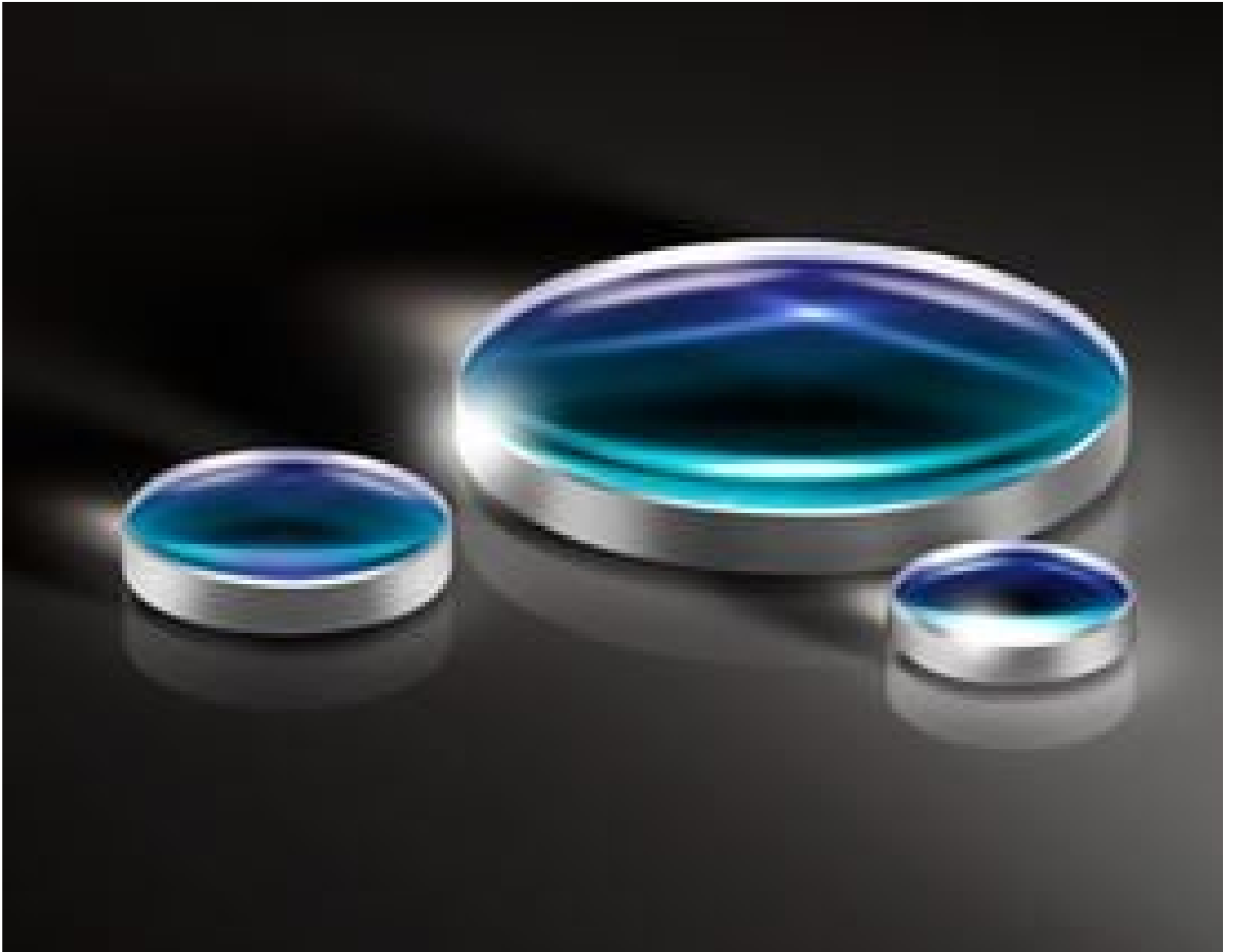


**TECHSPEC® 12mm Dia. x 15mm FL, NIR I Coated, UV Double-Convex Lens**



UV Fused Silica Double-Convex (DCX) Lenses



Stock **#22-164** **3 In Stock**

[Other Coating Options](#)

⊖ 1 ⊕ £120<sup>00</sup>

**ADD TO CART**

Volume Pricing	
Qty 1-5	£120.80 each
Qty 6-25	£96.80 each
Qty 26-49	£91.20 each
Need More?	<a href="#">Request Quote</a>

ⓘ Prices shown are exclusive of VAT/local taxes

Product Downloads

**SPECIFICATIONS**

## General

Double-Convex Lens **Type:**

## Physical & Mechanical Properties

12.00 +0.0/-0.025 **Diameter (mm):**

<1 **Centering (arcmin):**

Protective as needed **Bevel:**

4.50 ±0.05 **Center Thickness CT (mm):**

1.57 **Edge Thickness ET (mm):**

11.00 **Clear Aperture CA (mm):**

## Optical Properties

13.37 **Back Focal Length BFL (mm):**

15.00 **Effective Focal Length EFL (mm):**

NIR I (600-1050nm) **Coating:**

$R_{avg} \leq 0.5\%$  @ 600 - 1050nm **Coating Specification:**

[Fused Silica](#) (Corning 7980) **Substrate:**

40-20 **Surface Quality:**

1.5λ **Power (P-V) @ 632.8nm:**

M4 **Irregularity (P-V) @ 632.8nm:**

13.01 **Radius  $R_1=R_2$  (mm):**

1.25 **f#:**

587.6 **Focal Length Specification Wavelength (nm):**

±1 **Focal Length Tolerance (%):**

0.40 **Numerical Aperture NA:**

600 - 1050 **Wavelength Range (nm):**

7 J/cm<sup>2</sup> @ 1064nm, 10ns **Damage Threshold, Reference:**

## Regulatory Compliance

[Compliant](#) **RoHS 2015:**

[View](#) **Certificate of Conformance:**

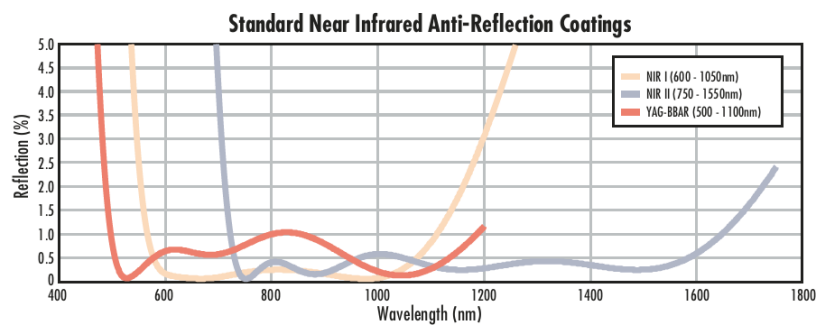
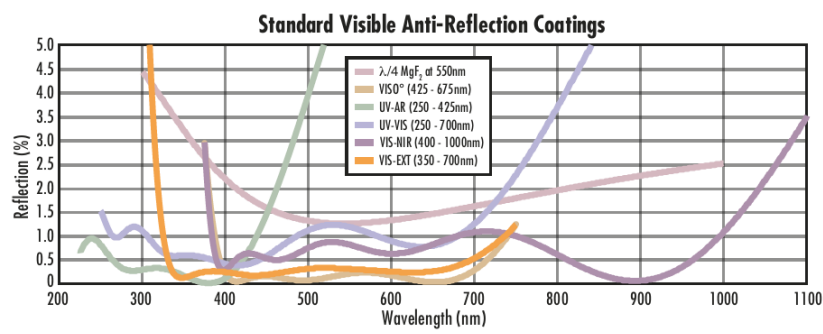
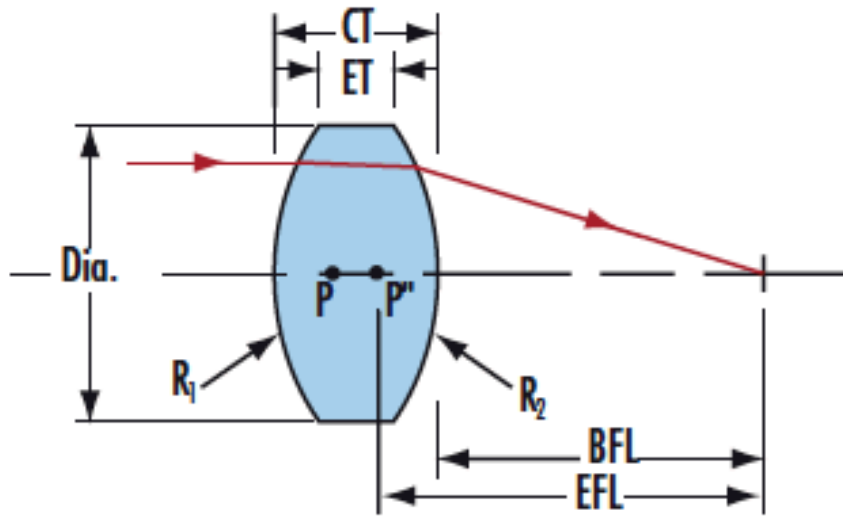
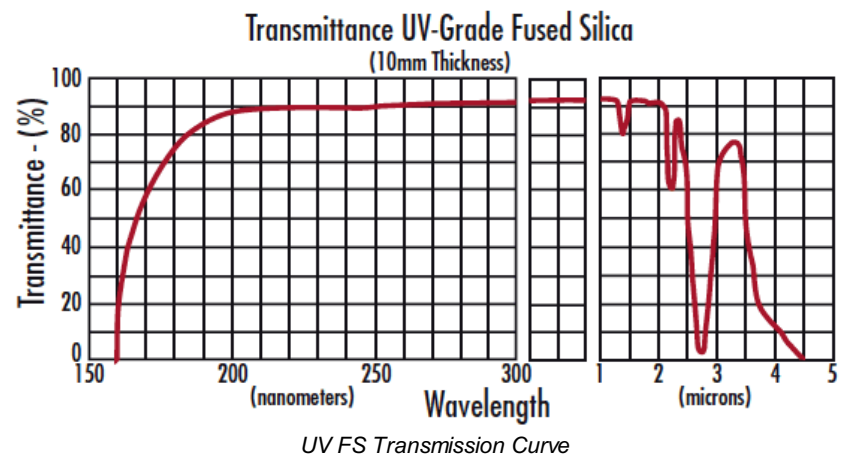
[Compliant](#) **Reach 235:**

## PRODUCT DETAILS

- Ideal for Imaging Applications
- Minimize Aberrations Including Spherical and Coma
- Precision Fused Silica Substrate

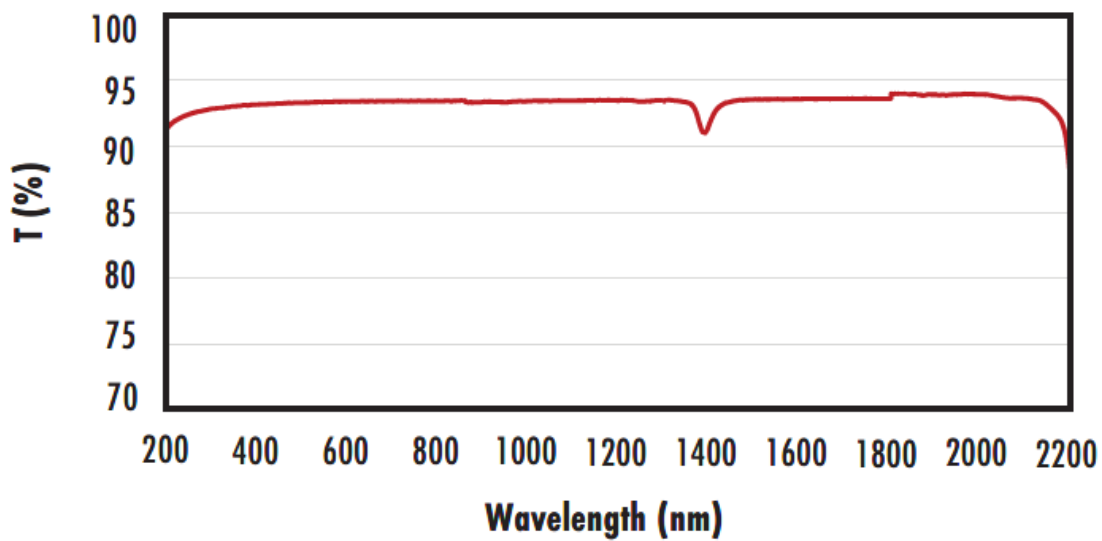
TECHSPEC® UV Fused Silica Double-Convex (DCX) Lenses, also referred to as bi-convex lenses, have two positive, symmetrical faces with equal radii on both sides. These lenses are generally recommended for finite imaging applications with a conjugate ratio (ratio between object distance and image distance) between 0.2 and 5. At a conjugate ratio of 1, aberrations such as spherical aberration, chromatic aberration, coma, and distortion are minimized or canceled due to the symmetric lens design. TECHSPEC® UV Fused Silica Double-Convex (DCX) Lenses have a precision fused silica substrate. These lenses are available uncoated or with UV-AR, UV-VIS, VIS-EXT, VIS-NIR, VIS 0°, NIR I, or NIR II coatings.

## TECHNICAL INFORMATION



**FUSED SILICA**

### Uncoated Fused Silica Typical Transmission



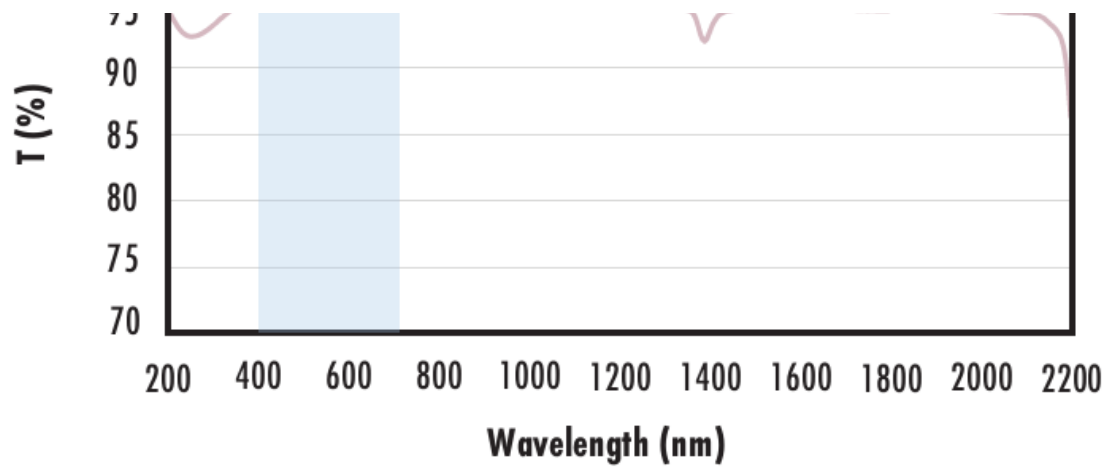
Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra.

[Click Here to Download Data](#)

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

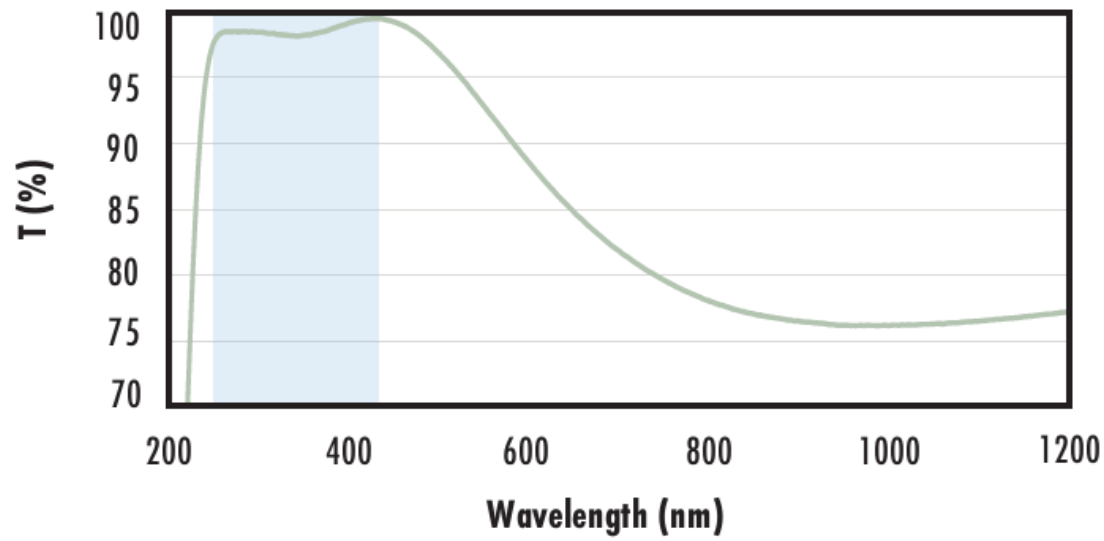


Typical transmission of a 3mm thick fused silica window with



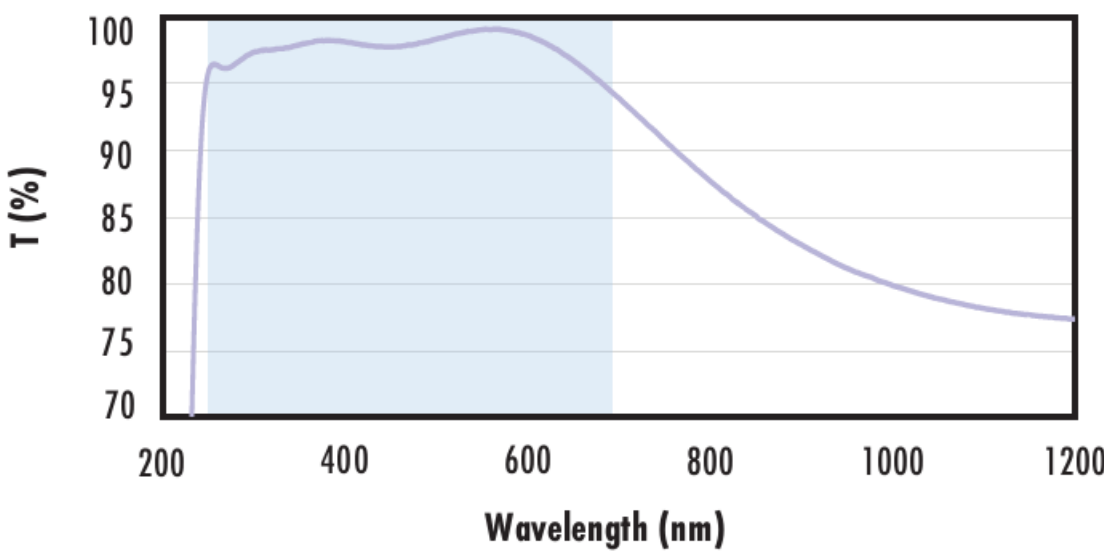
MgF2 (400-700nm) coating at 0° AOI.  
 The blue shaded region indicates the coating design wavelength range, with the following specification:  
 $R_{avg} \leq 1.75\% @ 400 - 700\text{nm}$  (N-BK7)  
 Data outside this range is not guaranteed and is for reference only.  
[Click Here to Download Data](#)

**Fused Silica with UV-AR Coating  
 Typical Transmission**



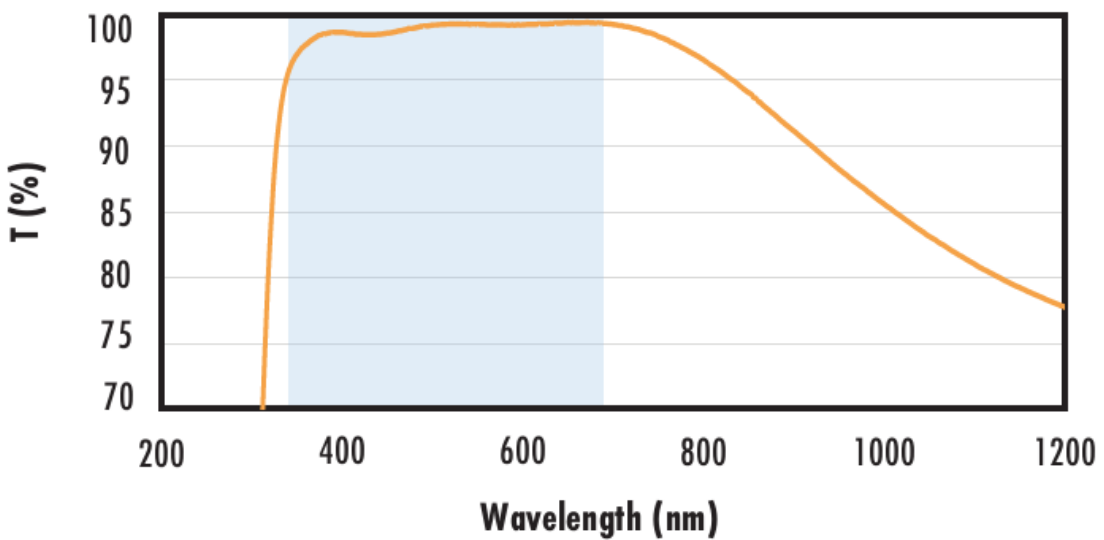
Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI.  
 The blue shaded region indicates the coating design wavelength range, with the following specification:  
 $R_{abs} \leq 1.0\% @ 250 - 425\text{nm}$   
 $R_{avg} \leq 0.75\% @ 250 - 425\text{nm}$   
 $R_{avg} \leq 0.5\% @ 370 - 420\text{nm}$   
 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**



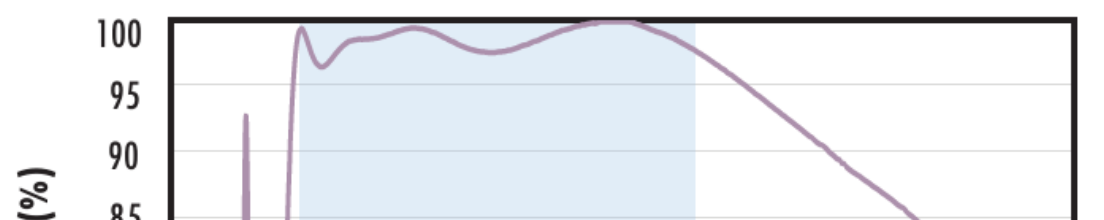
Typical transmission of a 3mm thick fused silica window with UV-VIS (250-700nm) coating at 0° AOI.  
 The blue shaded region indicates the coating design wavelength range, with the following specification:  
 $R_{abs} \leq 1.0\% @ 350 - 450\text{nm}$   
 $R_{avg} \leq 1.5\% @ 250 - 700\text{nm}$   
 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**

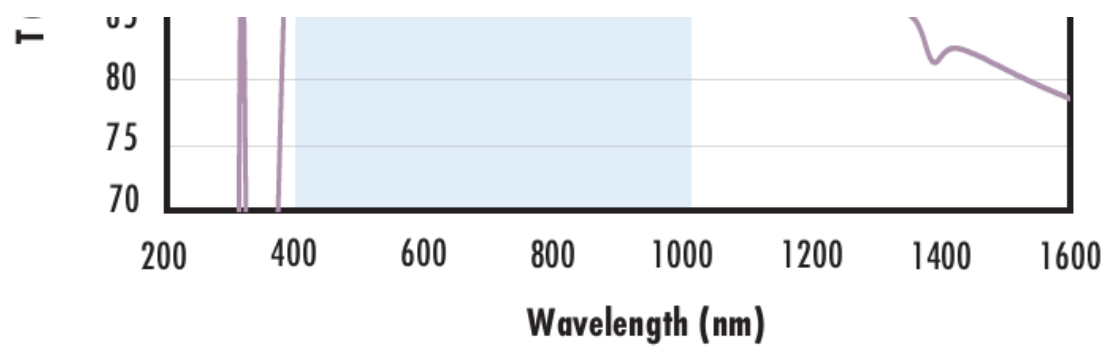


Typical transmission of a 3mm thick fused silica window with VIS-EXT (350-700nm) coating at 0° AOI.  
 The blue shaded region indicates the coating design wavelength range, with the following specification:  
 $R_{avg} \leq 0.5\% @ 350 - 700\text{nm}$   
 Data outside this range is not guaranteed and 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:  
 $R_{abs} \leq 0.25\% @ 880\text{nm}$   
 $R_{avg} \leq 1.25\% @ 400 - 870\text{nm}$

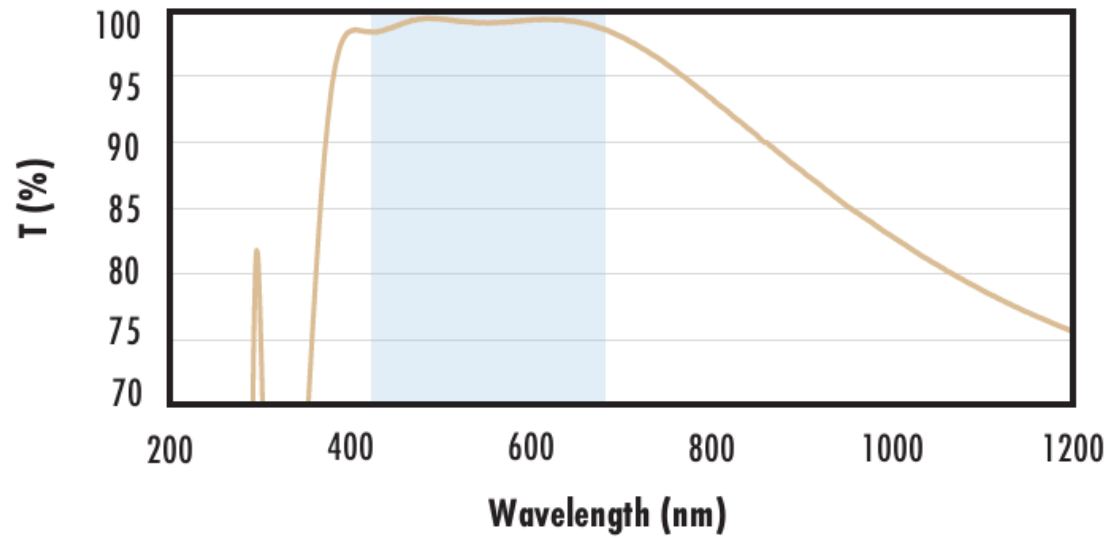


$R_{avg} \leq 1.25\% @ 890 - 1000nm$

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.

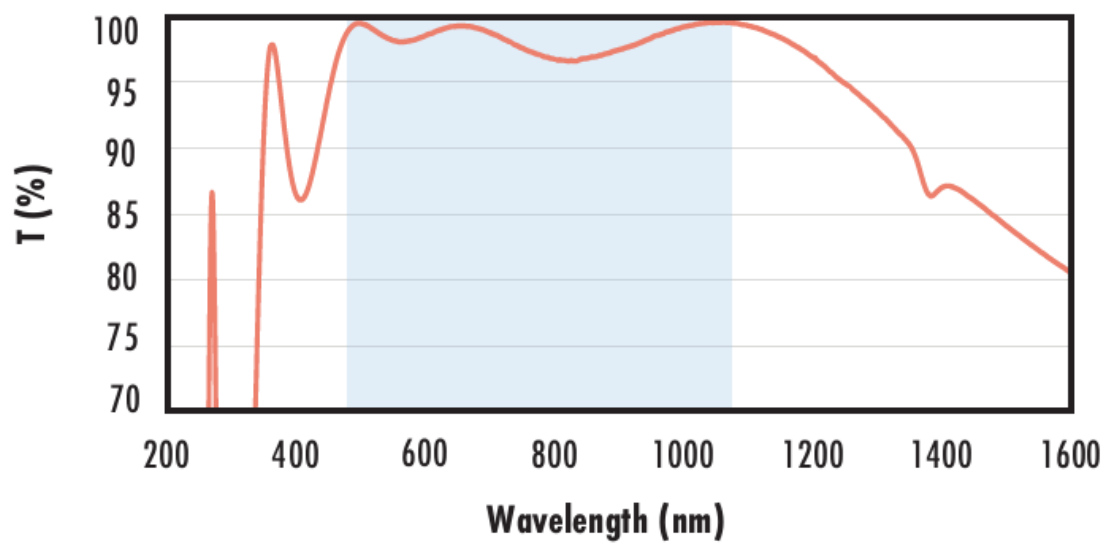
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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:

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

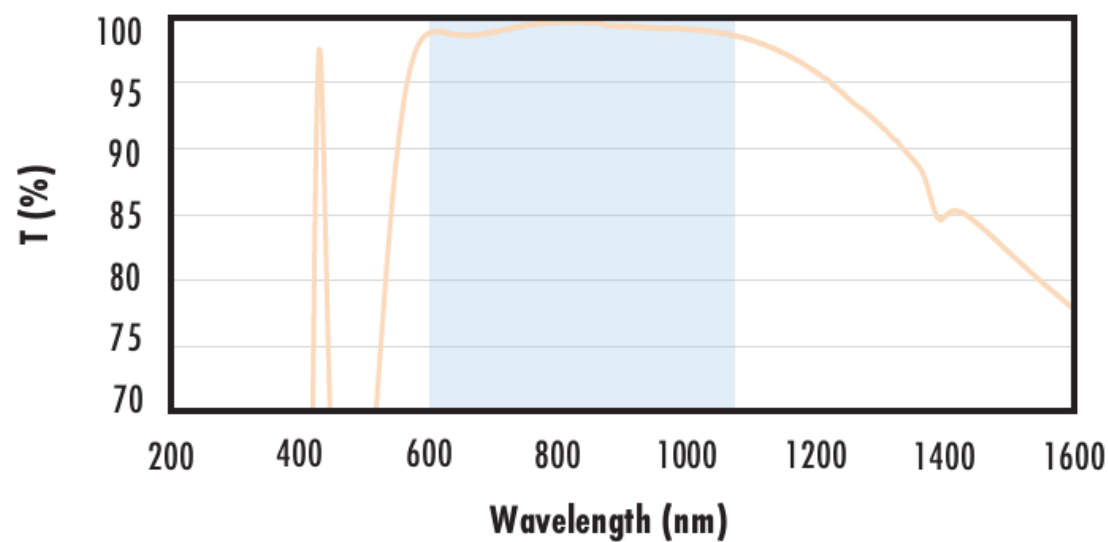
$R_{abs} \leq 0.25\% @ 1064nm$

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

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.

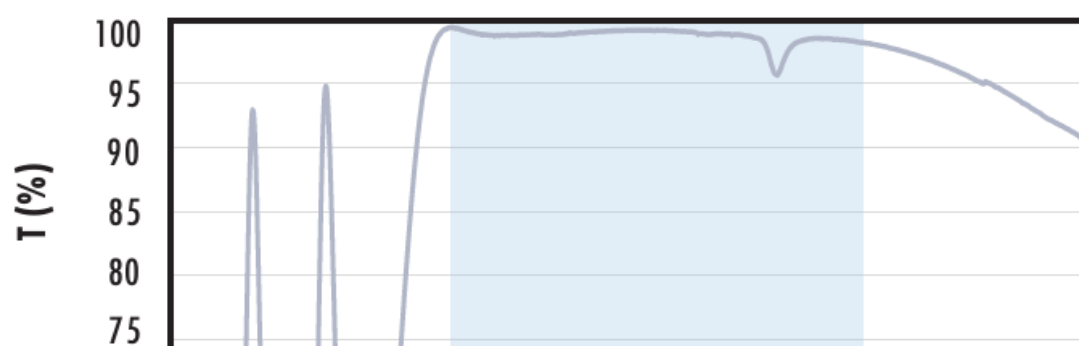
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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.

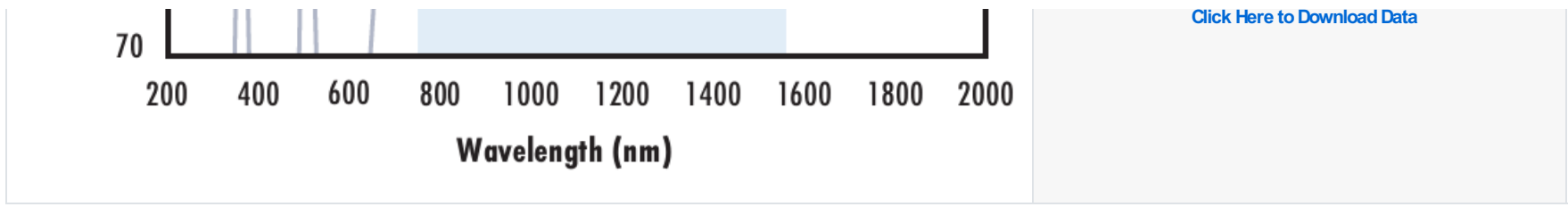
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

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

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



## 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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