

Infrared Chalcogenide Glass LWG-4

Composition: $\text{Ge}_{10}\text{As}_{40}\text{Se}_{50}$

Mechanical Properties

Density	4.47 g/cm ³
Hardness (Knoop)	1.12 GPa
Young's Modulus	20.5 GPa

Thermal Properties

Transition Temperature	225 °C
Specific Heat	0.37 J/(g·K)
Thermal Conductivity	0.18 W/(m·K)
Thermal Expansion	20.4 ppm/K

Optical Properties

Refractive index	
λ (μm)	n_λ
2.0	2.6409
3.0	2.6269
4.0	2.6217
5.0	2.6187
6.0	2.6165
7.0	2.6146
8.0	2.6127
9.0	2.6108
10.0	2.6086
11.0	2.6063
12.0	2.6035
13.0	2.6008
14.0	2.5978

Abbe number	
λ (μm)	ν
3-5	198
8-12	175

Thermo-optic coefficient (-40-100 °C)	
λ (μm)	dn/dt
10	23 ppm/K

Transmittance (10 mm)	
λ (μm)	τ (%)
2.0	65.5
3.0	64.9
4.0	66.0
5.0	65.8
6.0	66.1
7.0	66.1
8.0	66.4
9.0	66.4
10.0	66.3
11.0	66.6
12.0	55.8
13.0	37.5
14.0	49.3

Refractive index tolerance:
±0.001

Size of Supply:

- Diameter: 5~150 mm
- Thickness: 2~50 mm

