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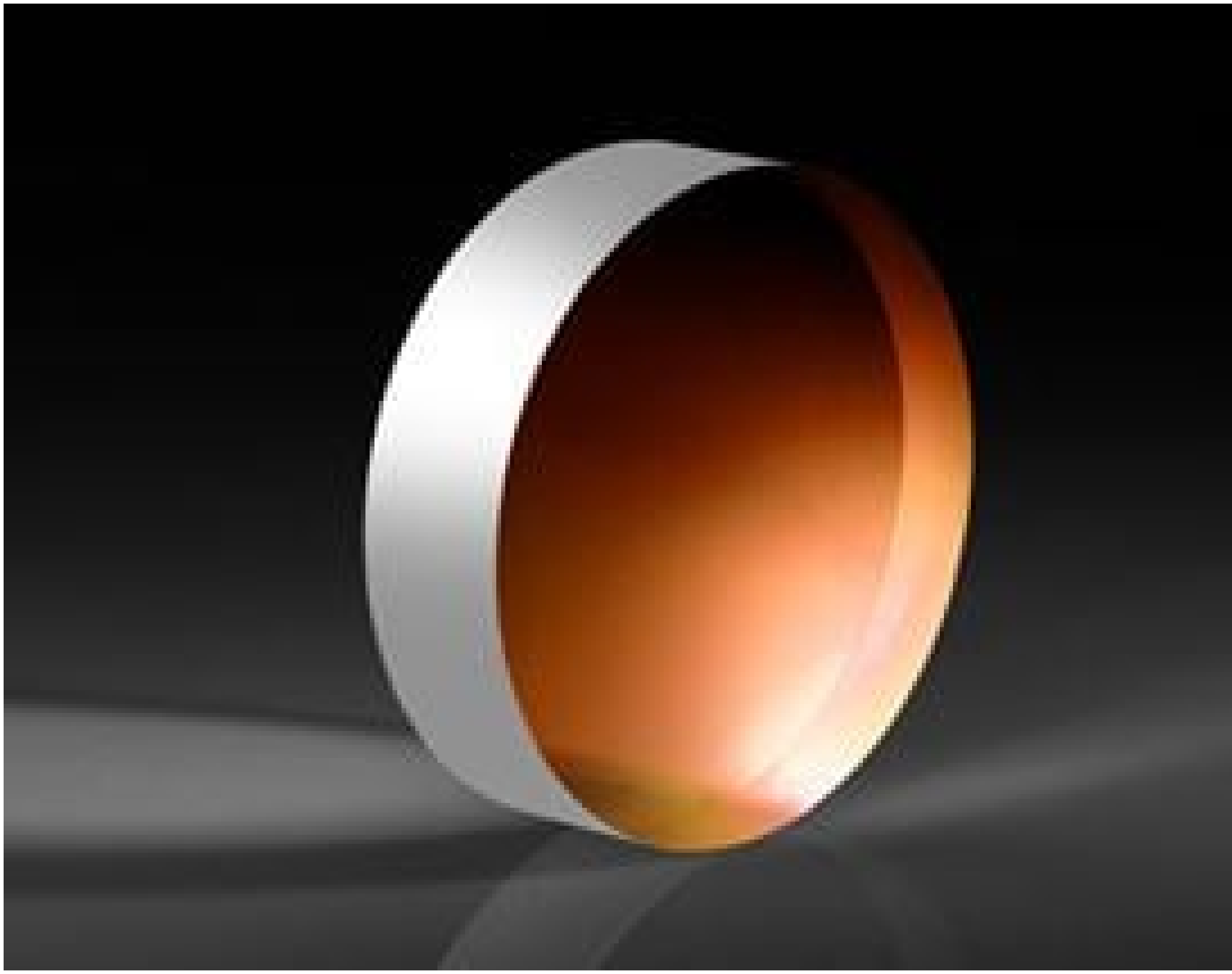
# TECHSPEC® 75mm Dia., 3mm Thick, YAG-BBAR Coated, λ/10 Fused Silica Window



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## General

**Type:**
Protective Window

**Type of Window:**
Glass

## Physical & Mechanical Properties

**Clear Aperture CA (mm):**
60.00

**Diameter (mm):**
75.00 +0.00/-0.20

**Thickness (mm):**
3.00 ±0.10

**Dimensional Tolerance (mm):**
+0.00/-0.20

**Bevel:**
Protective as needed

**Clear Aperture (%):**
80

**Edges:**
Fine Ground

**Parallelism (arcsec):**
<5

**Poisson's Ratio:**
0.16

**Young's Modulus (GPa):**
73

**Knoop Hardness (kg/mm$^2$):**
522.00

## Optical Properties

**Coating:**
YAG-BBAR (500-1100nm)

**Substrate:**
Fused Silica (Corning 7980)

**Index of Refraction ($n_d$):**
1.458

**Surface Quality:**
20-10

**Transmitted Wavefront, P-V:**
λ/10

**Abbe Number ($v_d$):**
67.8

**Coating Specification:**
$R_{abs}$ <0.25% @ 532nm
$R_{abs}$ <0.25% @ 1064nm
$R_{avg}$ <1.0% @ 500 - 1100nm

**Wavelength Range (nm):**
500 - 1100

**Damage Threshold, By Design:**
5 J/cm$^2$ @ 532nm, 10ns

## Material Properties

**Density (g/cm$^3$):**
2.20

**Coefficient of Thermal Expansion CTE (10$^{-6}$/°C):**
0.52 (+5 to +35°C)
0.57 (0 to +200°C)
0.48 (-100 to +200°C)

**Fused Silica Grade:**
7980 0G

## Regulatory Compliance

**RoHS 2015:**
Compliant

**Certificate of Conformance:**
View

**Reach 235:**
Compliant

## 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

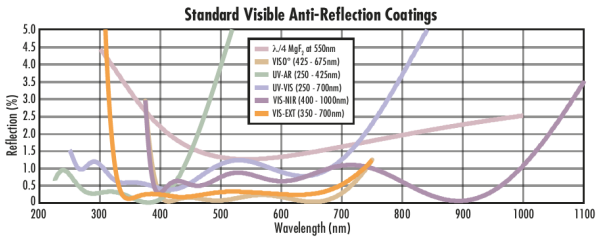
Learn more about our custom manufacturing capabilities or submit an inquiry here.

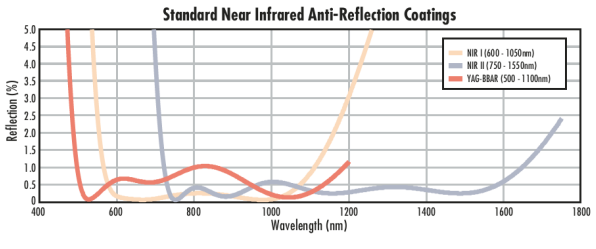
# Product Details

- UV, Visible, and NIR Anti-Reflection Coated Versions Available
- *N*10 Transmitted Wavefront Distortion
- Circular and Square Sizes from 2mm to 150mm
- **1λ** or **λ/4** UV Fused Silica Windows Also Available

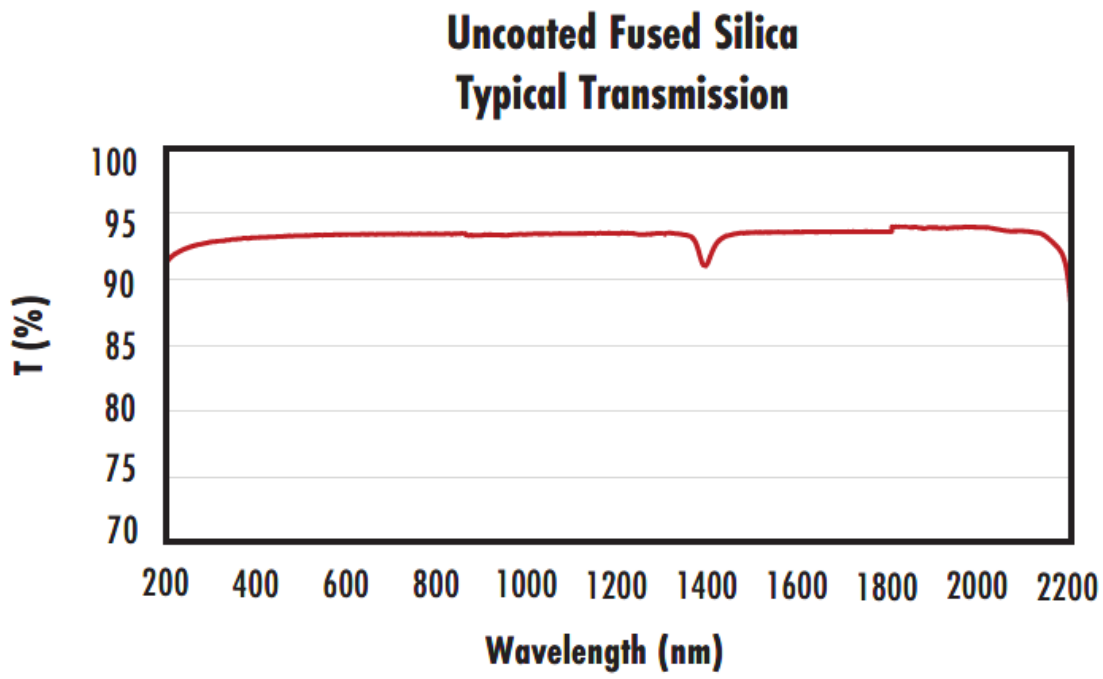
TECHSPEC® *N*10 UV Fused Silica Windows feature laser-grade surface quality and parallelism. In addition, these windows will limit the transmitted wavefront distortion to *N*10. The superior transmission characteristics, excellent thermal properties, and high tolerance manufacturing specifications make these windows an excellent choice for more demanding applications. TECHSPEC *N*10 UV Fused Silica Windows are available for purchase in circular and square sizes ranging from 2mm to 150mm.. These windows are offered uncoated or with anti-reflection coatings optimized for the UV or visible spectrum.

# Technical Information




**FUSED SILICA**




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

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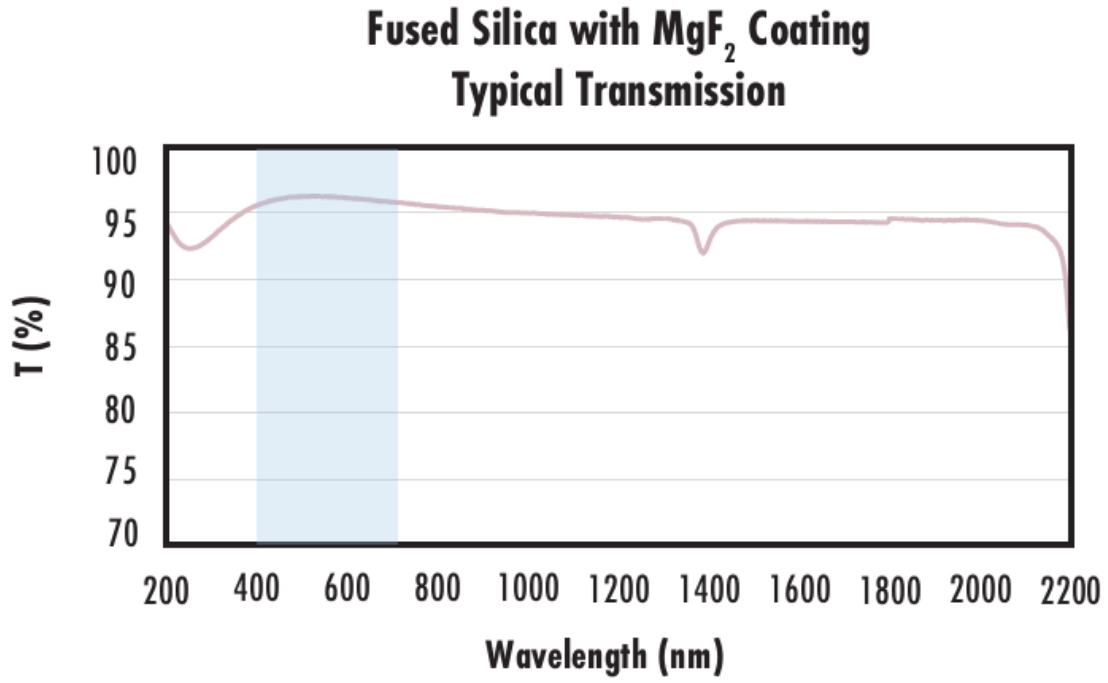


Typical transmission of a 3mm thick fused silica window with MgF2 (400-700nm) coating at 0° AOI.

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

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

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

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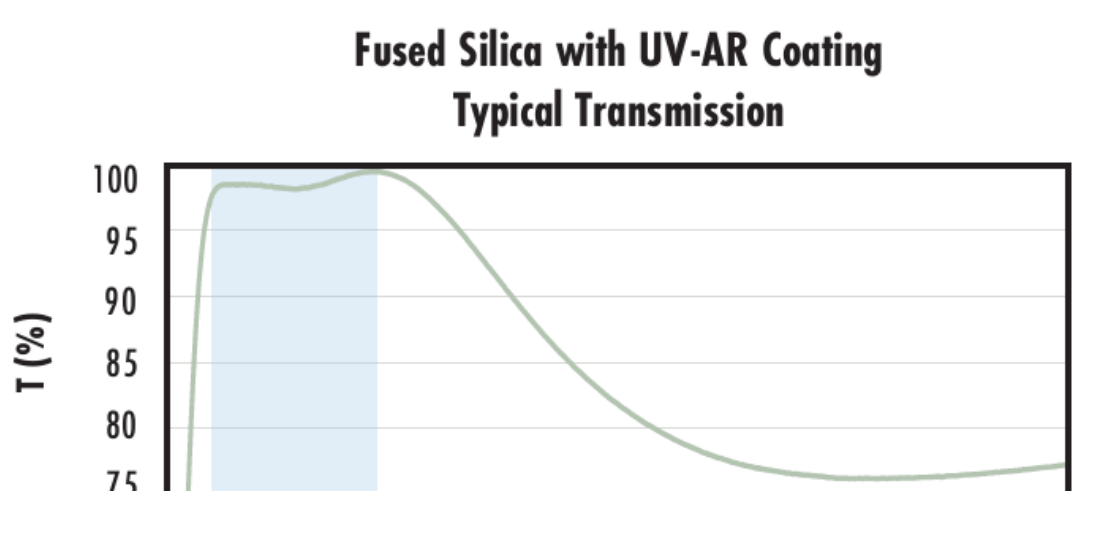
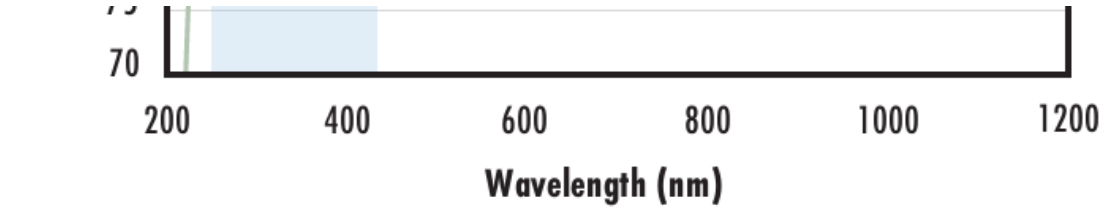



Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI.

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

$R_{abs} \leq 1.0\%$ @ 250 - 425nm
$R_{avg} \leq 0.75\%$ @ 250 - 425nm
$R_{avg} \leq 0.5\%$ @ 370 - 420nm

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

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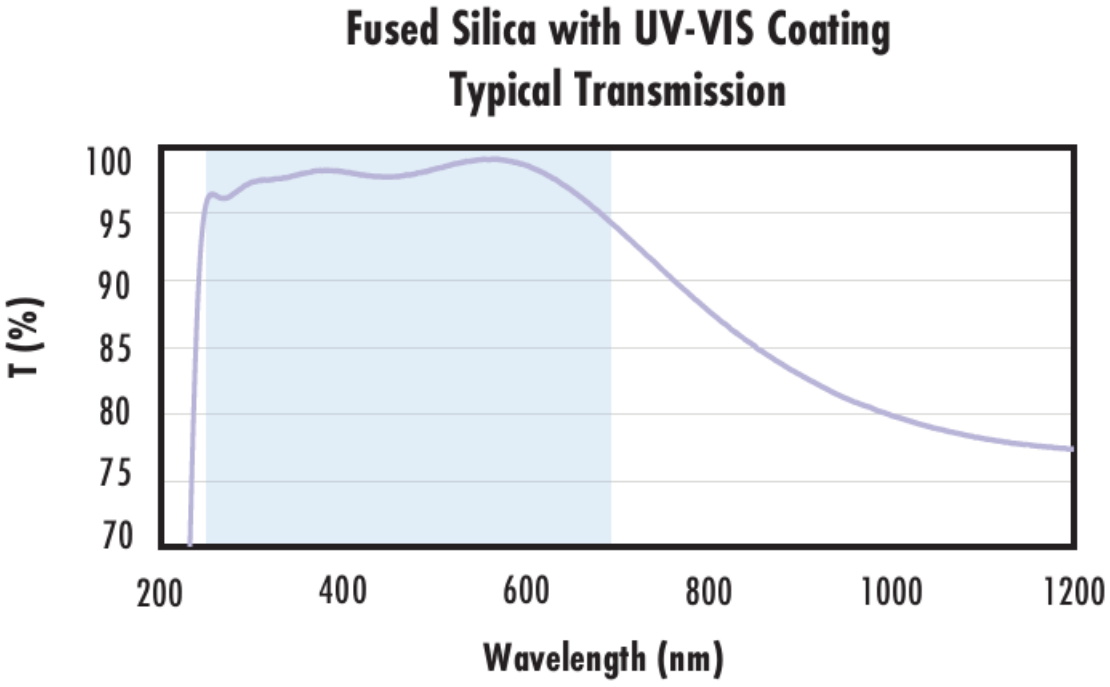


Typical transmission of a 3mm thick fused silica window with UV-VIS (250-700nm) coating at 0° AOI.

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

$R_{abs} \leq 1.0\%$ @ 350 - 450nm
$R_{avg} \leq 1.5\%$ @ 250 - 700nm

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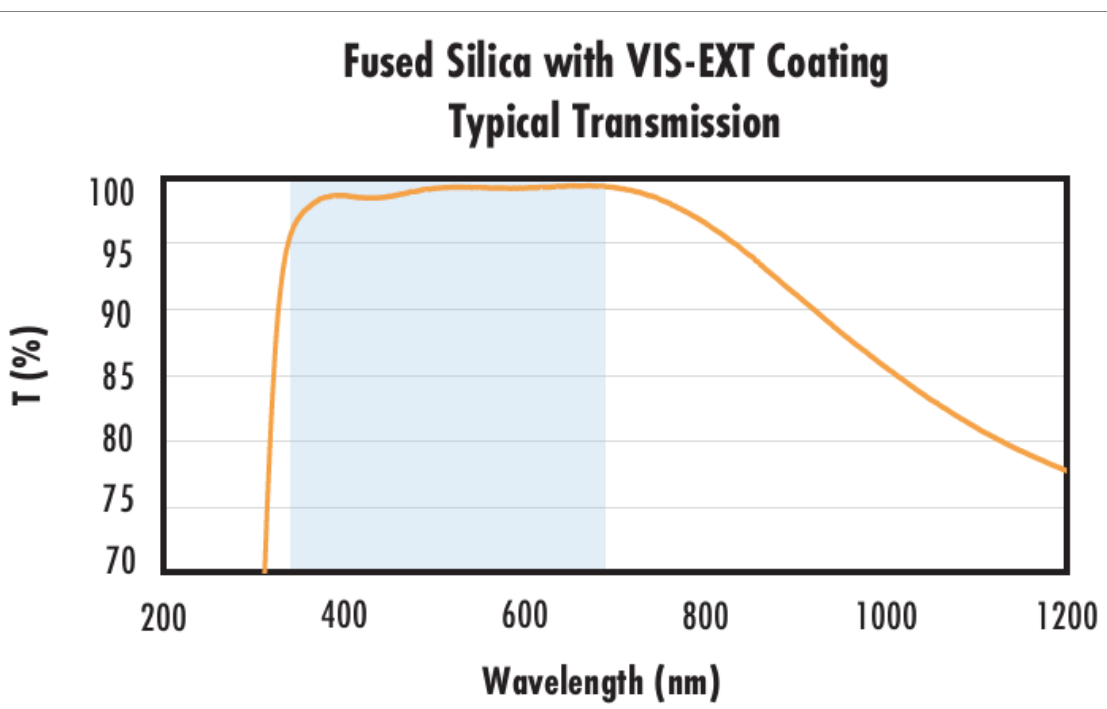


Typical transmission of a 3mm thick fused silica window with VIS-EXT (350-700nm) coating at 0° AOI.

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

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

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

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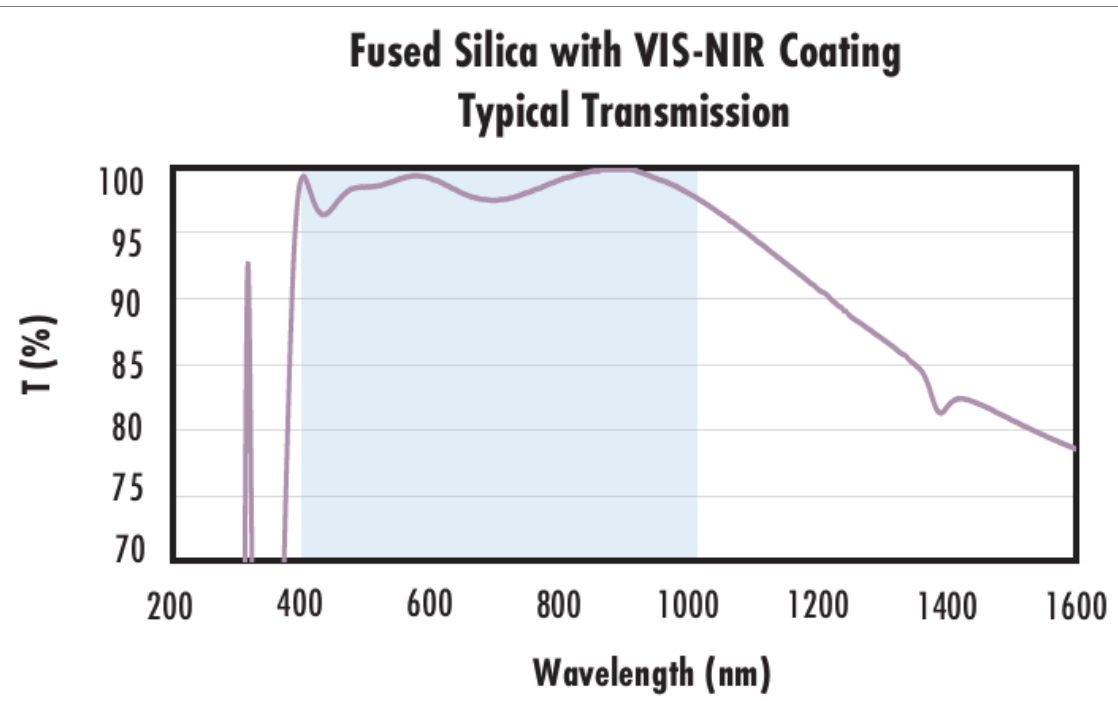


Typical transmission of a 3mm thick fused silica window with VIS-NIR (400-1000nm) coating at 0° AOI.

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

$R_{abs} \leq 0.25\%$ @ 880nm
$R_{avg} \leq 1.25\%$ @ 400 - 870nm
$R_{avg} \leq 1.25\%$ @ 890 - 1000nm

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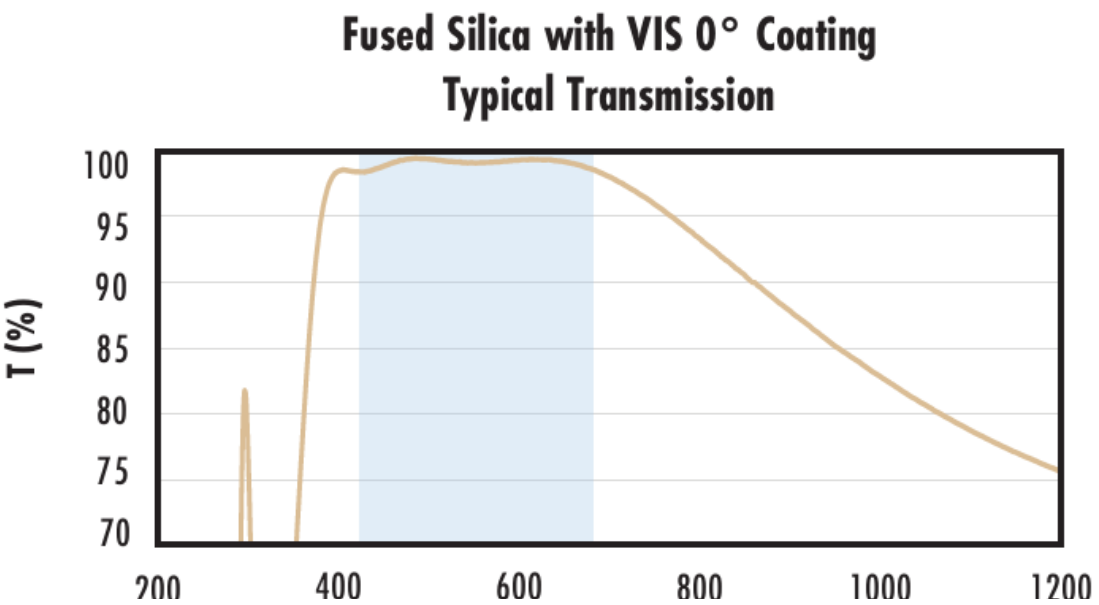


Typical transmission of a 3mm thick fused silica window with VIS 0° (425-675nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelengh 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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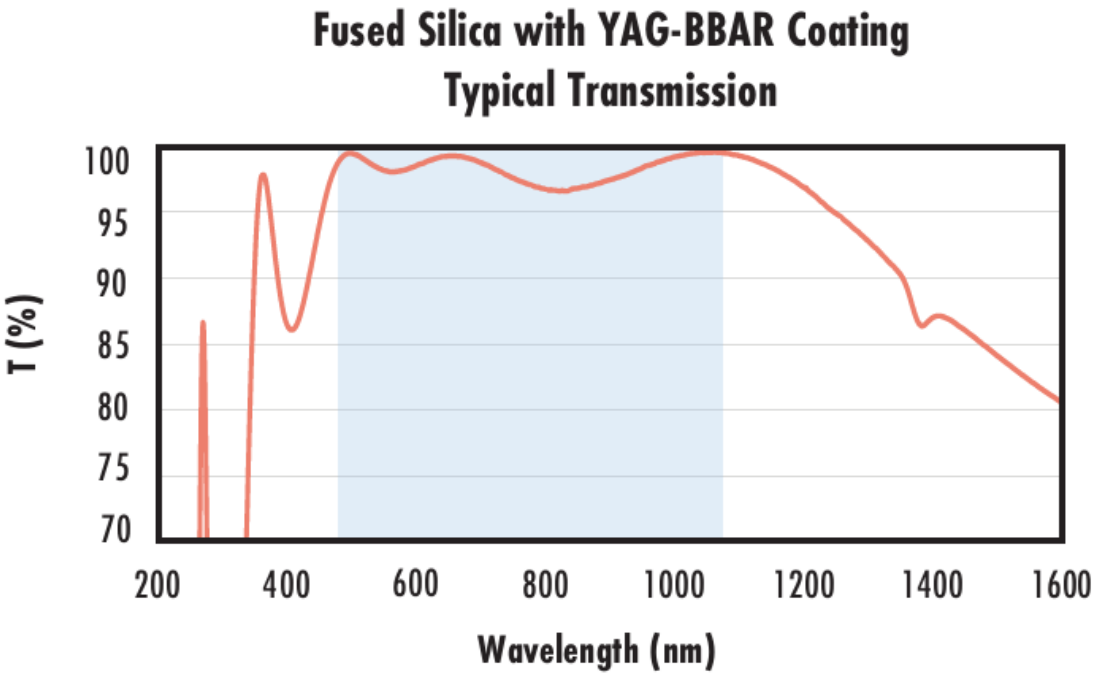


Typical transmission of a 3mm thick fused silica window with YAG-BBAR (500-1100nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelengh 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.

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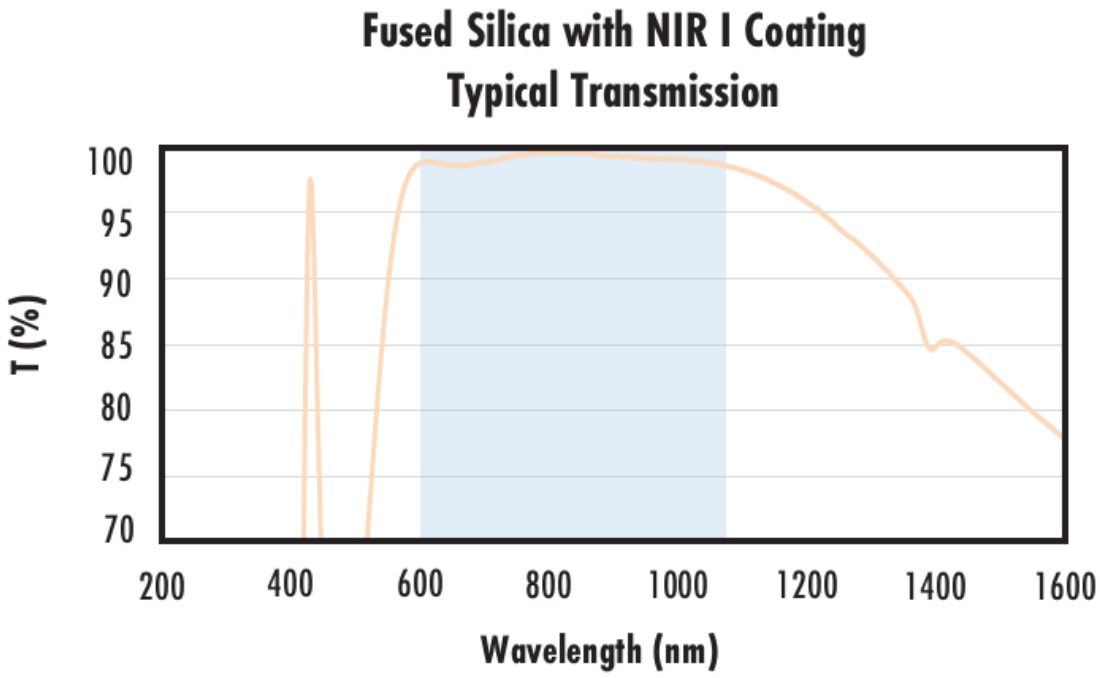


Typical transmission of a 3mm thick fused silica window with NIR I (600 - 1050nm) coating at 0° AOI.

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

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

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

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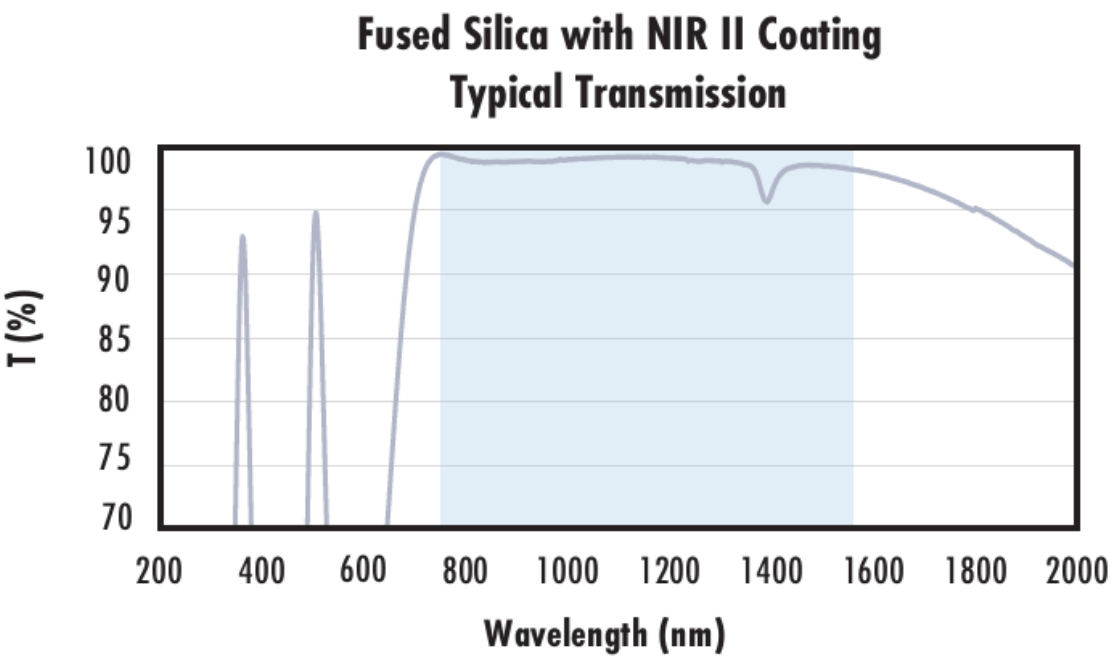


Typical transmission of a 3mm thick fused silica window with NIR II (750 - 1550nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelengh 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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## Compatible Mounts

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