

# Infrared Chalcogenide Glass IG5

## Product Information

IG5 is produced from the components Ge-Sb-Se. The excellent transmission, low thermal change in refractive index and dispersion enable the optical designers to design color corrected optical systems without thermal defocusing. IG5 is optimized for pairing with other IR materials in designs. IG5 is widely recognized as an equivalent material for AMTIR-3<sup>1</sup>, T11173, or IRG 100.

## Forms of Supply

IG5 is available as custom cut blanks, generated lens blanks and moldings for customers fabrication for both atmospheric windows 3-5 $\mu$ m and 8-12 $\mu$ m.



## Material Properties

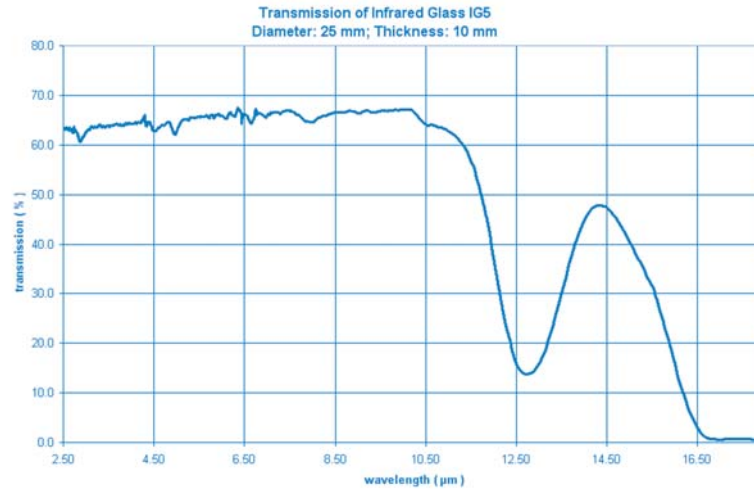
Composition	Ge <sub>28</sub> Sb <sub>12</sub> Se <sub>60</sub>
Density	4.66 g/cm <sup>3</sup>
Thermal Expansion	14.0 x 10 <sup>-6</sup> /K
Specific Heat	0.33 J/gK
Thermal Conductivity	0.25 W/mK
Transition Temperature	285° C
Hardness (Knoop)	1.13 GPa
Rupture Modulus	18 MPa
Young's Modulus	22.1 GPa
Shear Modulus	8.5 GPa
Dispersion	180 (4 $\mu$ m) 102 (10.6 $\mu$ m)
Thermal change dn/dT	76 x 10 <sup>-6</sup> /K (3.4 $\mu$ m) 91 x 10 <sup>-6</sup> /K (10.6 $\mu$ m)

$\mu$ m	Transmission %	Index
3.0	66	2.6277
4.0	66	2.6226
5.0	66	2.6187
6.0	66	2.6158
7.0	66	2.6132
8.0	66	2.6105
9.0	66	2.6075
10	66	2.6038
11	66	2.5996
12	48	2.5948

<sup>1</sup> AMTIR-3 is a material offered by Amorphous Materials.

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## Transmission Curve



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