

WTSQ11050-A - January 12, 2018

Item # WTSQ11050-A was discontinued on January 12, 2018. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

CONDUCTIVE ITO COATED WINDOWS

- ▶ **Conductive Windows for Electrical Shielding**
- ▶ **ITO Conductive Coating on One Side and AR Coating on the Other**
- ▶ **1/2" or 1" Square**



WTSQ11050-A
1" Square



WTSQ11050-B
1" Square



WTSQ10530-A
1/2" Square



An Arrow Indicates the
Conductive Coating (ITO) Side

OVERVIEW

Features

- Three AR Coating Options for One Side
 - -A: 350 - 700 nm
 - -B: 650 - 1050 nm
 - -C: 1050 - 1620 nm
- Indium Tin Oxide (ITO) Coating on Other Side
- Resistance Range: 50 - 80 Ω /sq (See Definition Below)
- N-BK7 Substrate

Thorlabs' Conductive Windows are available with one of our three standard broadband antireflection coatings deposited on one surface, -A (350 - 700 nm) , - B (650 - 1050 nm), or -C (1050 - 1620 nm), and a conductive Indium Tin Oxide (ITO) coating on the other surface. ITO conductive glass windows can be used for EMI/RFI shielding or other electro-optical applications such as liquid crystals and solar cells. The ITO coating thickness was chosen to provide an excellent balance between the sheet resistance of 50 - 80 Ω /sq and optical performance. N-BK7 provides excellent transmission in the visible and near infrared portions of the spectrum.

Termination

Contact to the conductive surface can be made by copper tape, a silver epoxy-painted busbar, a silver-loaded silicone gasket, or a conductive fabric over foam gasket. Do not place wires directly in contact with the surface, or damage may result.

Sheet Resistance

Common Specifications

Substrate	N-BK7 ^a
Surface Quality	20-10 Scratch-Dig
Parallelism	≤ 3 arcsec
Surface Flatness	$\lambda/8$ @ 632.8 nm
Clear Aperture	>90% of Dimension
ITO Sheet Resistance Range	50 - 80 Ω /sq

- a. Click Link for Detailed Specifications on the Substrate

The resistance of these conductive windows is given by:

$$R = R_s * (L/W)$$

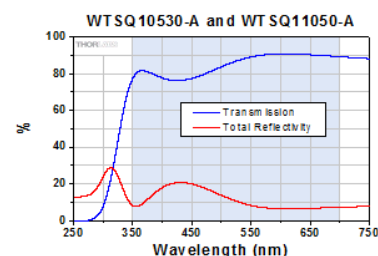
Where L and W are the length and width of the window, respectively, and R_s is the sheet resistance. Sheet resistance is defined as ρ/t : the resistivity ($\Omega \cdot m$) divided by the thickness (m) of the conductive film. Under the specific geometry of a square, where $L = W$, the resistance of the conductive windows is equal to the sheet resistance regardless of size. Under this special case, the sheet resistance is given in units of Ω/sq (Ohms per square).

Please contact Tech Support for more sizes, thicknesses, and wavelength options.

Conductive Windows, AR Coating: 350 - 700 nm

- ▶ Two Sizes Available: 1/2" or 1" Square
- ▶ Broadband AR Coating on One Side for the 350 - 700 nm Range
- ▶ ITO Coating on Other Side

Item #	WTSQ10530-A	WTSQ11050-A
Dimensions (L x W)	0.5" x 0.5"	1" x 1"
Length and Width Tolerance (mm)	+0.00 / -0.10	+0.00 / -0.10
Glass Thickness	3.0 ± 0.20 mm	5.0 ± 0.20 mm
AR Coating (350 nm - 700 nm) (One Side)	$R_{avg} < 0.5\%$ at $0^\circ \pm 5^\circ$ AOI Reflectance of -A Coating	



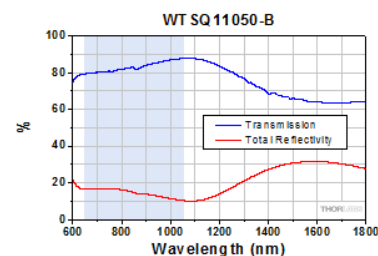
Click to Enlarge
Click to Download Transmission and Reflection Data
The shaded region in the plot represents the specified wavelength range for optimum performance.

Part Number	Description	Price	Availability
WTSQ10530-A	1/2" Square Conductive Window, AR Coated: 350 - 700 nm	\$91.80	Today
WTSQ11050-A	1" Square Conductive Window, AR Coated: 350 - 700 nm	\$113.22	Lead Time

Conductive Windows, AR Coating: 650 - 1050 nm

- ▶ 1" Square Conductive Windows
- ▶ Broadband AR Coating on One Side for the 650 - 1050 nm Range
- ▶ ITO Coating on Other Side

Item #	WTSQ11050-B
Dimensions (L x W)	1" x 1"
Length and Width Tolerance (mm)	+0.00 / -0.10
Glass Thickness	5.0 ± 0.20 mm
AR Coating (650 nm - 1050 nm) (One Side)	$R_{avg} < 0.5\%$ at $0^\circ \pm 5^\circ$ AOI Reflectance of -B Coating



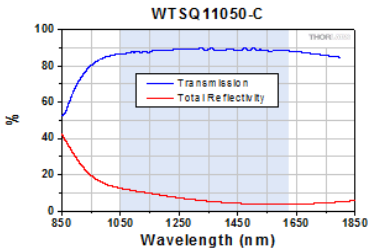
Click to Enlarge
Click to Download Transmission and Reflection Data
The shaded region in the plot represents the specified wavelength range for optimum performance.

Part Number	Description	Price	Availability
WTSQ11050-B	Customer Inspired! 1" Square Conductive Window, AR Coated: 650 - 1050 nm	\$113.22	Today

Conductive Windows, AR Coating: 1050 - 1620 nm

- ▶ 1" Square Conductive Windows
- ▶ Broadband AR Coating on One Side for the 1050 - 1620 nm Range
- ▶ ITO Coating on Other Side

Item #	WTSQ11050-C
Dimensions (L x W)	1" x 1"
Length and Width Tolerance (mm)	+0.00 / -0.10
Glass Thickness	5.0 ± 0.20 mm
AR Coating (1050 nm - 1620 nm) (One Side)	$R_{avg} < 0.5\%$ at $0^\circ \pm 5^\circ$ AOI Reflectance of -C Coating



Click to Enlarge
Click to Download Transmission and Reflection Data
The shaded region in the plot represents the specified wavelength range for optimum performance.

Part Number	Description	Price	Availability
WTSQ11050-C	Customer Inspired!1" Square Conductive Window, AR Coated: 1050 - 1620 nm	\$113.22	Today