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## Zinc Selenide (ZnSe)

- [Zinc Selenide \(ZnSe\) Data Sheet](#)

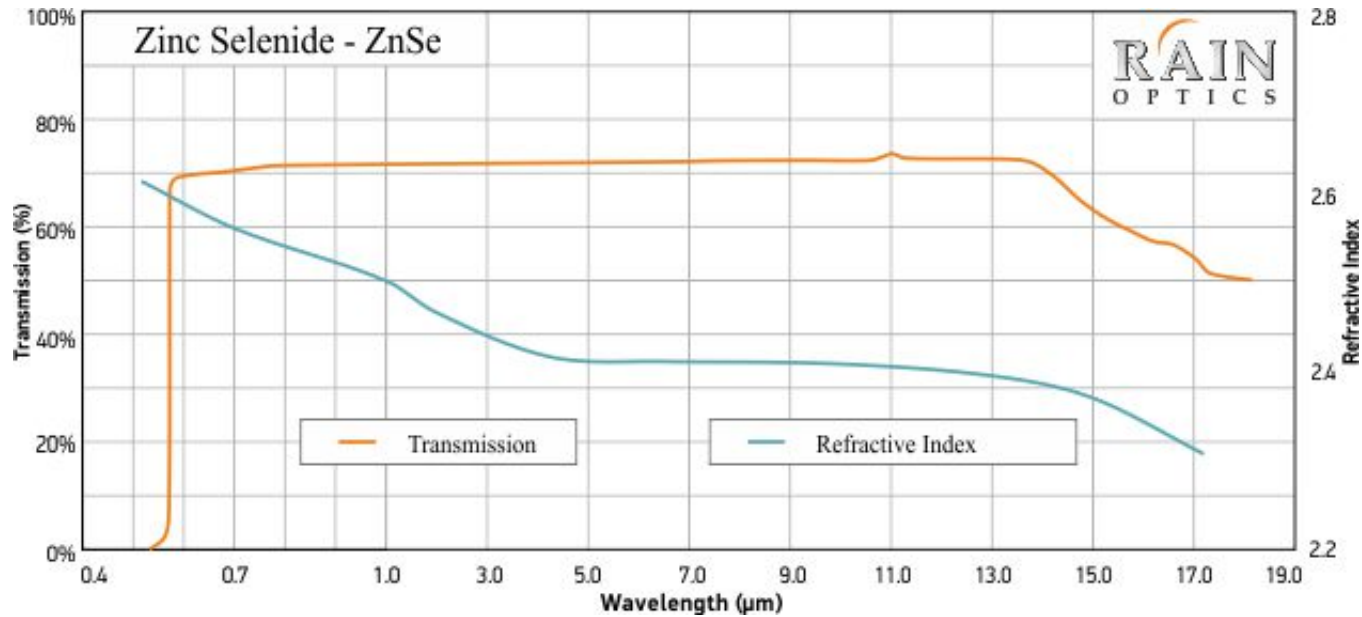
### Application

CO2 laser components, infrared spectroscopy, imaging system, IRpyrometers, surveillance and detection systems.

### Product and technology advantages

Project participants have been developing the technology for high-quality CVD-ZnSe production since 1983. Over 120 publications were published on issues associated with zinc selenide and zinc sulfide, four patents of the Russian Federation were received, there are five know-hows. Based on those researches the technology of FLIR grade and Laser grade material has been developed.

### Transmission



- [Product Data](#)
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Transmission Range : 0.6 to 21.0  $\mu\text{m}$

Refractive Index : 2.4028 at 10.6  $\mu\text{m}$

Reflection Loss : 29.1% at 10.6  $\mu\text{m}$  (2 surfaces)

Absorption Coefficient : 0.0005  $\text{cm}^{-1}$  at 10.6  $\mu\text{m}$

Reststrahlen Peak : 45.7  $\mu\text{m}$

$dn/dT$  :  $+61 \times 10^{-6}/^{\circ}\text{C}$  at 10.6  $\mu\text{m}$  at 298K

$dn/d\mu = 0$  : 5.5  $\mu\text{m}$

Density : 5.27 g/cc

Melting Point : 1525 $^{\circ}\text{C}$  (see notes below)

Thermal Conductivity : 18  $\text{W m}^{-1} \text{K}^{-1}$  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<sup>-1</sup> K<sup>-1</sup>

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

- [Zinc Selenide](#)
- [Zinc Sulfide](#)
- [Zinc Sulfide MultiSpectral](#)
- [Calcium Fluoride](#)
- [Calcium Fluoride Ytterbium Activated](#)
- [Barium Fluoride](#)
- [Magnesium Fluoride](#)

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