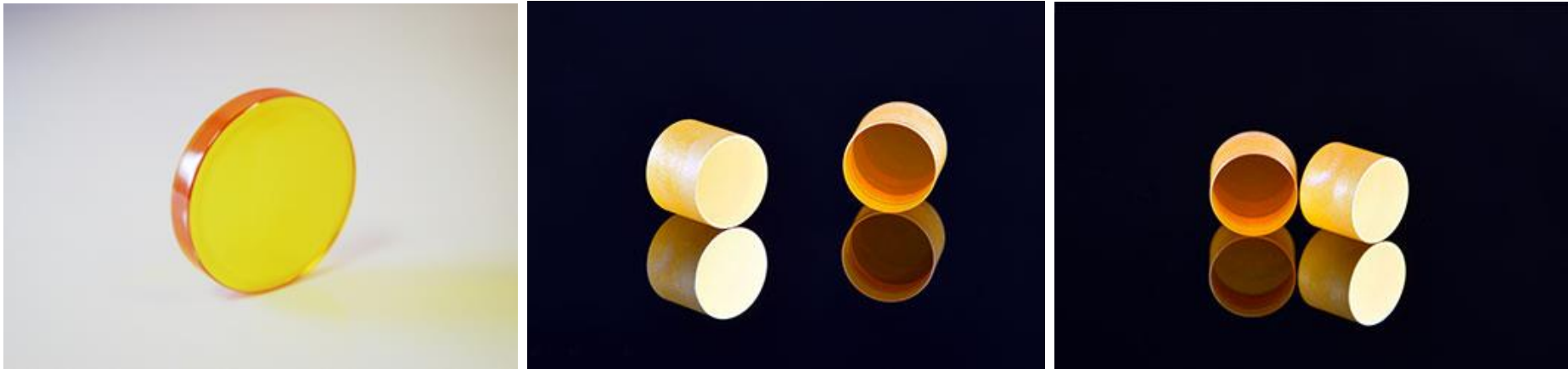


Zinc Selenide (ZnSe) Windows

- High transmission $T > 90\%$ at 3-12 μm
- Low dispersion and low absorption
- Ideal for thermally demanding environments

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.



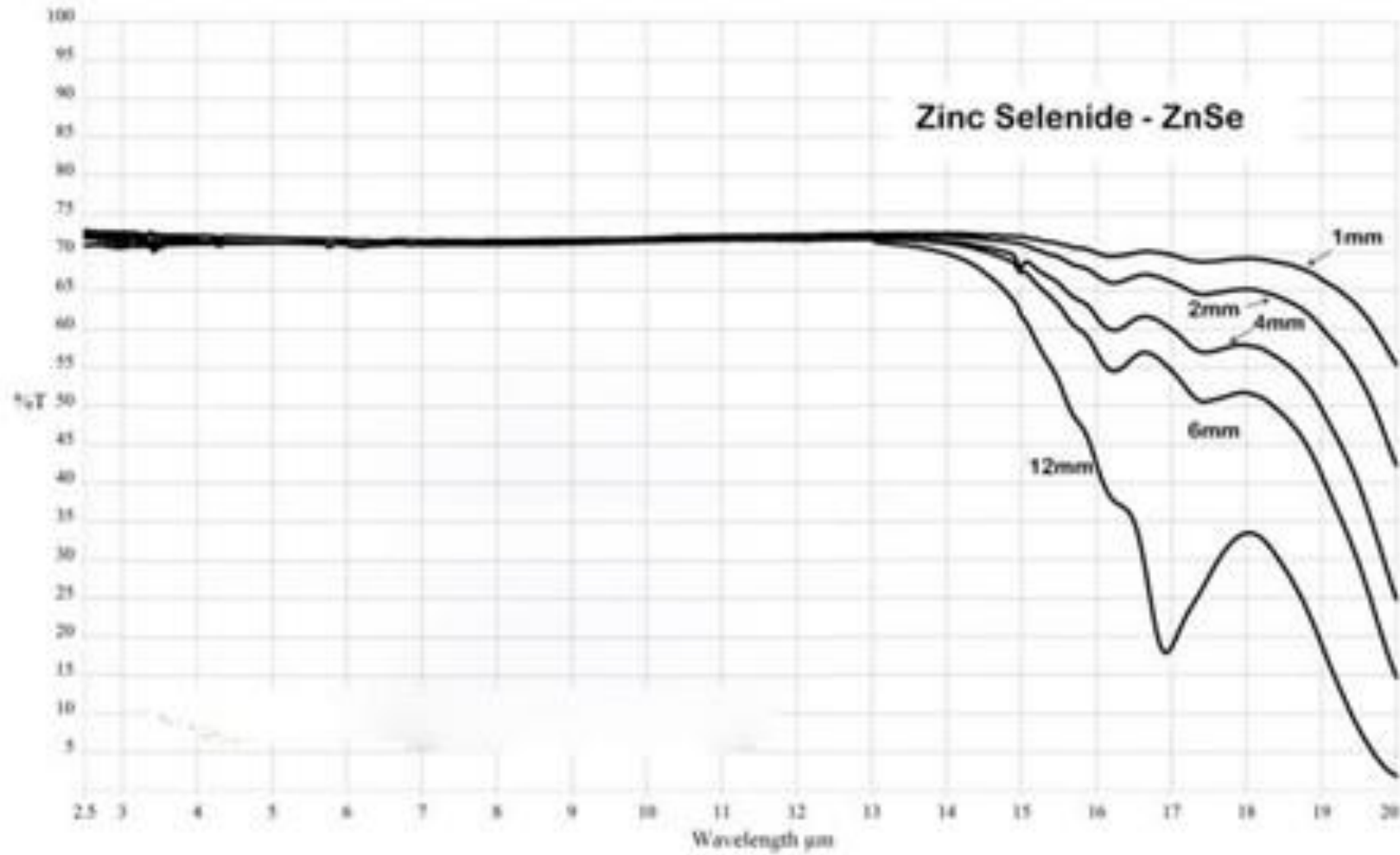
Features:

- High transmission (>90%) from 3 μm to 12 μm
- Low dispersion and low absorption coefficient
- Ideal for thermally demanding environments

Specifications

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

1) Transmission curve of the ZnSe windows no coating



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



Basic Properties

Physical and optical properties	
Transmission Range	0.6 to 21.0 μm
Refractive Index	2.4028 at 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	$+61 \times 10^{-6}/^{\circ}\text{C}$ at 10.6 μm at 298K
$dn/d\mu = 0$	5.5 μm
Density	5.27 g/cc
Melting Point	1525 $^{\circ}\text{C}$ (see notes below)
Thermal Conductivity	18 W m $^{-1}$ K $^{-1}$ at 298K
Thermal Expansion	$7.1 \times 10^{-6} /^{\circ}\text{C}$ 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 GPa
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

