

Crystallographic ZnS (Zinc Sulfide) Cleartran

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|---------|-------|
| Syngony | Cubic |
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Optical ZnS (Zinc Sulfide) Cleartran

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|---|--|
| Refractive Index at $n_{0.4678}$ | 2.44915 |
| Refractive Index at $n_{10.0}$ | 2.20084 |
| Thermal Coefficient of Refractive Index at $l=0.6328$ microns, °C ⁻¹ for +/-60°C | $5.43 \cdot 10^{-5}$ |
| Transmission Range, microns (thickness 10mm) | 0.37, 14 |
| Transmittance $t_l(l)$ vs. wavelength l | ZnS Cleartran® - is a registered trademark of Morton International, Ink. |

| Refractive Index n vs. wavelength l | |
|---------------------------------------|---------|
| $l, \mu\text{m}$ | $n(l)$ |
| 0.4047 | 2.54515 |
| 0.4358 | 2.49918 |
| 0.4800 | 2.43691 |
| 0.5461 | 2.38838 |
| 0.6678 | 2.34033 |
| 0.7800 | 2.31669 |
| 0.8943 | 2.30183 |
| 1.0140 | 2.29165 |
| 2.0581 | 2.26442 |
| 3.0 | 2.25772 |
| 4.0 | 2.25231 |
| 5.0 | 2.24661 |
| 8.0 | 2.22334 |
| 9.0 | 2.21290 |
| 10.0 | 2.20084 |
| 12.0 | 2.17101 |
| 13.0 | 2.15252 |

Thermal ZnS (Zinc Sulfide) Cleartran

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|---|---------------------|
| Thermal Linear Expansion $\alpha_t, \text{°C}^{-1}$ | $6.5 \cdot 10^{-6}$ |
| Thermal Conductivity, W/(m · °C) | 27.2 |
| Specific Heat Capacity, J/(kg · °C) | 515 |

Mechanical ZnS (Zinc Sulfide) Cleartran

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|-------------------------------------|----------------------|
| Density, g/cm ³ at 20 °C | 4.09 |
| Vickers Microhardness , Pa | $1.47 \cdot 10^7$ |
| Poisson Ratio | 0.28 |
| Young Modulus (E), Pa | $7.45 \cdot 10^{10}$ |

Chemical ZnS (Zinc Sulfide) Cleartran

| Solubility | |
|---|----------|
| in water at 18 °C g/100cm ³ | in acids |
| $6.5 \cdot 10^{-5}$ | soluble |