

TECHSPEC<sup>®</sup> 50.8mm Dia. 4mm Thick MgF<sub>2</sub> Coated, 1λ Fused Silica Window



TECHSPEC<sup>®</sup> 1λ UV Fused Silica Windows

Stock **#25-327** **5 In Stock**

-

1

+

£123<sup>20</sup>

ADD TO CART

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-5        | £123.20 each                  |
| Qty 6-25       | £97.60 each                   |
| Qty 26-49      | £92.00 each                   |
| Need More?     | <a href="#">Request Quote</a> |

Prices shown are exclusive of VAT/local taxes

Product Downloads

|        |           |
|--------|-----------|
| 345.00 | #Sorting: |
|--------|-----------|

General

|                   |       |
|-------------------|-------|
| Protective Window | Type: |
|-------------------|-------|

Physical & Mechanical Properties

|                         |
|-------------------------|
| Clear Aperture CA (mm): |
|-------------------------|

|                      |                          |
|----------------------|--------------------------|
| 45.72                |                          |
|                      | Diameter (mm):           |
| 50.80 +0.00/-0.20    |                          |
|                      | Thickness (mm):          |
| 4.00 ±0.38           |                          |
|                      | Parallelism (arcmin):    |
| <5                   |                          |
|                      | Bevel:                   |
| Protective as needed |                          |
|                      | Clear Aperture (%):      |
| 90                   |                          |
|                      | Edges:                   |
| Fine Ground          |                          |
|                      | Poisson's Ratio:         |
| 0.16                 |                          |
|                      | Young's Modulus (GPa):   |
| 73                   |                          |
|                      | Knoop Hardness (kg/mm²): |
| 522.00               |                          |

| Optical Properties                          |                                        |
|---------------------------------------------|----------------------------------------|
|                                             | Coating:                               |
| MgF <sub>2</sub> (400-700nm)                |                                        |
|                                             | Substrate: <input type="checkbox"/>    |
| <a href="#">Fused Silica</a> (Corning 7980) |                                        |
|                                             | Index of Refraction (n <sub>d</sub> ): |
| 1.458                                       |                                        |
|                                             | Surface Quality:                       |
| 60-40                                       |                                        |
|                                             | Transmitted Wavefront, P-V:            |
| 1λ                                          |                                        |
|                                             | Abbe Number (v <sub>d</sub> ):         |
| 67.8                                        |                                        |
|                                             | Coating Specification:                 |
| R <sub>avg</sub> ≤1.75% @ 400 - 700nm       |                                        |
|                                             | Wavelength Range (nm):                 |
| 400 - 700                                   |                                        |
|                                             | Damage Threshold, By Design:           |
| 10 J/cm² @ 532nm, 10ns                      |                                        |

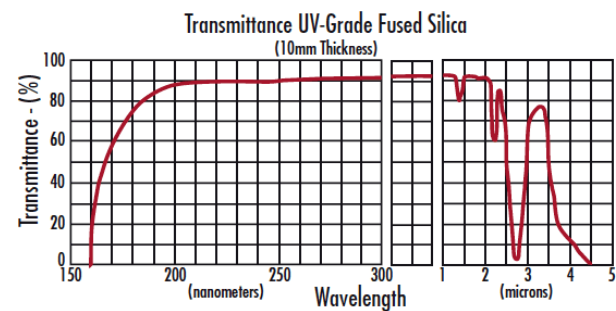
| Material Properties   |                                                              |
|-----------------------|--------------------------------------------------------------|
|                       | Density (g/cm³):                                             |
| 2.20                  |                                                              |
|                       | Coefficient of Thermal Expansion CTE (10 <sup>-6</sup> /°C): |
| 0.52 (+5 to +35°C)    |                                                              |
| 0.57 (0 to +200°C)    |                                                              |
| 0.48 (-100 to +200°C) |                                                              |

| Regulatory Compliance     |                             |
|---------------------------|-----------------------------|
|                           | RoHS 2015:                  |
| <a href="#">Compliant</a> |                             |
|                           | Certificate of Conformance: |
| <a href="#">View</a>      |                             |
|                           | Reach 235:                  |
| <a href="#">Compliant</a> |                             |

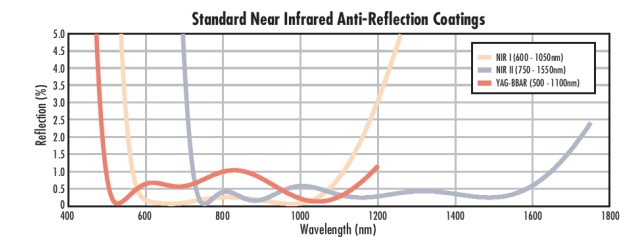
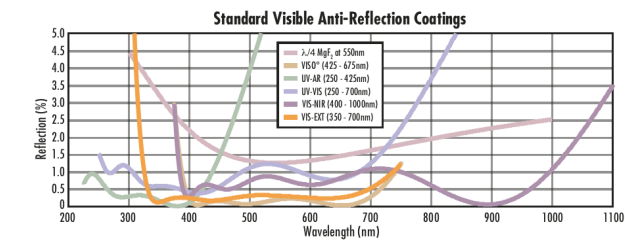
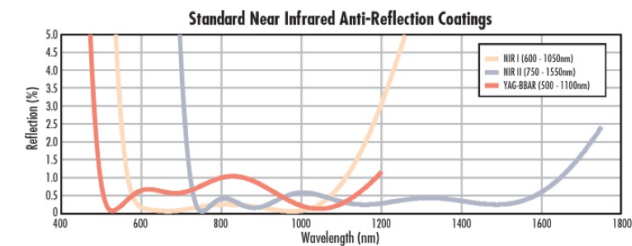
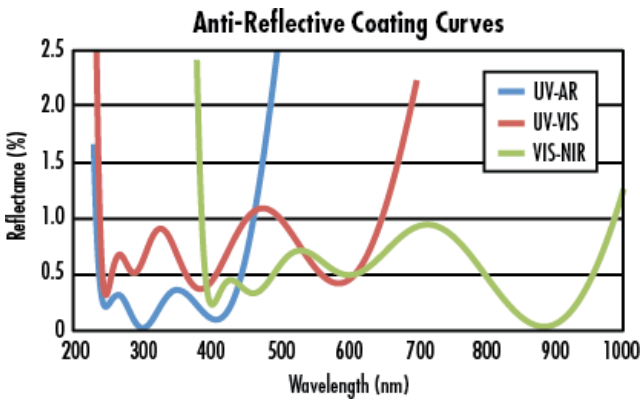
## Product Details

- 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, exceptional purity, and excellent environmental durability for demanding applications. The windows are ideal for cost-sensitive broadband applications and are available uncoated or with broadband anti-reflection coatings. TECHSPEC® 1λ UV Fused Silica Windows have circular and square sizes ranging from 5mm to 100mm. [λ/4](#) or [λ/10](#) UV Fused Silica Windows are also available.
- 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](#).

## Technical Information

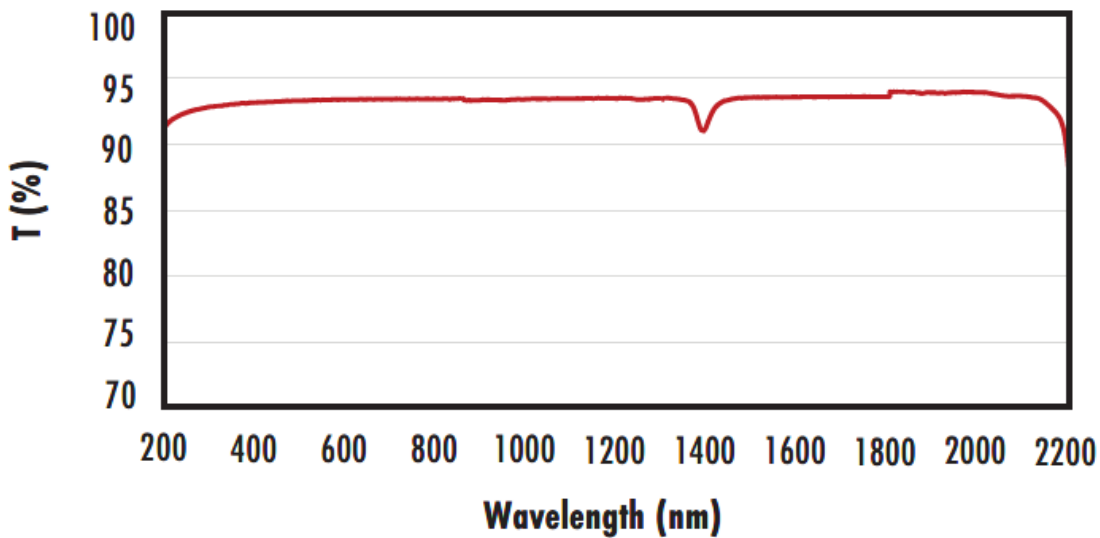


UV FS Transmission Curve



## FUSED SILICA

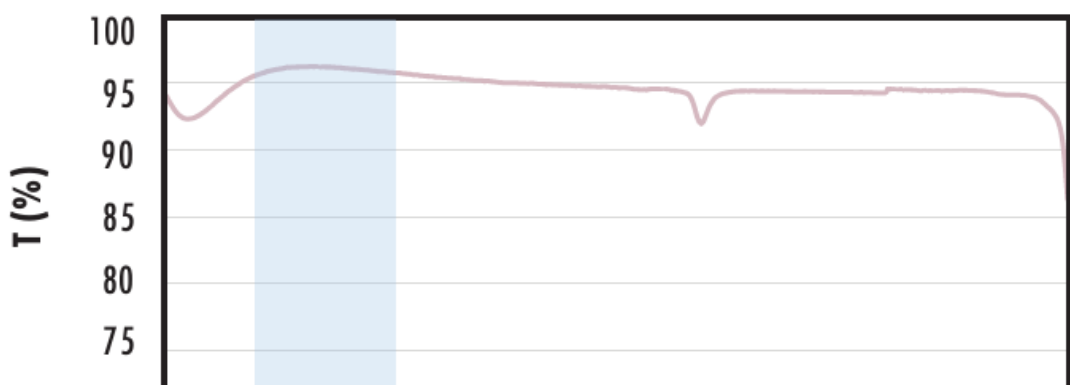
### Uncoated Fused Silica Typical Transmission



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

[Click Here to Download Data](#)

### Fused Silica with MgF<sub>2</sub> Coating Typical Transmission



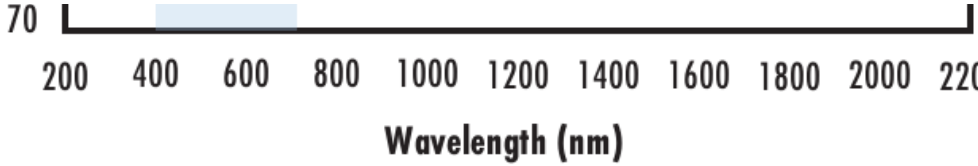
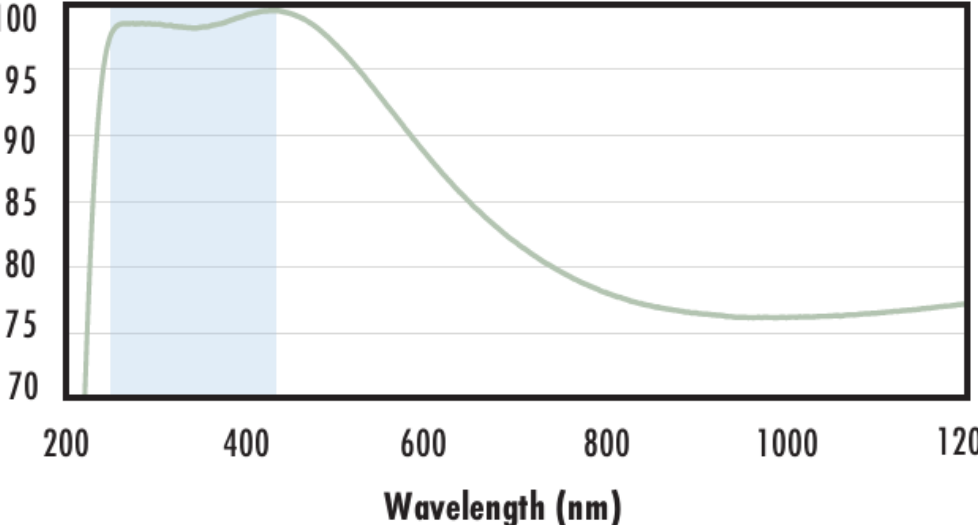
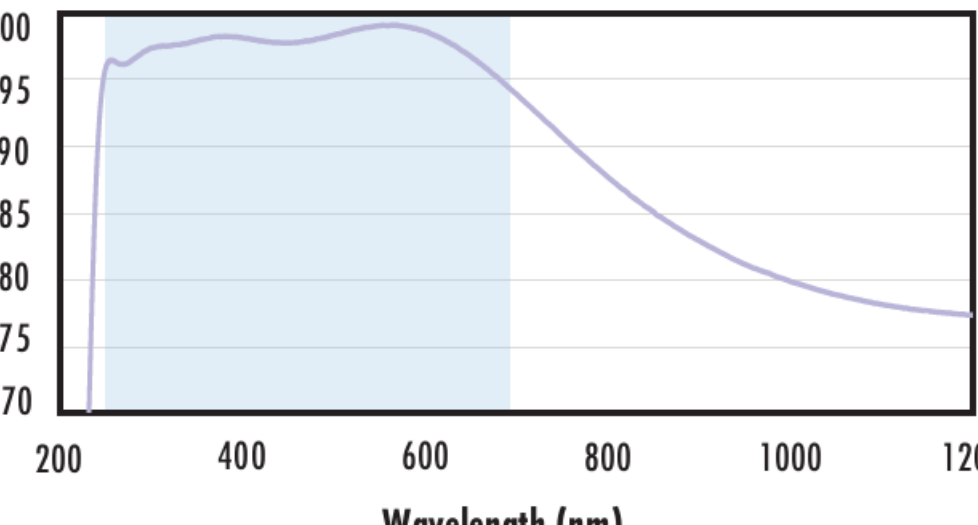
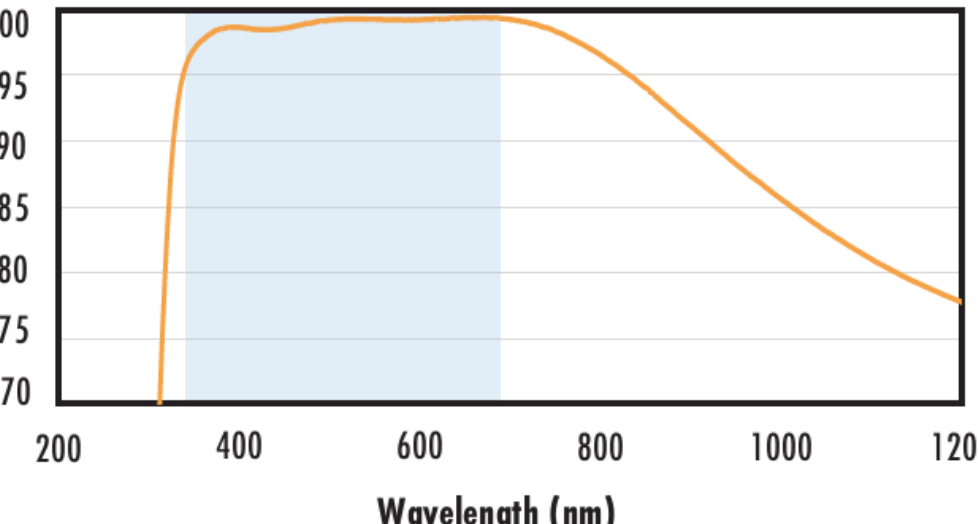
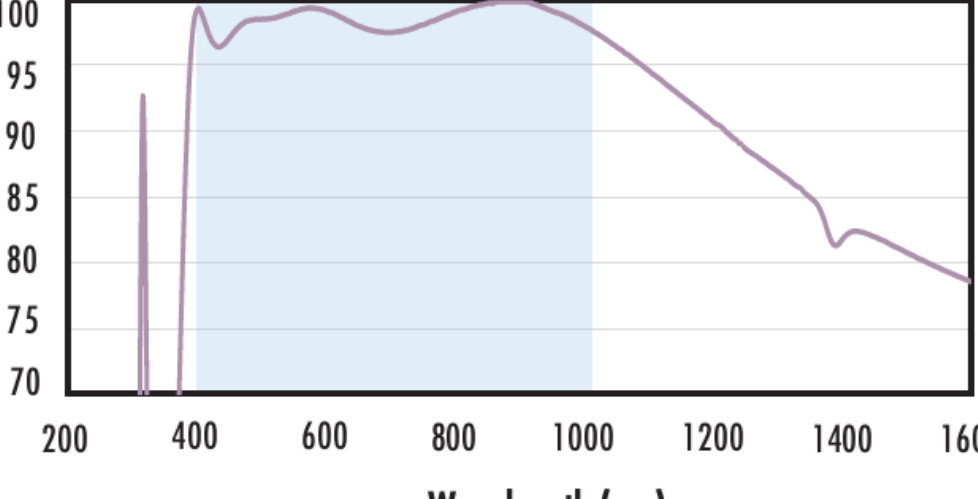
Typical transmission of a 3mm thick fused silica window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.

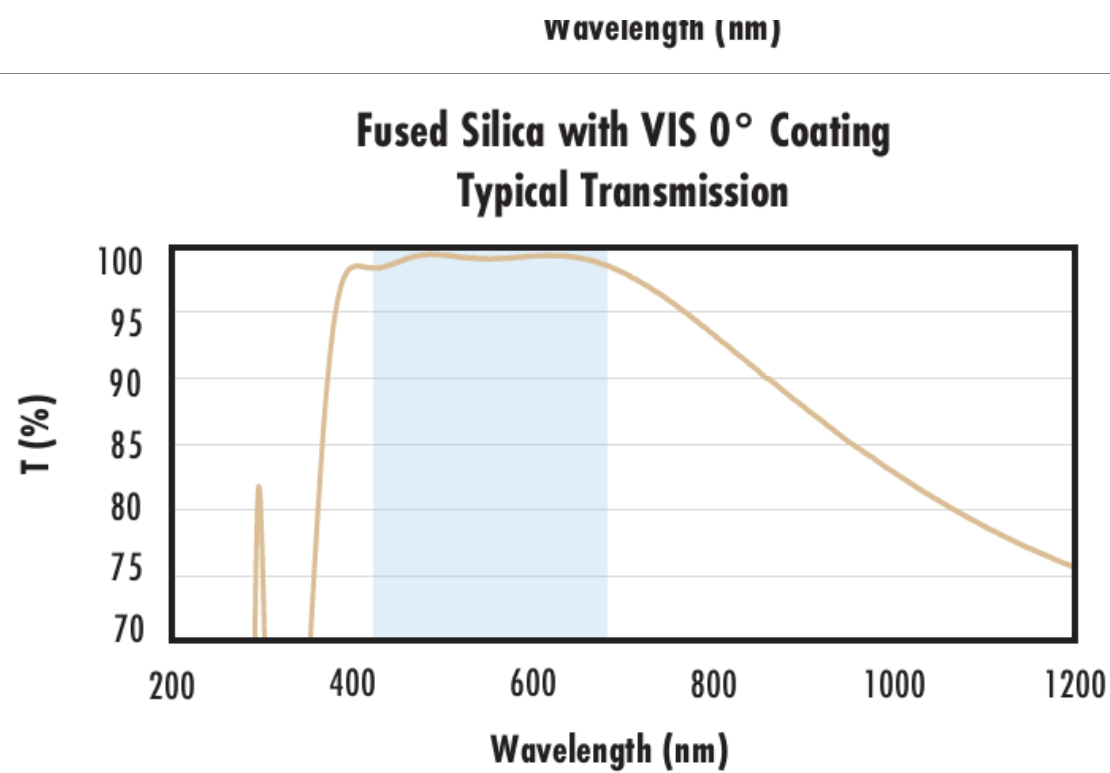
The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{avg} \leq 1.75\% @ 400 - 700\text{nm}$  (N-BK7)

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

|                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p data-bbox="583 261 1075 371"><b>Fused Silica with UV-AR Coating</b><br/><b>Typical Transmission</b></p>        | <p data-bbox="1329 424 1854 474">Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI.</p> <p data-bbox="1335 486 1848 537">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1476 549 1707 623"><math>R_{abs} \leq 1.0\% \text{ @ } 250 - 425\text{nm}</math><math>R_{avg} \leq 0.75\% \text{ @ } 250 - 425\text{nm}</math><math>R_{avg} \leq 0.5\% \text{ @ } 370 - 420\text{nm}</math></div> <p data-bbox="1344 635 1839 685">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1476 697 1707 718"><a href="#">Click Here to Download Data</a></p>           |
| <p data-bbox="575 943 1083 1053"><b>Fused Silica with UV-VIS Coating</b><br/><b>Typical Transmission</b></p>    | <p data-bbox="1329 1101 1854 1151">Typical transmission of a 3mm thick fused silica window with UV-VIS (250-700nm) coating at 0° AOI.</p> <p data-bbox="1335 1163 1848 1213">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1476 1225 1707 1276"><math>R_{abs} \leq 1.0\% \text{ @ } 350 - 450\text{nm}</math><math>R_{avg} \leq 1.5\% \text{ @ } 250 - 700\text{nm}</math></div> <p data-bbox="1344 1311 1839 1362">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1476 1374 1707 1394"><a href="#">Click Here to Download Data</a></p>                                                              |
| <p data-bbox="569 1626 1087 1736"><b>Fused Silica with VIS-EXT Coating</b><br/><b>Typical Transmission</b></p>  | <p data-bbox="1344 1804 1839 1855">Typical transmission of a 3mm thick fused silica window with VIS-EXT (350-700nm) coating at 0° AOI.</p> <p data-bbox="1335 1866 1848 1917">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1476 1929 1707 1952"><math>R_{avg} \leq 0.5\% \text{ @ } 350 - 700\text{nm}</math></div> <p data-bbox="1344 1964 1839 2015">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1476 2027 1707 2047"><a href="#">Click Here to Download Data</a></p>                                                                                                                          |
| <p data-bbox="575 2309 1083 2418"><b>Fused Silica with VIS-NIR Coating</b><br/><b>Typical Transmission</b></p>  | <p data-bbox="1344 2442 1839 2493">Typical transmission of a 3mm thick fused silica window with VIS-NIR (400-1000nm) coating at 0° AOI.</p> <p data-bbox="1335 2504 1848 2555">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1476 2567 1707 2641"><math>R_{abs} \leq 0.25\% \text{ @ } 880\text{nm}</math><math>R_{avg} \leq 1.25\% \text{ @ } 400 - 870\text{nm}</math><math>R_{avg} \leq 1.25\% \text{ @ } 890 - 1000\text{nm}</math></div> <p data-bbox="1344 2677 1839 2727">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1476 2739 1707 2760"><a href="#">Click Here to Download Data</a></p> |



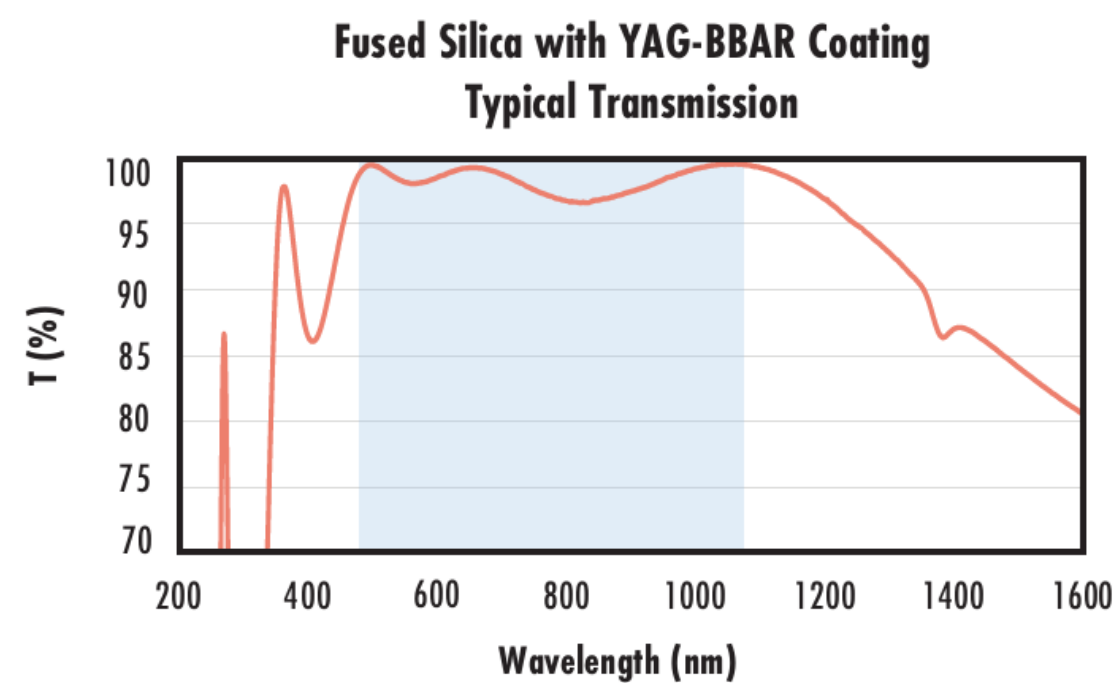
Typical transmission of a 3mm thick fused silica window with MS  
0° (425-675nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelength range, with the following specification:

$$R_{avg} \leq 0.4\% @ 425 - 675nm$$

Data outside this range is not guaranteed and is for reference only.

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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:

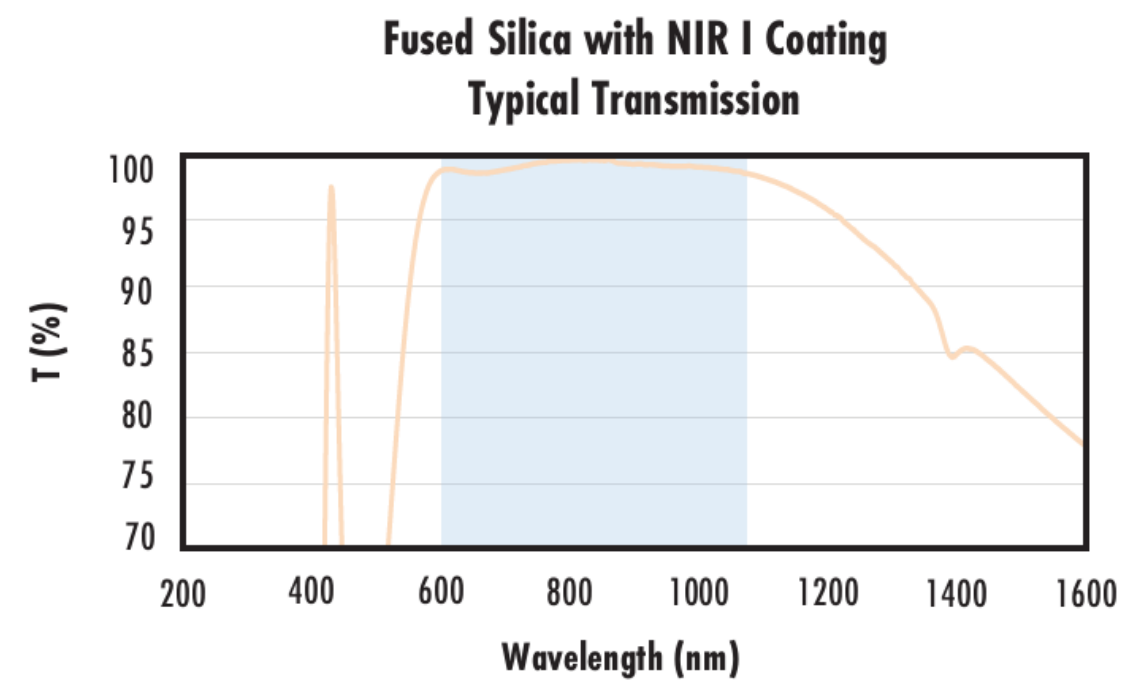
$$R_{\text{abs}} \leq 0.25\% @ 532\text{nm}$$

$$R_{\text{abs}} \leq 0.25\% @ 1064\text{nm}$$

$$R_{avg} \leq 1.0\% @ 500 - 1100\text{nm}$$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)



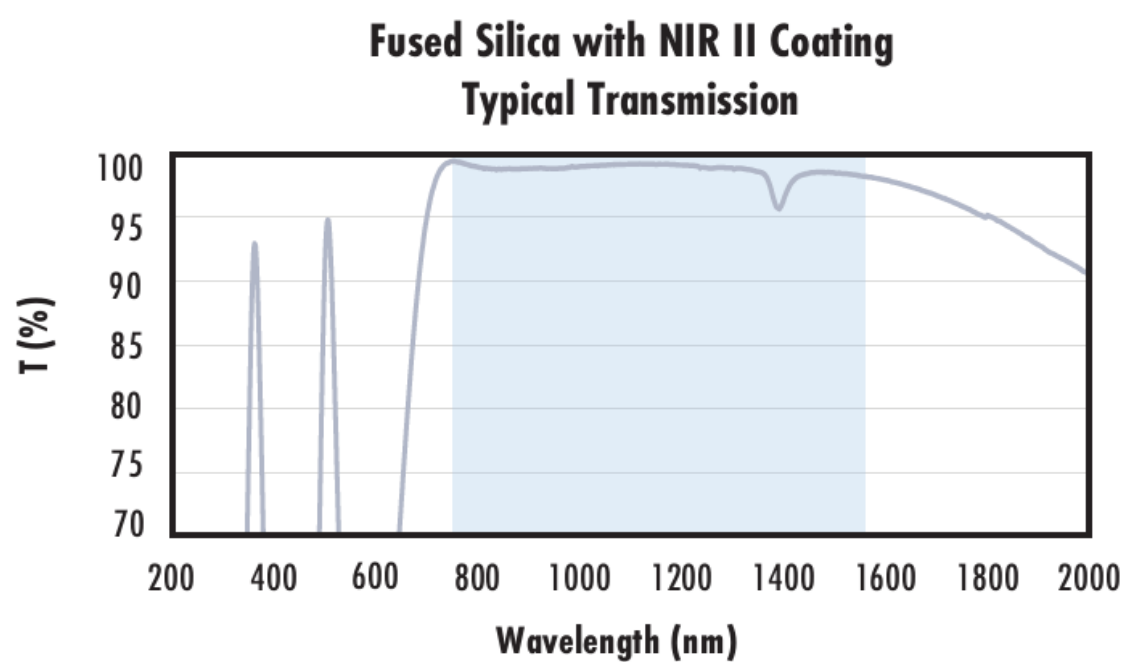
Typical transmission of a 3mm thick fused silica window with NIR  
I (600 - 1050nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelength range, with the following specification:

$$R_{avg} \leq 0.5\% @ 600 - 1050nm$$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)



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:

$R_{\text{abs}} \leq 1.5\% @ 750 - 800\text{nm}$

$$R_{\text{abs}} \leq 1.0\% @ 800 - 1550\text{nm}$$

$$R_{\text{avg}} \leq 0.7\% @ 750 - 1550\text{nm}$$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

# Coating Curves

## Custom

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](#).

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