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THORLABS

WG70530-G - March 04, 2020

Item # WG70530-G was discontinued on March 04, 2020. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

- **Windows Designed for 600 nm - 16 µm**
- **Uncoated or AR-Coated Versions Available**
- **Ø1/2" and Ø1" Sizes Available**

WG71050-G
Ø1", AR-Coated for 7.0 - 12.0 µm

WG71050-E2
Ø1", AR-Coated for 4.5 - 7.5 µm

WG70530
Ø1/2", Uncoated

WG70530-D
Ø1/2", AR-Coated for 1.65 - 3.0 µm

WG70530-E4
Ø1/2", AR-Coated for 2.0 - 13.0 µm

OVERVIEW

Features

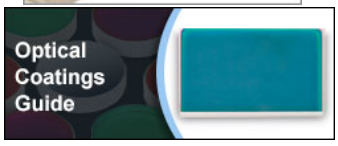
- 1/2" and 1" Diameters Available
- Uncoated Windows for Visible and IR Applications in the 600 nm - 16 µm Spectral Range
- AR-Coated Options Available:
  - -D Coating: 1.65 to 3.0 µm
  - -E4 Coating: 2.0 to 13.0 µm
  - -E2 Coating: 4.5 to 7.5 µm
  - -G Coating: 7.0 to 12.0 µm

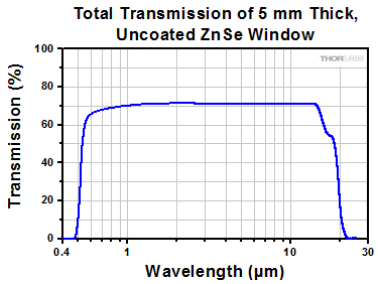
Thorlabs' Precision Zinc Selenide (ZnSe) Windows are offered in Ø1/2" and Ø1" sizes. They are available uncoated for use from 600 nm to 16 µm or with an antireflection (AR) coating on both sides from 1.65 to 3.0 µm, 2.0 to 13.0 µm, 4.5 to 7.5 µm, or 7.0 to 12.0 µm (see the *Graphs* tab for transmission and reflectance plots). Zinc selenide has a transmission band broader than silicon and germanium. Along with its low absorption in the red portion of the visible spectrum, zinc selenide is ideal for optical systems that combine a 10.6 µm CO_2 laser with a 633 nm HeNe alignment laser.

This substrate scratches easily and should be handled with care. When handling optics, always wear gloves. This is especially true when working with zinc selenide, as it is a hazardous material. For your safety, please follow all proper precautions. Click here to download a .pdf of the MSDS for ZnSe. Thorlabs will accept all ZnSe windows back for proper disposal. Please contact Tech Support to make arrangements for this service.

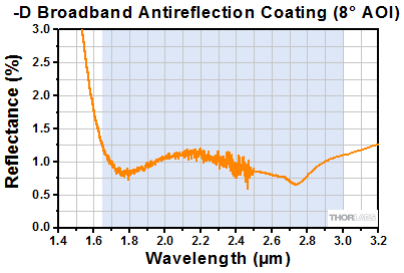
Thorlabs also offers precision windows fabricated from several other substrates for use in a large variety of laser and industrial applications. For our complete selection, see the Precision Window Selection Guide table to the right. We also offer laser windows, which have AR coatings centered around commonly used laser wavelengths, and Brewster windows, which are designed to eliminate P-polarized reflected light.

Flat Window Selection Guide	
Wavelength Range	**Substrate Material**
150 nm - 5.0 µm	Sapphire
180 nm - 8.0 µm	Calcium Fluoride (CaF_2)
185 nm - 2.1 µm	UV Fused Silica
200 nm - 6.0 µm	Magnesium Fluoride (MgF_2)
250 nm - 1.6 µm	UV Fused Silica, for 45° AOI
300 nm - 3 µm	Infrasil®
350 nm - 2.0 µm	N-BK7
600 nm - 16 µm	Zinc Selenide (ZnSe)
1.2 - 8.0 µm	Silicon (Si)
2.0 - 16 µm	Germanium (Ge)
3 - 5 µm	Barium Fluoride (BaF_2)
V-Coated Laser Windows	

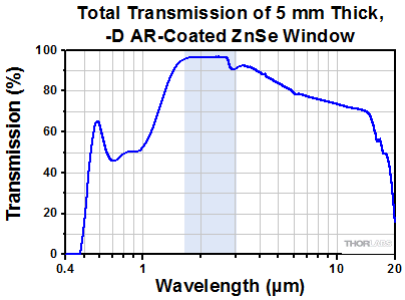




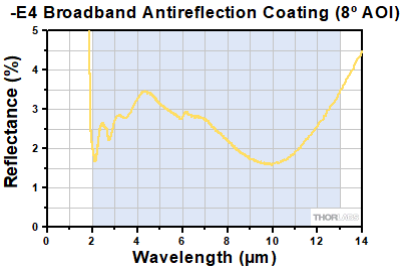
Click to Enlarge
Click for Raw Data
This graph shows the measured transmission of an uncoated zinc selenide window at normal incidence. Most of the transmission loss is due to surface reflections, rather than absorption, as demonstrated by the graphs for AR-coated windows below.



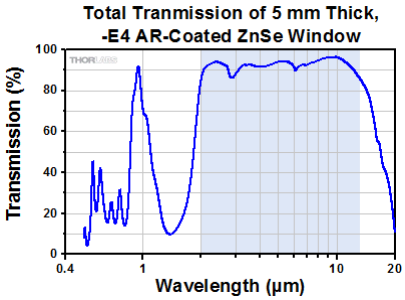
Click to Enlarge
Click for Raw Data
This plot gives the measured reflectance (per surface) at an 8° angle of incidence (AOI) of our -D AR-coated zinc selenide windows. The average reflectance is <1.0% per surface within the shaded wavelength range of 1.65 - 3 µm.



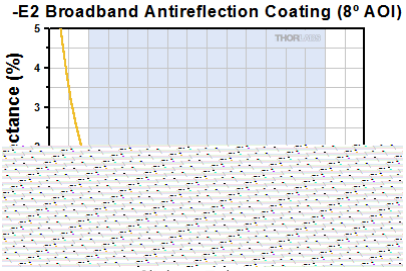
Click to Enlarge
Click for Raw Data
This graph shows the measured transmission of an AR-coated zinc selenide window at normal incidence. The shaded region denotes the AR coating range, over which R_{avg} < 1.0%.
Performance outside of the specified range is not guaranteed and varies from lot to lot.



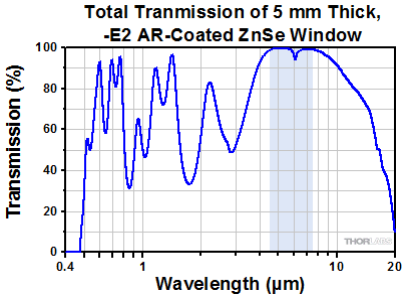
Click to Enlarge
Click for Raw Data
This plot gives the measured reflectance (per surface) at an 8° angle of incidence (AOI) of our -E4 AR-coated zinc selenide windows. The average reflectance is <3.5% per surface within the shaded wavelength range of 2.0 - 13.0 µm.



Click to Enlarge
Click for Raw Data
This graph shows the measured transmission of an AR-coated zinc selenide window at normal incidence. The shaded region denotes the AR coating range, over which R_{avg} < 3.5%.
Performance outside of the specified range is not guaranteed and varies from lot to lot.



Click to Enlarge
Click for Raw Data
This plot gives the measured reflectance (per surface) at an 8° angle of incidence (AOI) of our -E2 AR-coated zinc selenide windows. The average reflectance is <1.0% per surface within the shaded wavelength range of 4.5 - 7.5 µm.



Click to Enlarge
Click for Raw Data
This graph shows the measured transmission of an AR-coated zinc selenide window at normal incidence. The shaded region denotes the AR coating range, over which R_{avg} < 1.0%.