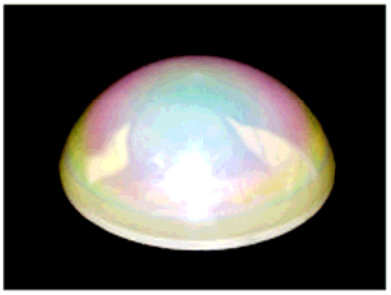
ZINC SULFIDE

PHYSICAL PROPERITES	Temp (deg.C.)	Zns	Units
Density	20	4.09	g/cc
Hardness	20	250	kg/mm2
Flexural Strength (4 pt bending)	20 260	15,000 18,000	psi
Young's Modulus	20 260	10.8 9.0	Mpsi
Poisson's Ration	20	0.29	---
Coefficient of Thermal Expansion	20-170 20-500	6.97 7.85	ppm/K
Specific Heat	20	0.468	J/g-K
Thermal Conductivity	20 260	0.19 0.10	W/cm-K
Grain Size	---	4	microns
Dielectric Constant	20	8.347	---
Loss Tangent	20	0.0024	---



- High Transmission: 8-12 µm
- FLIR Windows /Domes
- Durable and Cost Effective
- Areas up to 20 x 20 inches
- Thickness up to 1 inch

OPTICAL PROPERTIES	Wavelength (microns)	Zns	Units
Max. Transmittance (in-line / uncoated)	1 10	73.3 75.3	%
Absorption Coeff.	1.3 2.7 3.8 9.3 10.6	20 7 23 79 240	X10-3 cm -1
Index Inhomogeneity	10.6	29	ppm
Thermo-Optic Coeff. (dn/dT)	0.63 1.15 3.39 10.6	6.4 5.0 4.6 4.6	x10-5 K -1

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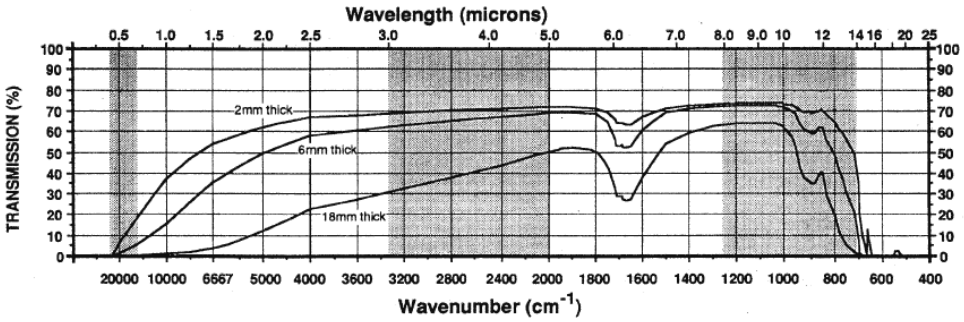
Zinc Sulfide Transmittance

Inspection polished sheets (substrates)
Blanks and domes
Custom fabricated configurations
Custom ordered finished optics
High purity evaporation grade Chunk



Wavelength (microns)	Refractive Index	Theoretical Trans.
0.45	2.470	---
0.50	2.419	70.6%
0.55	2.386	71.3%
0.60	2.362	71.8%
0.6328	2.350	72.0%
0.65	2.345	72.2%
0.70	2.332	72.4%
0.75	2.322	72.7%
0.80	2.313	72.8%
0.90	2.301	73.1%
1.00	2.292	73.3%
1.06	2.288	73.4%
1.50	2.272	73.7%
2.00	2.265	73.9%
2.50	2.260	74.0%
2.7	2.259	74.0%

Wavelength (microns)	Refractive Index	Theoretical Trans.
3.00	2.257	74.1%
3.39	2.255	74.1%
3.50	2.254	74.1%
3.8	2.253	74.2%
4.00	2.252	74.2%
4.50	2.249	74.2%
5.00	2.246	74.3%
5.3	2.244	74.4%
5.50	2.243	74.4%
6.00	2.240	74.5%
6.50	2.236	74.5%
7.00	2.232	74.6%
7.50	2.227	74.7%
8.00	2.223	74.8%
8.50	2.218	74.9%
9.00	2.212	75.1%

Wavelength (microns)	Refractive Index	Theoretical Trans.
9.27	2.209	75.1%
9.50	2.206	75.2%
10.00	2.200	75.3%
10.50	2.193	---
10.6	2.192	---
11.00	2.186	---
11.50	2.178	---
12.00	2.170	---
12.50	2.161	---
13.00	2.152	---
13.50	2.141	---
14.00	2.130	---
14.50	2.119	---
15.00	2.106	---
16.00	2.078	---

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