

## Infrared Chalcogenide Glass LWG-5

**Composition:**  $\text{Ge}_{28}\text{Sb}_{12}\text{Se}_{60}$

### Mechanical Properties

Density	4.66 g/cm <sup>3</sup>
Hardness (Knoop)	1.13 GPa
Young's Modulus	22.1 GPa

### Thermal Properties

Transition Temperature	285 °C
Specific Heat	0.33 J/(g·K)
Thermal Conductivity	0.25 W/(m·K)
Thermal Expansion	14.0 ppm/K

### Optical Properties

Refractive index	
$\lambda$ ( $\mu\text{m}$ )	$n_{\lambda}$
2.0	2.6427
3.0	2.6280
4.0	2.6222
5.0	2.6186
6.0	2.6157
7.0	2.6128
8.0	2.6099
9.0	2.6067
10.0	2.6032
11.0	2.5994
12.0	2.5950
13.0	2.5901
14.0	2.5846

Abbe number	
$\lambda$ ( $\mu\text{m}$ )	$\nu$
3-5	173
8-12	108

Thermo-optic coefficient (-40-100 °C)	
$\lambda$ ( $\mu\text{m}$ )	dn/dt
10	64 ppm/K

Transmittance (10 mm)	
$\lambda$ ( $\mu\text{m}$ )	$\tau$ (%)
2.0	65.4
3.0	64.2
4.0	65.9
5.0	64.1
6.0	66.2
7.0	66.1
8.0	66.5
9.0	66.5
10.0	66.5
11.0	64.9
12.0	54.9
13.0	45.3
14.0	52.4

Refractive index tolerance:  
±0.001

### Size of Supply:

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

