Infrared Chalcogenide Glass IG6

Product Information

IG6 is produced from the components As-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. IG6 is optimized for pairing with other IR materials in designs. IG6 has a low dn/dT. IG6 encompasses the common IR transmission bands: 3-5µm and 8-12µm. IG6 offers the broadest transmisson range of the IG glass series. IG6 offers flexibility in processing as it can be processed conventionally, diamond turned, or moulded.

Typical Forms of Supply

IG6 is available as custom cut blanks or SMTY as specified by customer requirements.

Available in sizes up to 100mm diameter and 150mm length (thickness) or up to 140mm diameter and 30 mm length (thickness).

Material Properties

Composition	$As_{40}Se_{60}$
Density	4.63 g/cm^3
Thermal Expansion	20.7 x 10^{-6}/K
Specific Heat	0.36 J/gK
Thermal Conductivity	0.24 W/mK
Transition Temperature	185° C
Hardness (Knoop)	1.04 GPa
Rupture Modulus	17 MPa
Young's Modulus	18.3 GPa
Shear Modulus	8.0 GPa
Dispersion	168 (4 µm) 161 (10.6 µm)
Thermal change dn/dT	35 x 10^{-6}/K (3.4 µm) 41 x 10^{-6}/K (10.6 µm)

Wavelength µm	Refractive Index n
3.0	2.8014
4.0	2.7945
5.0	2.7907
6.0	2.7880
7.0	2.7854
8.0	2.7831
9.0	2.7803
10	2.7775
11	2.7747
12	2.7721

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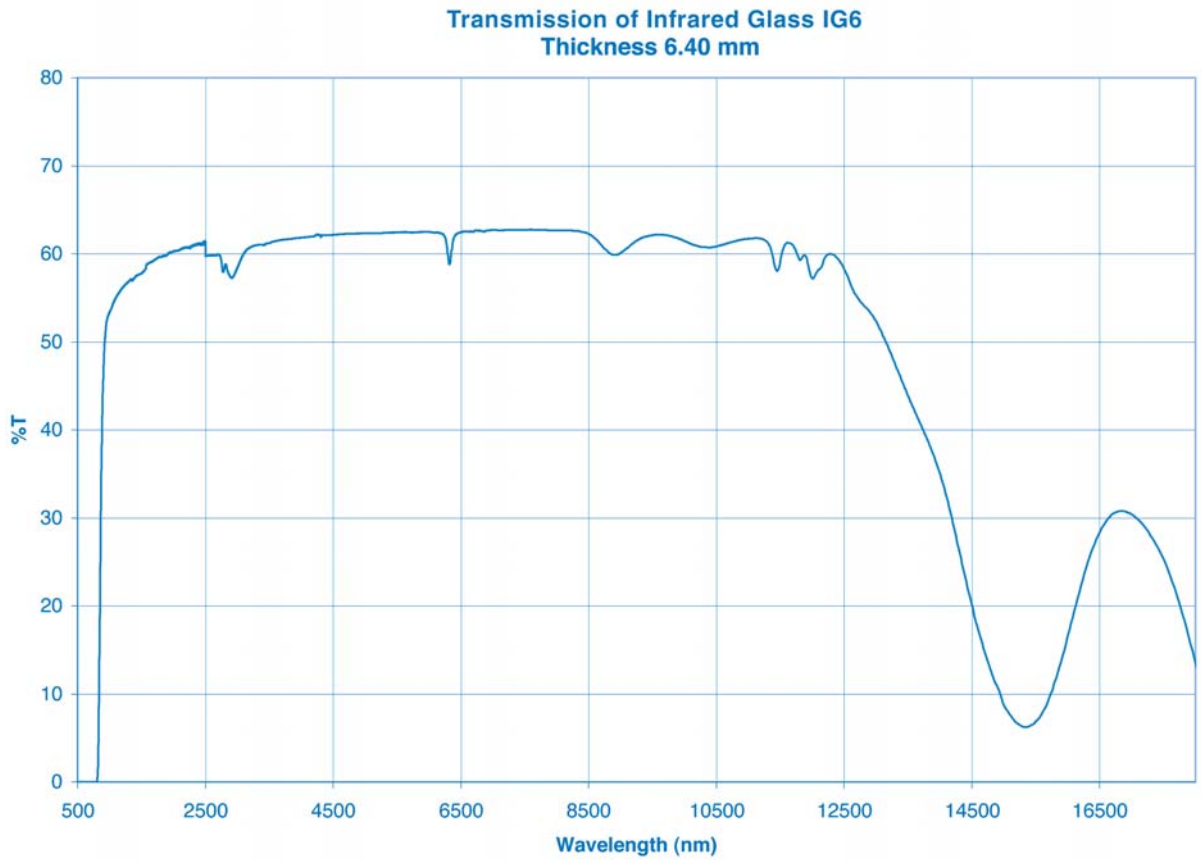
Transmission Curve (Typical)



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