

**TECHSPEC® 50 x 50mm, 4mm Thick YAG-BBAR Coated, 1λ Fused Silica Window**



TECHSPEC® 1λ UV Fused Silica Windows

Stock #25-239 **2 In Stock**

⊖ 1 ⊕ £145.<sup>00</sup>

**ADD TO CART**

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-5        | £145.60 each                  |
| Qty 6-25       | £116.00 each                  |
| Qty 26-49      | £108.80 each                  |
| Need More?     | <a href="#">Request Quote</a> |

ⓘ Prices shown are exclusive of VAT/local taxes

Product Downloads

**General**

Protective Window **Type:**

Glass **Type of Window:**

**Physical & Mechanical Properties**

Clear Aperture CA (mm):

|                           |  |
|---------------------------|--|
| 45.00 x 45.00             |  |
| 50.00 x 50.00 +0.00/-0.20 | <b>Dimensions (mm):</b>                    |
| 4.00 ±0.38                | <b>Thickness (mm):</b>                     |
| 50.00                     | <b>Length (mm):</b>                        |
| 50.00                     | <b>Width (mm):</b>                         |
| <5                        | <b>Parallelism (arcmin):</b>               |
| Protective as needed      | <b>Bevel:</b>                              |
| 90                        | <b>Clear Aperture (%):</b>                 |
| Fine Ground               | <b>Edges:</b>                              |
| 0.16                      | <b>Poisson's Ratio:</b>                    |
| 73                        | <b>Young's Modulus (GPa):</b>              |
| 522.00                    | <b>Knoop Hardness (kg/mm<sup>2</sup>):</b> |

## Optical Properties

|   |  |
|---|--|
| YAG-BBAR (500-1100nm)   | <b>Coating:</b>  |
| <b>Fused Silica</b> (Corning 7980)  | <b>Substrate:</b> <input type="checkbox"/>                   |
| 1.458   | <b>Index of Refraction (n<sub>d</sub>):</b>                  |
| 60-40   | <b>Surface Quality:</b>                                      |
| 67.8  | <b>Abbe Number (v<sub>d</sub>):</b>                          |
| R <sub>abs</sub> ≤ 0.25% @ 532nm<br>R <sub>abs</sub> ≤ 0.25% @ 1064nm<br>R <sub>avg</sub> ≤ 1.0% @ 500 - 1100nm | <b>Coating Specification:</b>                                |
| 500 - 1100  | <b>Wavelength Range (nm):</b>                                |
| 1λ  | <b>Surface Flatness (P-V):</b>                               |
| 5 J/cm <sup>2</sup> @ 532nm, 10ns   | <b>Damage Threshold, Reference:</b> <input type="checkbox"/> |

## Material Properties

|   |   |
|---|---|
| 2.20  | <b>Density (g/cm<sup>3</sup>):</b>                                |
| 0.52 (+5 to +35°C)<br>0.57 (0 to +200°C)<br>0.48 (-100 to +200°C) | <b>Coefficient of Thermal Expansion CTE (10<sup>-6</sup>/°C):</b> |
| 7980 0G   | <b>Fused Silica Grade:</b>  |

## Regulatory Compliance

|                  |                                    |
|------------------|------------------------------------|
| <b>Compliant</b> | <b>RoHS 2015:</b>                  |
| <b>View</b>      | <b>Certificate of Conformance:</b> |
| <b>Compliant</b> | <b>Reach 235:</b>                  |

## 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](#).

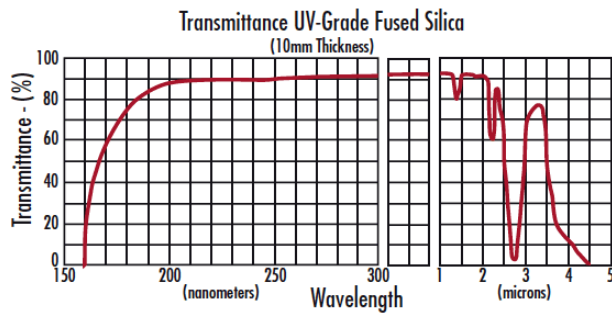
## Product Details

- Available Uncoated or with Broadband Anti-Reflection Coatings
- Ideal for Cost Sensitive Broadband Applications
- Circular and Square Sizes from 5mm to 100mm
- $\lambda/4$  or  $\lambda/10$  UV Fused Silica Windows Also Available

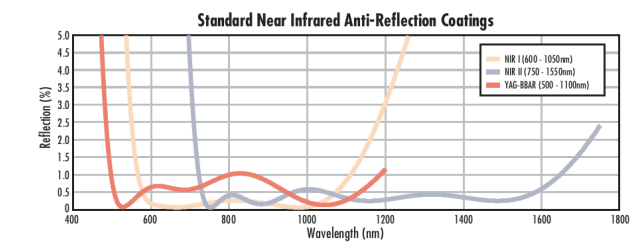
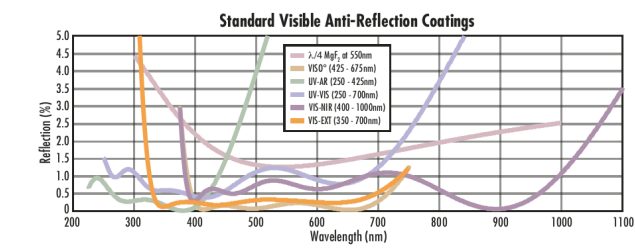
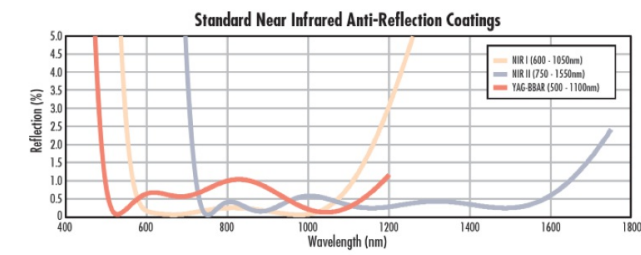
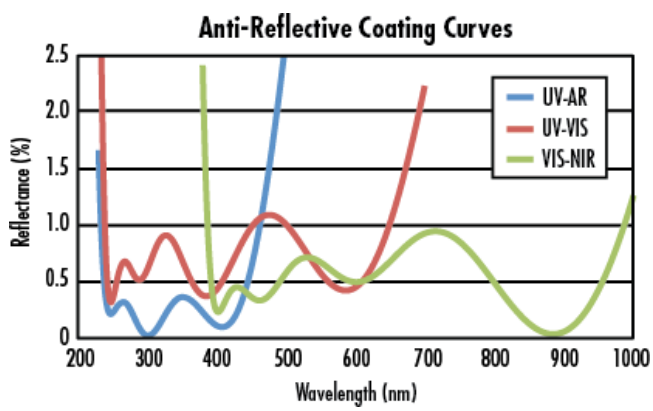
TECHSPEC® 1 $\lambda$  UV Fused Silica Windows are precision manufactured using UV-grade synthetic fused silica. In addition to superior transmission, the synthetic fused silica of these optical windows exhibits higher thermal properties, exceptional purity, and excellent environmental durability for demanding applications. The windows are ideal for cost-sensitive broadband applications and are available uncoated or with broadband anti-reflection coatings. TECHSPEC® 1 $\lambda$  UV Fused Silica Windows have circular and square sizes ranging from 5mm to 100mm.  $\lambda/4$  or  $\lambda/10$  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

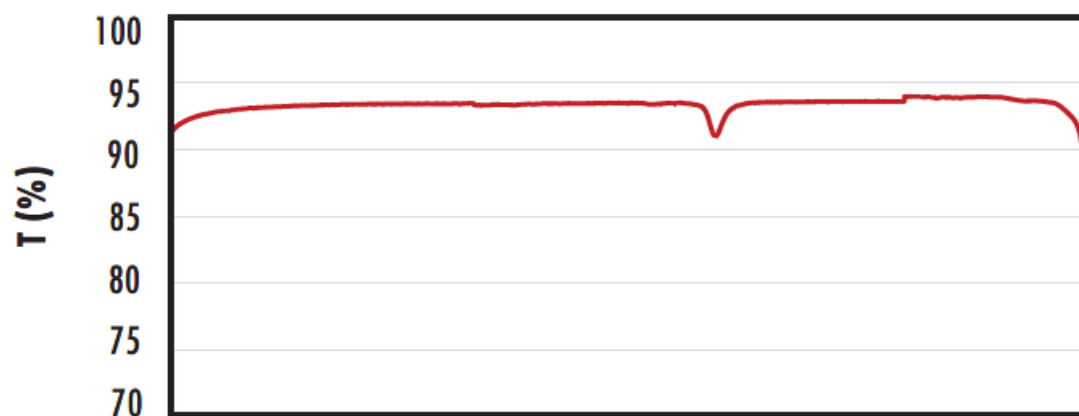


UV FS Transmission Curve



### FUSED SILICA

#### Uncoated Fused Silica Typical Transmission



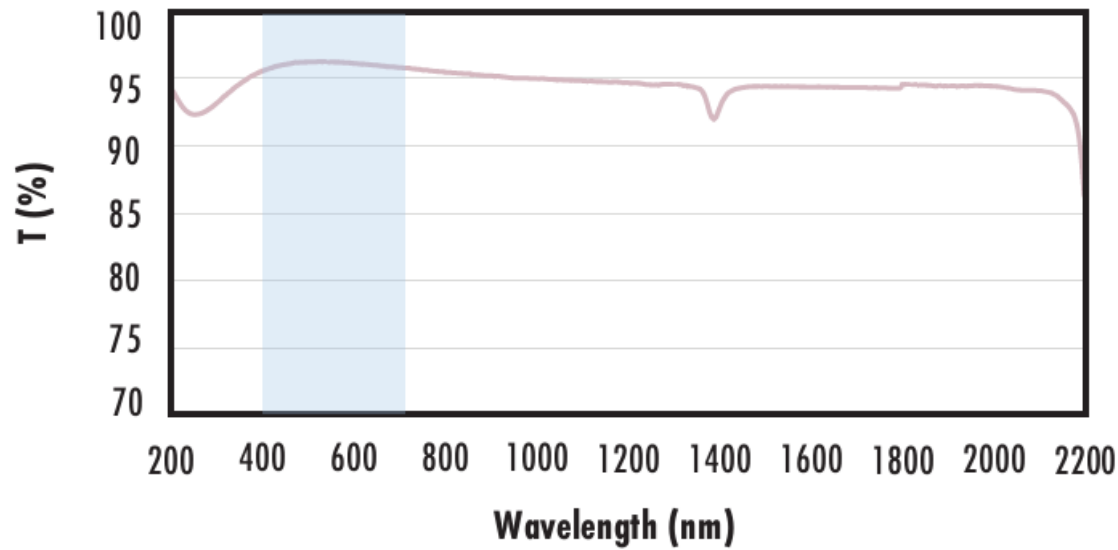
Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra.

[Click Here to Download Data](#)

200 400 600 800 1000 1200 1400 1600 1800 2000 2200

Wavelength (nm)

### 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.

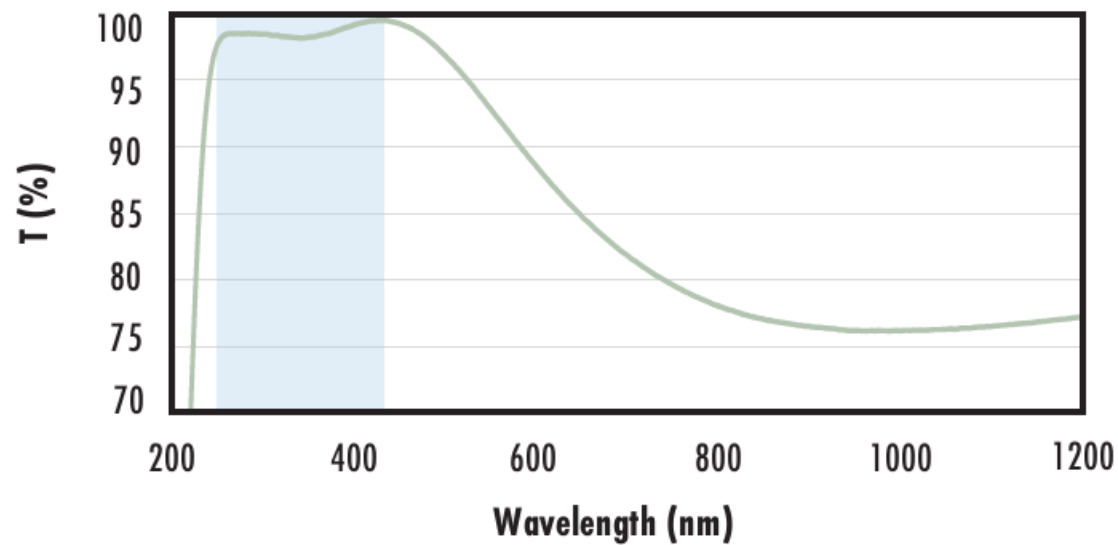
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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:

$$R_{abs} \leq 1.0\% \text{ @ } 250 - 425\text{nm}$$

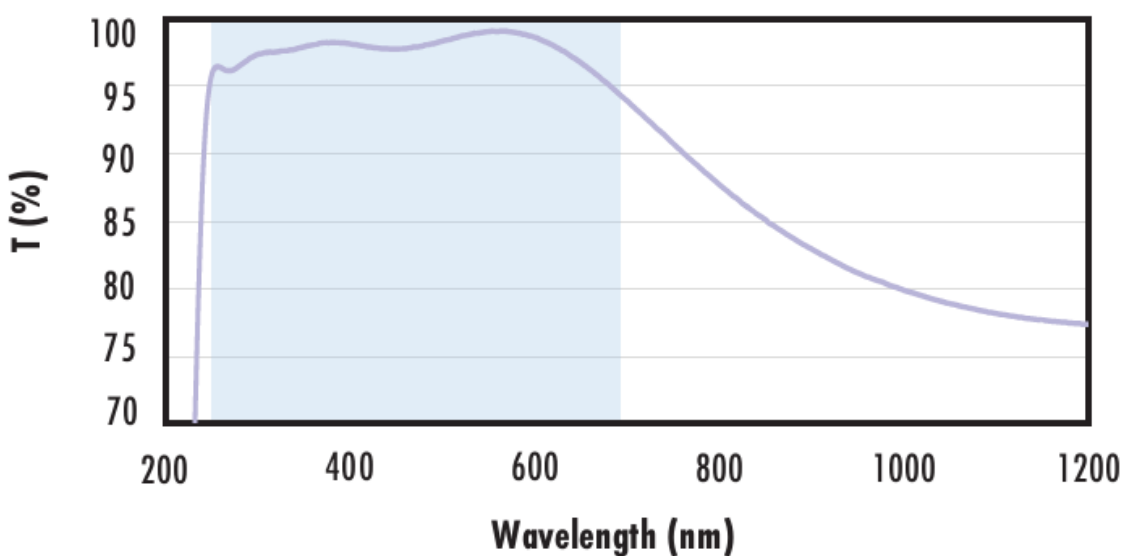
$$R_{avg} \leq 0.75\% \text{ @ } 250 - 425\text{nm}$$

$$R_{avg} \leq 0.5\% \text{ @ } 370 - 420\text{nm}$$

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

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### 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:

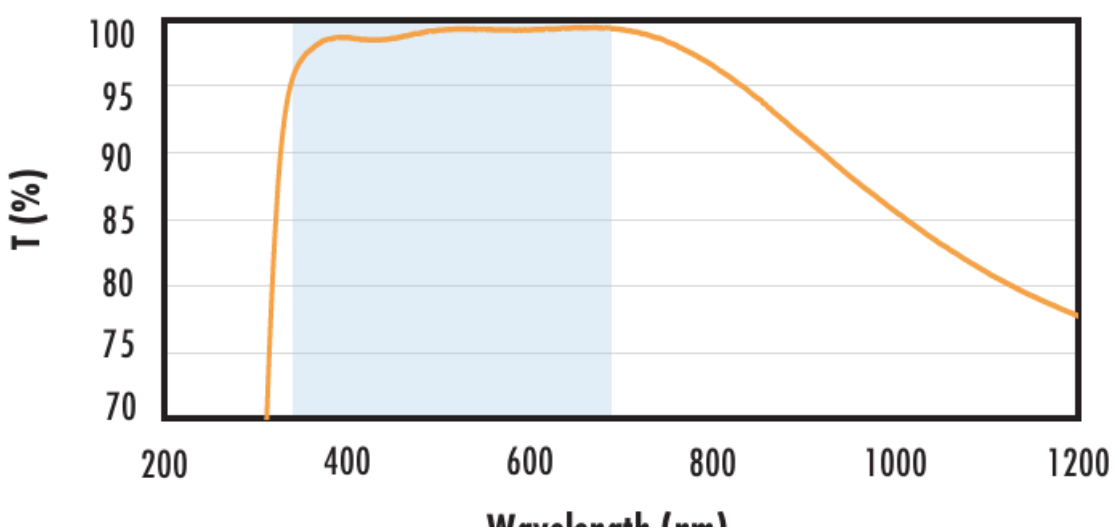
$$R_{abs} \leq 1.0\% \text{ @ } 350 - 450\text{nm}$$

$$R_{avg} \leq 1.5\% \text{ @ } 250 - 700\text{nm}$$

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

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### 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:

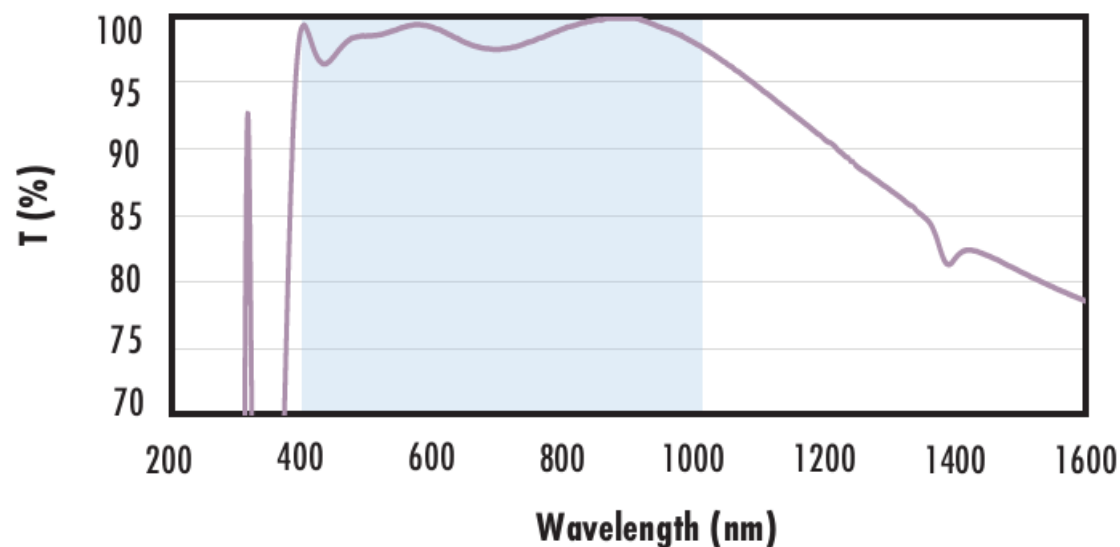
$$R_{avg} \leq 0.5\% \text{ @ } 350 - 700\text{nm}$$

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

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wavelength (nm)

### 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.

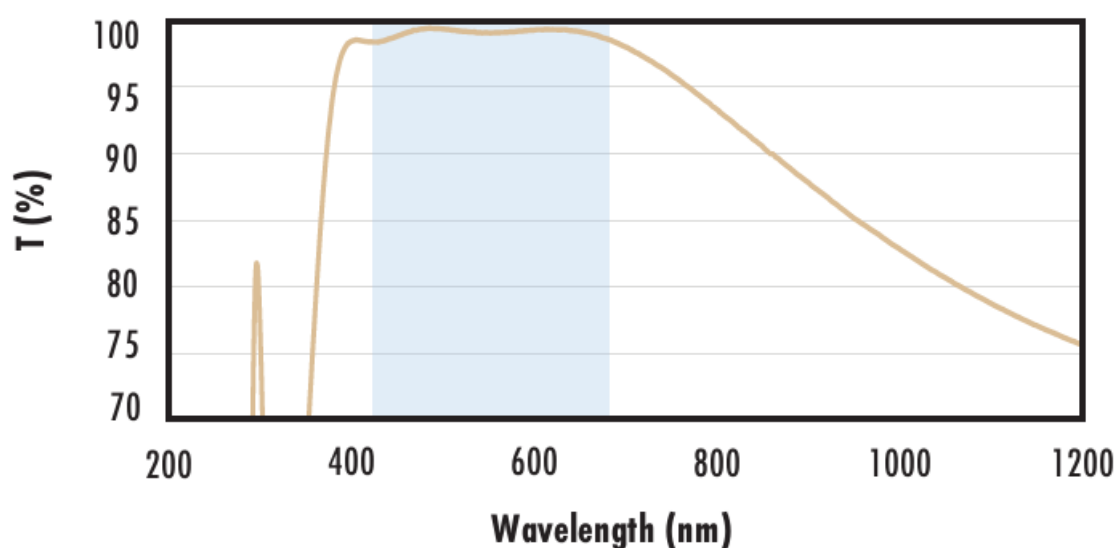
The blue shaded region indicates the coating design wavelength range, with the following specification:

$$\begin{aligned} R_{abs} &\leq 0.25\% @ 880\text{nm} \\ R_{avg} &\leq 1.25\% @ 400 - 870\text{nm} \\ R_{avg} &\leq 1.25\% @ 890 - 1000\text{nm} \end{aligned}$$

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

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### 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.

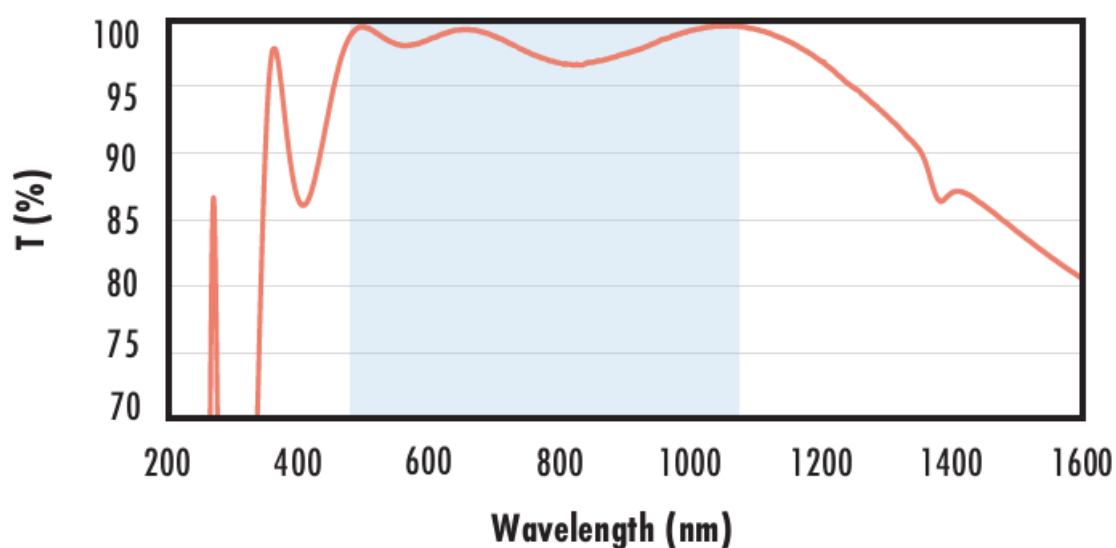
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

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### 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.

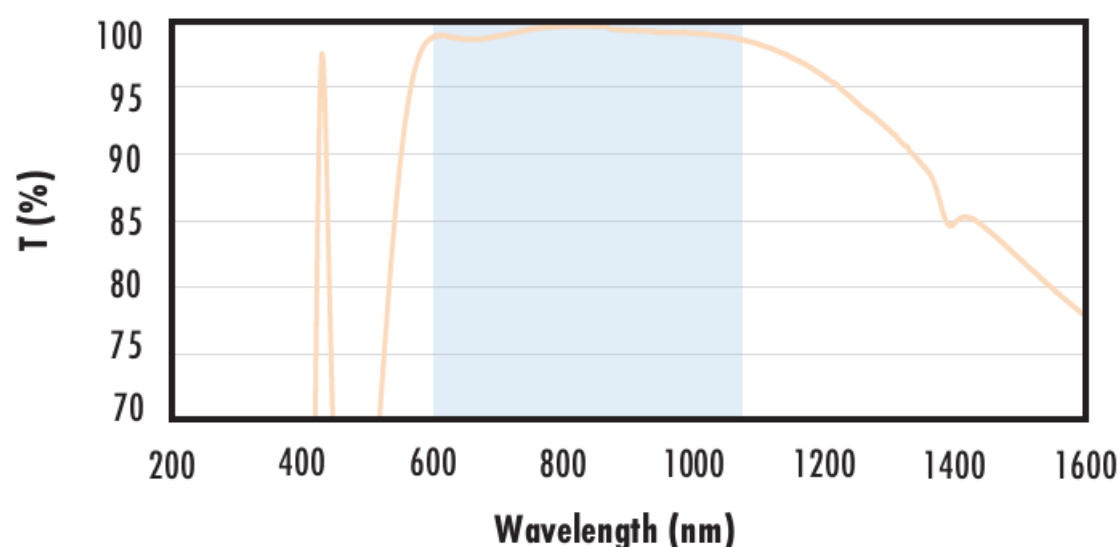
The blue shaded region indicates the coating design wavelength range, with the following specification:

$$\begin{aligned} R_{abs} &\leq 0.25\% @ 532\text{nm} \\ R_{abs} &\leq 0.25\% @ 1064\text{nm} \\ R_{avg} &\leq 1.0\% @ 500 - 1100\text{nm} \end{aligned}$$

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

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### 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:

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

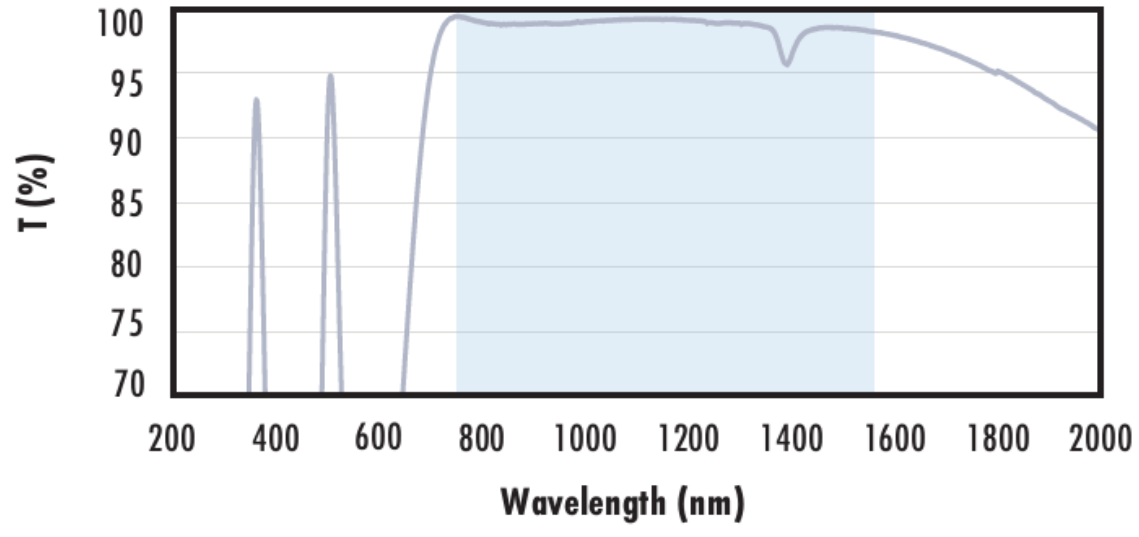
Data outside this range is not guaranteed and is for reference only.

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### Fused Silica with NIR II Coating

### 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 - 800nm  
 $R_{abs} \leq 1.0\%$  @ 800 - 1550nm  
 $R_{avg} \leq 0.7\%$  @ 750 - 1550nm

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

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