

Black Diamond 2 (BD2)

Custom sizes and specifications are available

OPTICAL

Refractive Index at 2.5 μm	2.630
Thermal Coefficient of Refractive Index at 3.39 microns for ± 60 deg C	$91 \times 10^{-6} / ^\circ\text{C}$

THERMAL

Thermal Linear Expansion, deg C ⁻¹ for ± 60 deg C	$14 \times 10^{-6} / ^\circ\text{C}$
Thermal Conductivity, W/(m x deg C) at 27 deg C	100 W/cm ² (1064 nm, CW)
Specific Heat Capacity, J/(kg x deg C)	0.1 J/cm ² (1064 nm, 10 ns)
Melting Point, deg C	278
Absorbance $\mu(\lambda)$, cm ⁻¹ at 10.6 microns	0.027

MECHANICAL

Density, g/cm ³ at 25 deg C	4.67 g/cm ³
Mohs Hardness	3
Young Modulus (E), Pa	22.1 GPa

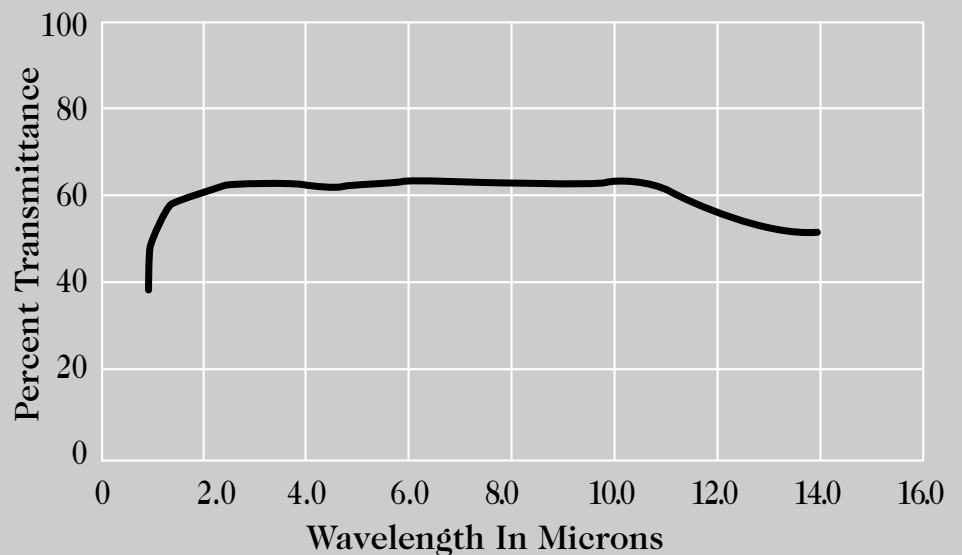
CHEMICAL

Composition	Ge ₂₈ Sb ₁₂ Se ₆₀
Solubility in water, gram/100 cm ³	insoluble

Refr. Index n vs. Wavelength λ

WAVELENGTH, MICRONS	REFRACTIVE INDEX
3.0	2.6266
4.0	2.621
5.0	2.6173
6.0	2.6142
7.0	2.6117
8.0	2.6088
9.0	2.6055
10.0	2.6023
11.0	2.5983
12.0	2.5942
13.0	2.5892
14.0	2.5843

Transmittance $\tau(\lambda)$ vs. Wavelength λ



5 mm THICKNESS