

TECHSPEC[®] 50mm Dia. 1mm Thick VIS-EXT Coated, 1λ Fused Silica Window



TECHSPEC[®] 1λ UV Fused Silica Windows

Stock #25-205 5 In Stock

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1

+

€178⁰⁰

ADD TO CART

Volume Pricing	
Qty 1-5	€178,00 each
Qty 6-25	€142,00 each
Qty 26-49	€133,00 each
Need More?	Request Quote

Prices shown are exclusive of VAT/local taxes

Product Downloads

General

Type:

Protective Window

Physical & Mechanical Properties

Clear Aperture CA (mm):

45.00

Diameter (mm):

50.00 +0.00/-0.20	
1.00 ±0.38	Thickness (mm):
<5	Parallelism (arcmin):
Protective as needed	Bevel:
90	Clear Aperture (%):
Fine Ground	Edges:
0.16	Poisson's Ratio:
73	Young's Modulus (GPa):
522.00	Knoop Hardness (kg/mm²):

Optical Properties

VIS-EXT (350-700nm)	Coating:
Fused Silica (Corning 7980)	Substrate: ☐
1.458	Index of Refraction (n _d):
60-40	Surface Quality:
1λ	Transmitted Wavefront, P-V:
67.8	Abbe Number (v _d):
R _{avg} ≤0.5% @ 350 - 700nm	Coating Specification:
350 - 700	Wavelength Range (nm):
5 J/cm² @ 532nm, 10ns	Damage Threshold, Reference: ☐

Material Properties

2.20	Density (g/cm³):
0.52 (+5 to +35°C) 0.57 (0 to +200°C) 0.48 (-100 to +200°C)	Coefficient of Thermal Expansion CTE (10 ⁻⁶ /°C):
7980 0G	Fused Silica Grade:

Regulatory Compliance

Compliant	RoHS 2015:
View	Certificate of Conformance:
Compliant	Reach 235:

Need different specs or modifications?

Edmund Optics offers comprehensive custom manufacturing services for optical and imaging components tailored to your specific application requirements. Whether in the prototyping phase or preparing for full-scale production, we provide flexible solutions to meet your needs. Our experienced engineers are here to assist—from concept to completion.

Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).

Product Details

- Available Uncoated or with Broadband Anti-Reflection Coatings
- Ideal for Cost Sensitive Broadband Applications
- Circular and Square Sizes from 5mm to 100mm
- [λ/4](#) or [λ/10](#) UV Fused Silica Windows Also Available

TECHSPEC® 1λ UV Fused Silica Windows are precision manufactured using UV-grade synthetic fused silica. In addition to superior transmission, the synthetic fused silica of these optical windows exhibits higher thermal properties,

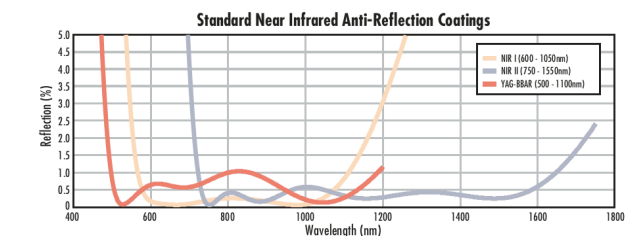
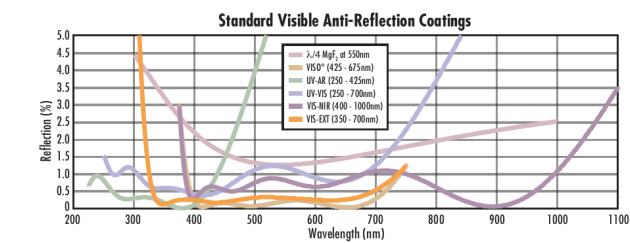
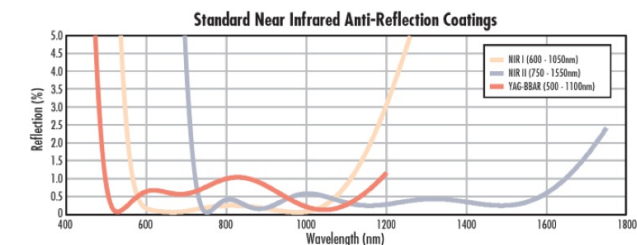
Note: New additions to this product family may be specified with a transmitted wavefront distortion (TWD) specification instead of a surface flatness. For more information on the difference between these two specifications, see our application note on [Understanding Optical Windows](#).

The graph displays the transmittance of UV-Grade Fused Silica with a 10mm thickness. The x-axis represents wavelength in both nanometers (150 to 300 nm) and microns (1 to 5 microns). The y-axis represents transmittance in percent (0 to 100%). The material is highly transparent in the visible range, with a significant absorption peak in the infrared region around 2.5 microns.

Wavelength (nm)	Wavelength (microns)	Transmittance (%)
150	1.5	0
200	2.0	85
250	2.5	90
300	3.0	90
350	3.5	85
400	4.0	20
450	4.5	0

Anti-Reflective Coating Curves

Wavelength (nm)	UV-AR Reflectance (%)	UV-VIS Reflectance (%)	VIS-NIR Reflectance (%)
200	1.6	2.5	2.5
250	0.2	0.5	0.5
300	0.1	0.9	0.9
350	0.2	0.4	0.4
400	0.3	0.6	0.6
450	0.4	0.8	0.8
500	0.5	1.0	1.0
550	0.6	0.8	0.8
600	0.7	0.5	0.5
650	0.8	0.7	0.7
700	0.9	0.9	0.9
750	0.8	0.7	0.7
800	0.6	0.5	0.5
850	0.4	0.3	0.3
900	0.3	0.2	0.2
950	0.2	0.1	0.1
1000	0.1	0.0	0.0



FUSED SILICA

Uncoated Fused Silica Typical Transmission

The graph plots Transmission (T) in percent on the y-axis against Wavelength in nanometers (nm) on the x-axis. The y-axis ranges from 70 to 100 in increments of 5. The x-axis ranges from 200 to 2200 nm in increments of 200. A red line represents the transmission curve, which starts at approximately 92% at 200 nm, rises to about 94% by 400 nm, and remains relatively flat until 1300 nm. There is a sharp dip to about 91% at 1400 nm. The transmission then rises slightly to about 94.5% at 1800 nm and remains stable until 2100 nm, where it begins to drop, reaching approximately 90% at 2200 nm.

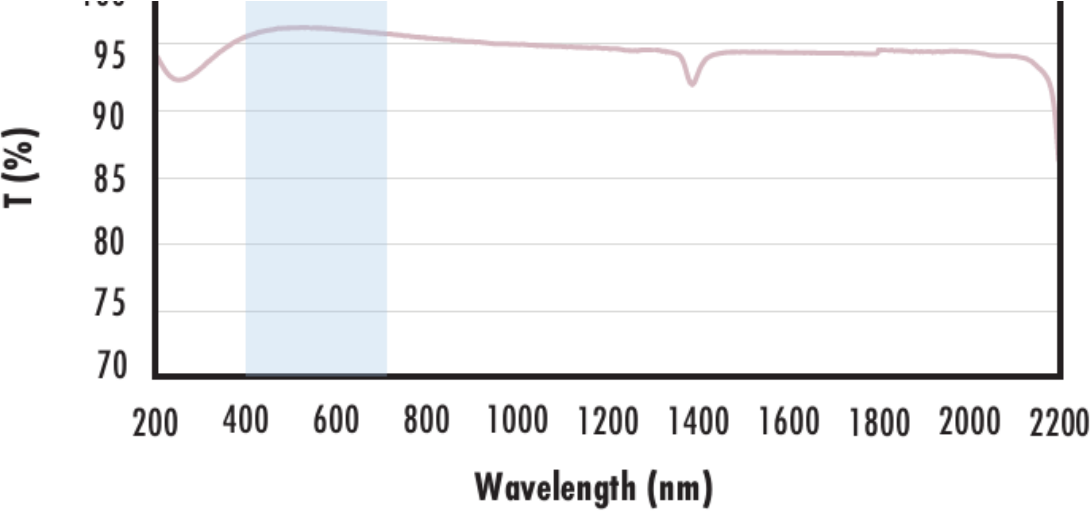
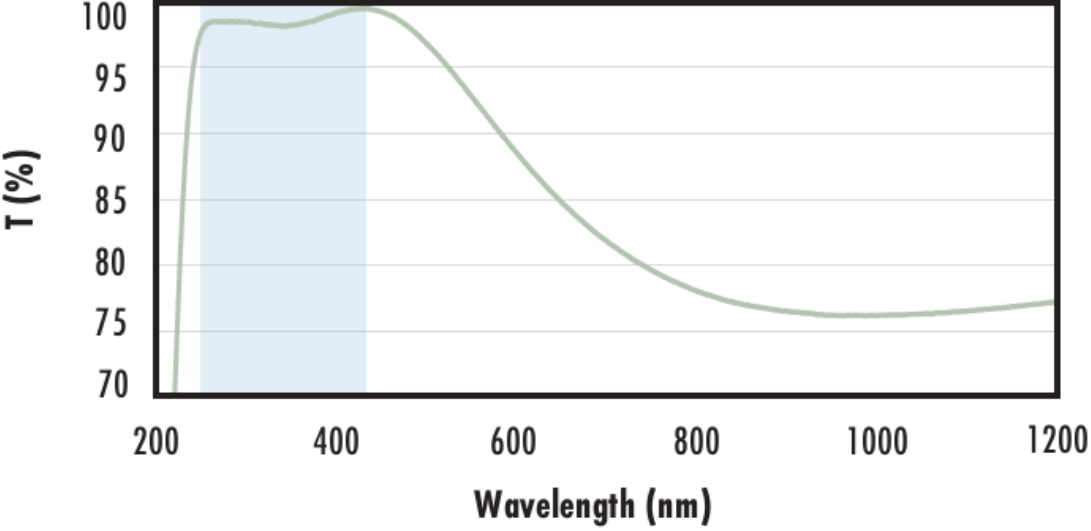
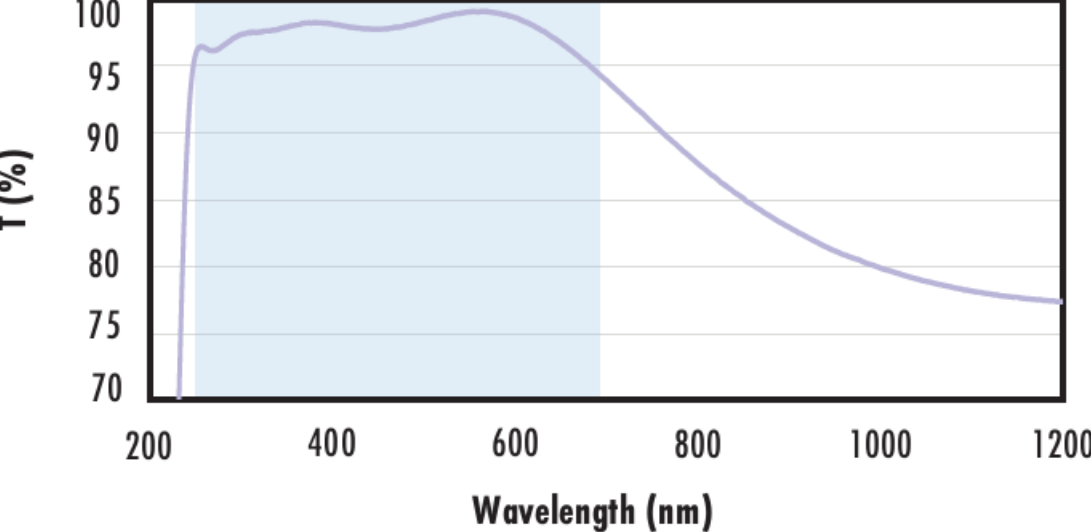
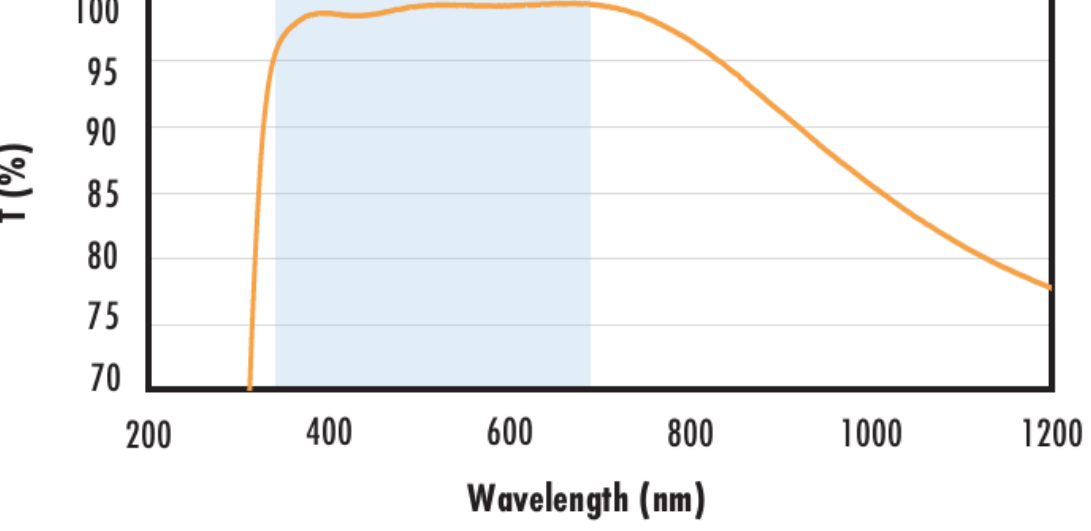
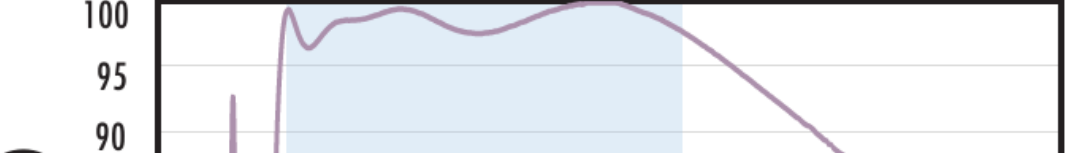
Wavelength (nm)	Transmission T (%)
200	92
400	94
600	94
800	94
1000	94
1200	94
1400	91
1600	94
1800	94.5
2000	94.5
2200	90

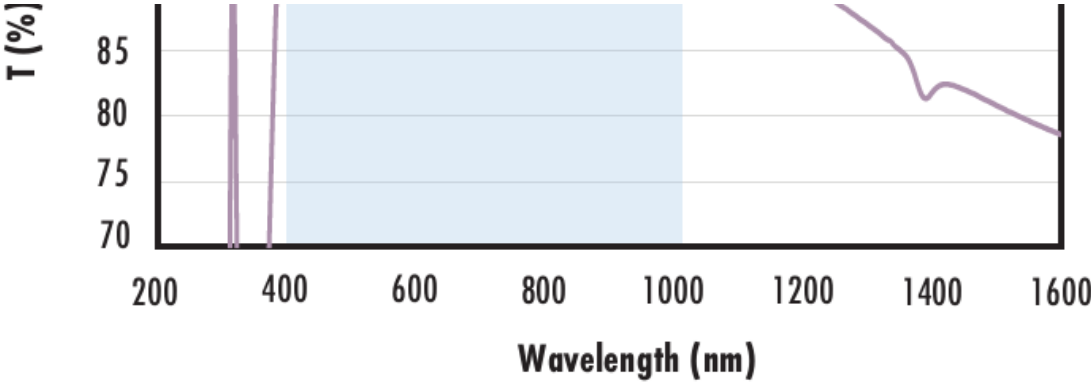
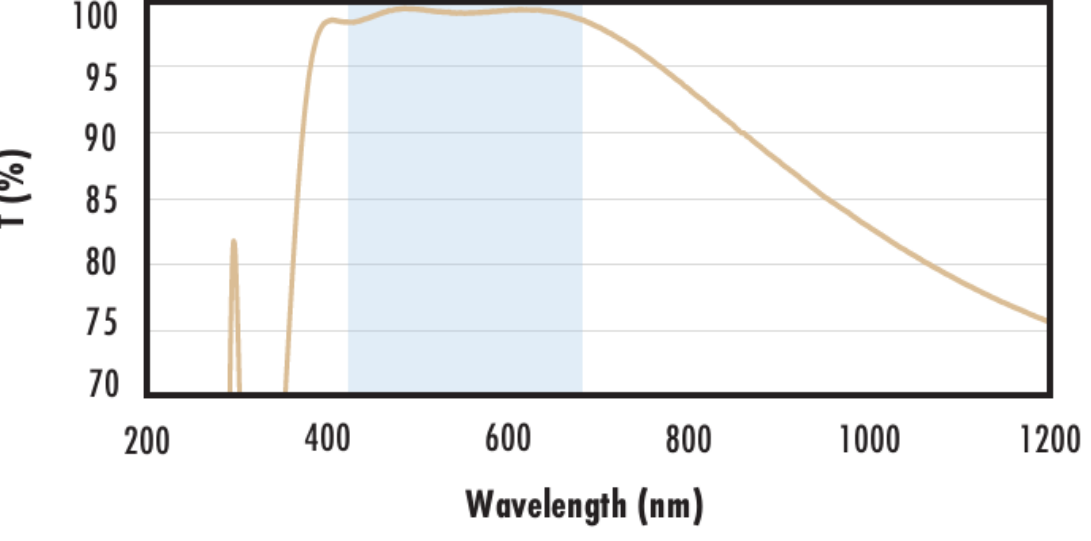
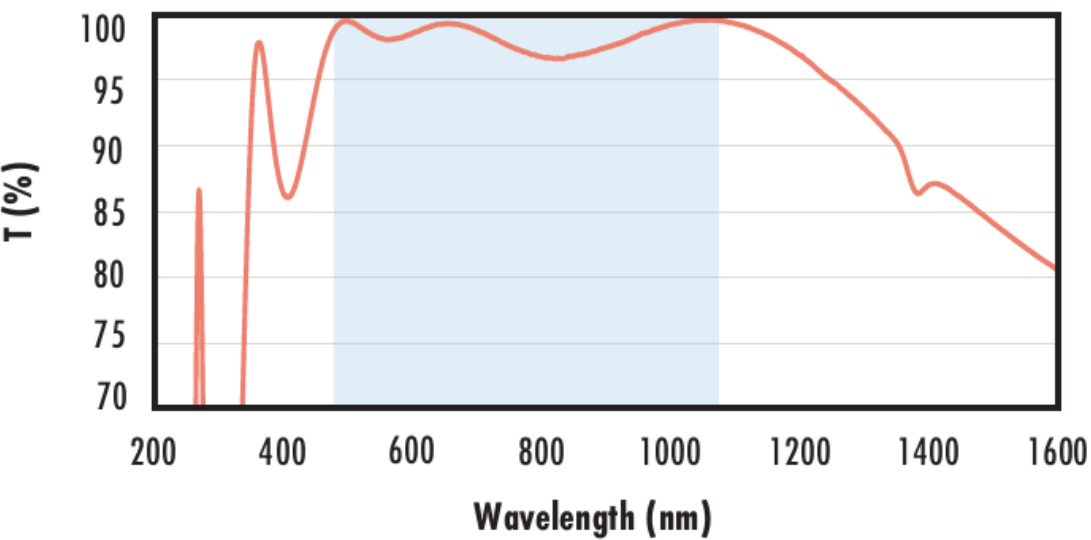
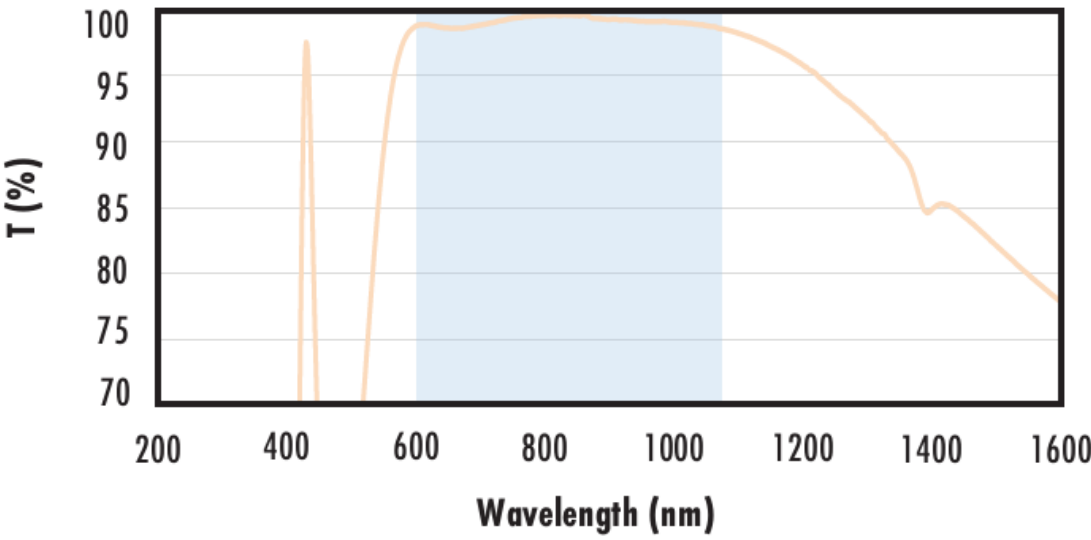
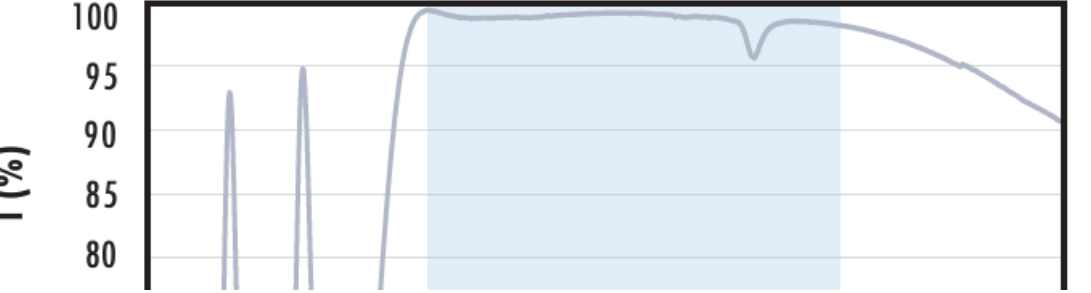
Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra.

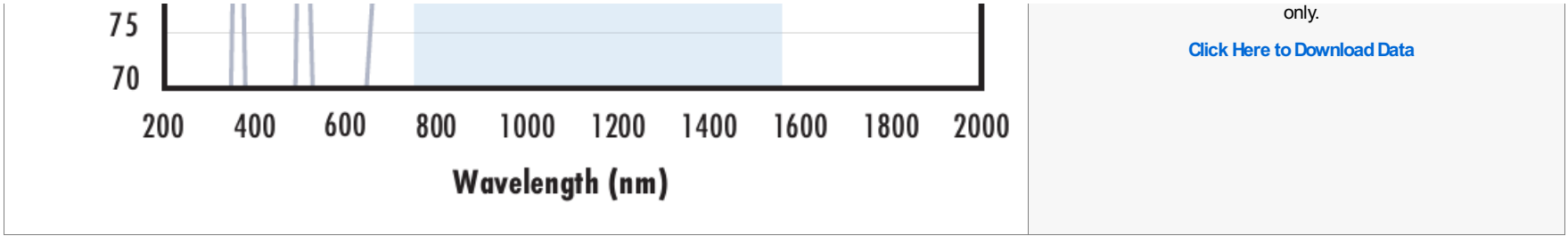
[Click Here to Download Data](#)

Fused Silica with MgF_2 Coating Typical Transmission

The graph shows the typical transmission of fused silica with a MgF_2 coating. The y-axis is labeled '100' at the top, indicating the transmission percentage. The x-axis represents wavelength, though the labels are not visible in this partial view. A blue line represents the transmission curve, which starts at 100% and remains constant across the visible spectrum.

	Typical transmission of a 3mm thick fused silica window with MgF2 (400-700nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{avg} \leq 1.75\% @ 400 - 700\text{nm}$ (N-BK7) Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Fused Silica with UV-AR Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{abs} \leq 1.0\% @ 250 - 425\text{nm}$ $R_{avg} \leq 0.75\% @ 250 - 425\text{nm}$ $R_{avg} \leq 0.5\% @ 370 - 420\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Fused Silica with UV-VIS Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica window with UV-VIS (250-700nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{abs} \leq 1.0\% @ 350 - 450\text{nm}$ $R_{avg} \leq 1.5\% @ 250 - 700\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Fused Silica with VIS-EXT Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica window with VIS-EXT (350-700nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{avg} \leq 0.5\% @ 350 - 700\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Fused Silica with VIS-NIR Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica window with VIS-NIR (400-1000nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification:

	$R_{abs} \leq 0.25\% @ 880\text{nm}$ $R_{avg} \leq 1.25\% @ 400 - 870\text{nm}$ $R_{avg} \leq 1.25\% @ 890 - 1000\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Fused Silica with VIS 0° Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica window with VIS 0° (425-675nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{avg} \leq 0.4\% @ 425 - 675\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Fused Silica with YAG-BBAR Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica window with YAG-BBAR (500-1100nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{abs} \leq 0.25\% @ 532\text{nm}$ $R_{abs} \leq 0.25\% @ 1064\text{nm}$ $R_{avg} \leq 1.0\% @ 500 - 1100\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Fused Silica with NIR I Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica window with NIR I (600 - 1050nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{avg} \leq 0.5\% @ 600 - 1050\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
Fused Silica with NIR II Coating Typical Transmission 	Typical transmission of a 3mm thick fused silica window with NIR II (750 - 1550nm) coating at 0° AOI. The blue shaded region indicates the coating design wavelength range, with the following specification: $R_{abs} \leq 1.5\% @ 750 - 800\text{nm}$ $R_{abs} \leq 1.0\% @ 800 - 1550\text{nm}$ $R_{avg} \leq 0.7\% @ 750 - 1550\text{nm}$ Data outside this range is not guaranteed and is for reference



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