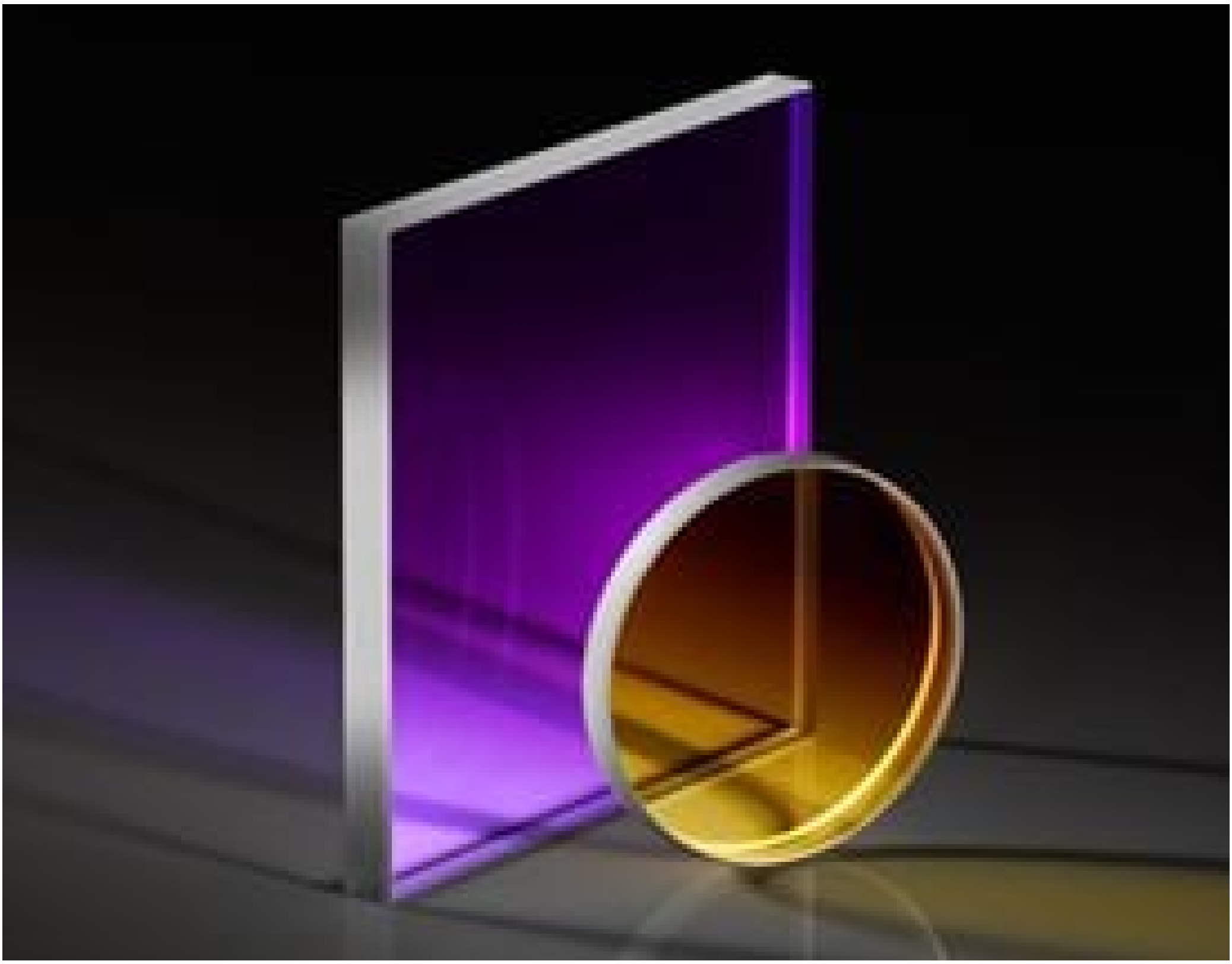
TECHSPEC® 50 x 50mm, 4mm Thick YAG-BBAR Coated, 1λ Fused Silica Window



TECHSPEC® 1λ UV Fused Silica Windows

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

- 1 + **A$291.20**

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Volume Pricing	
Qty 1-5	**A$291.20** each
Qty 6-25	**A$232.00** each
Qty 26-49	**A$217.60** each
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SPECIFICATIONS

General

Type:

Protective Window

Physical & Mechanical Properties

Bevel:
Protective as needed

Clear Aperture (%):
90

Clear Aperture CA (mm):
45.00 x 45.00

Dimensions (mm):
50.00 x 50.00 +0.00/-0.20

Thickness (mm):
4.00 ±0.38

Edges:
Fine Ground

Knoop Hardness (kg/mm^2):
522.00

Parallelism (arcmin):
<5

Poisson's Ratio:
0.16

Young's Modulus (GPa):
73

Length (mm):
50.00

Width (mm):
50.00

Optical Properties

Abbe Number (v_d):
67.8

Coating:
YAG-BBAR (500-1100nm)

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

Index of Refraction (n_d):
1.458

Substrate:
Fused Silica (Corning 7980)

Surface Flatness (P-V):
1λ

Surface Quality:
60-40

Wavelength Range (nm):
500 - 1100

Damage Threshold, Reference:
5 J/cm^2 @ 532nm, 10ns

Material Properties

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)

Density (g/cm^3):
2.20

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

Reach 235:
Compliant

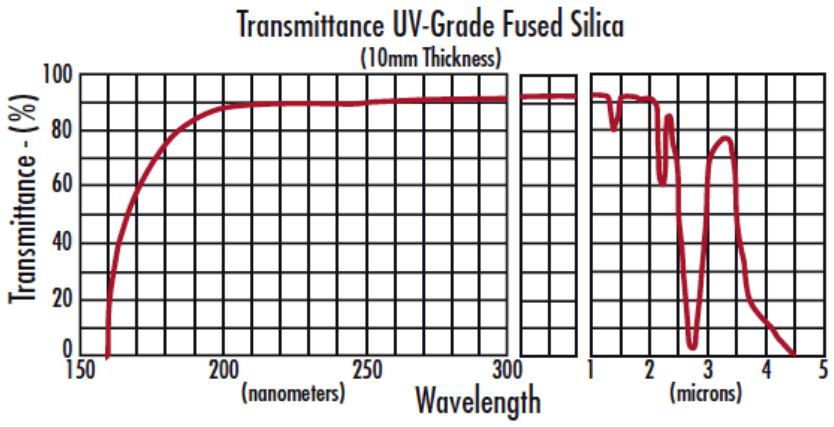
PRODUCT DETAILS

- 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

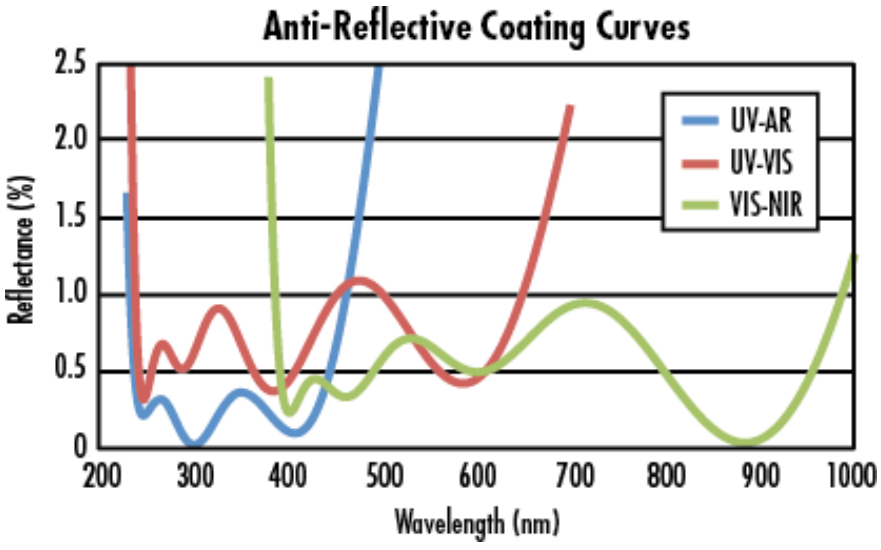
TECHSPEC® 1λ UV Fused Silica Windows are precision manufactured using UV-grade synthetic fused silica. In addition to superior transmission, the synthetic fused silica of these optical windows exhibits higher thermal properties, exceptional purity, and excellent environmental durability for demanding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

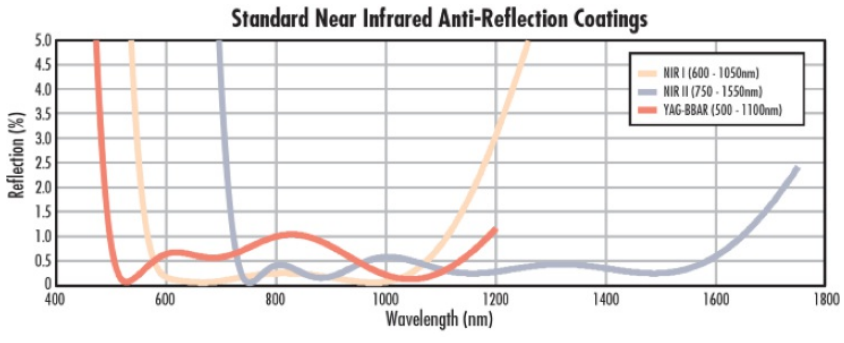
Note: New additions to this product family may be specified with a transmitted wavefront distortion (TWD) specification instead of a surface flatness. For more information on the difference between these two specifications, see our application note on Understanding Optical Windows.

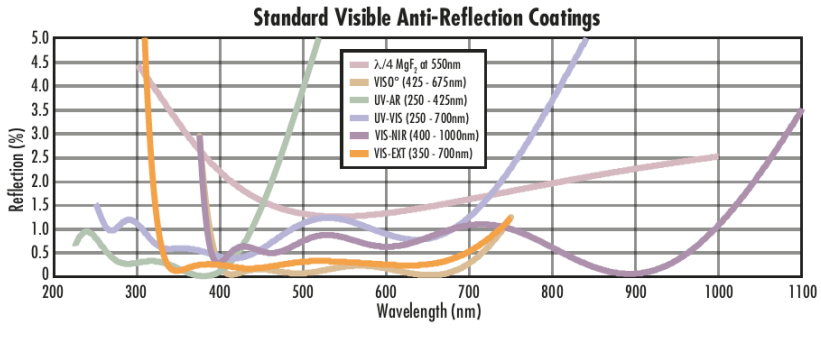
TECHNICAL INFORMATION

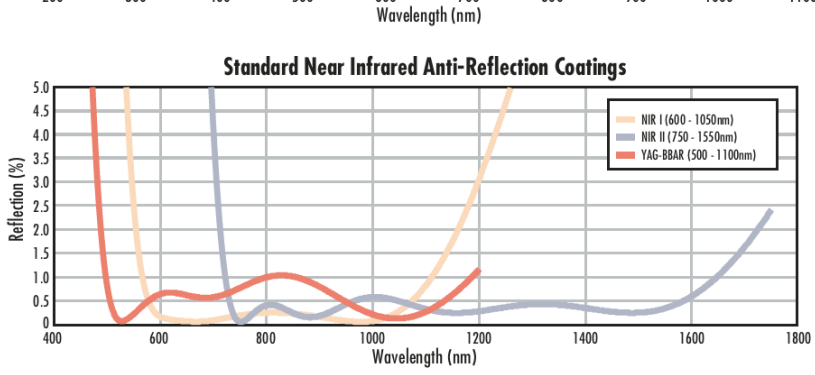


UV FS Transmission Curve

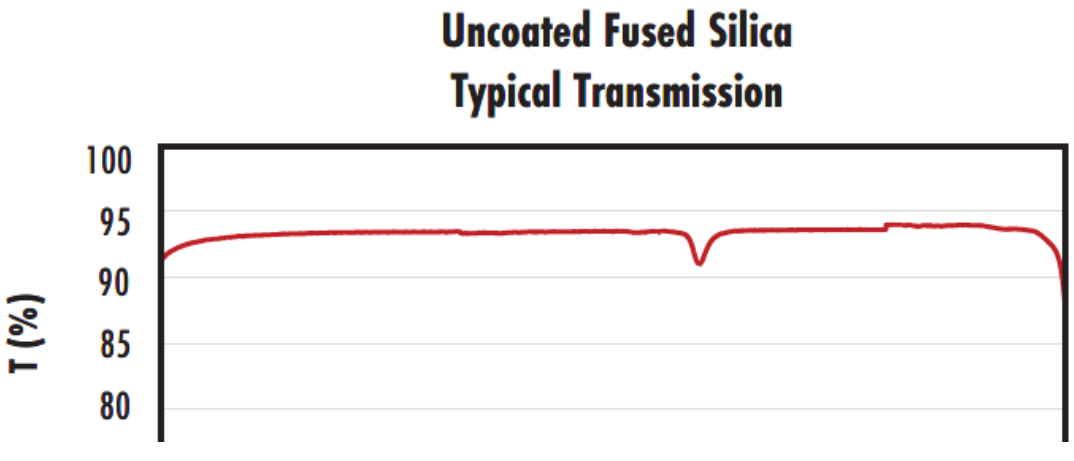








FUSED SILICA



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

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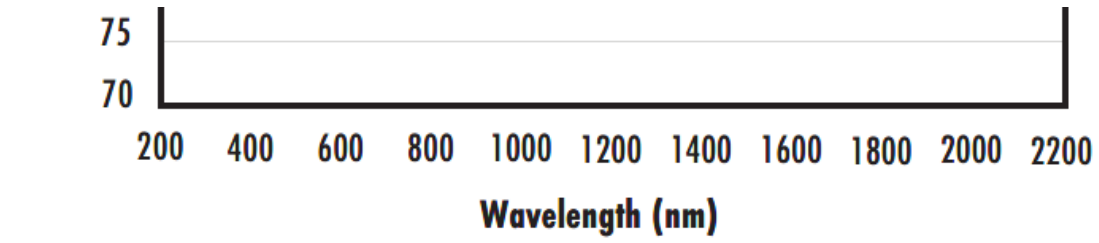

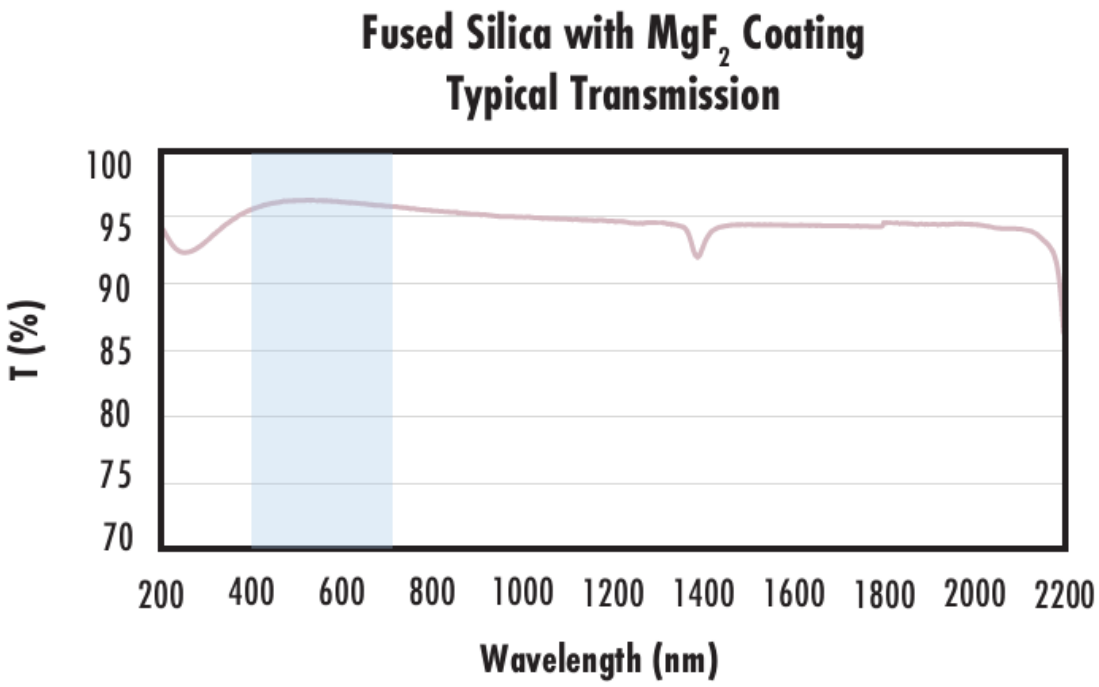

Typical transmission of a 3mm thick fused silica window with MgF2 (400-700nm) coating at 0° AOI.

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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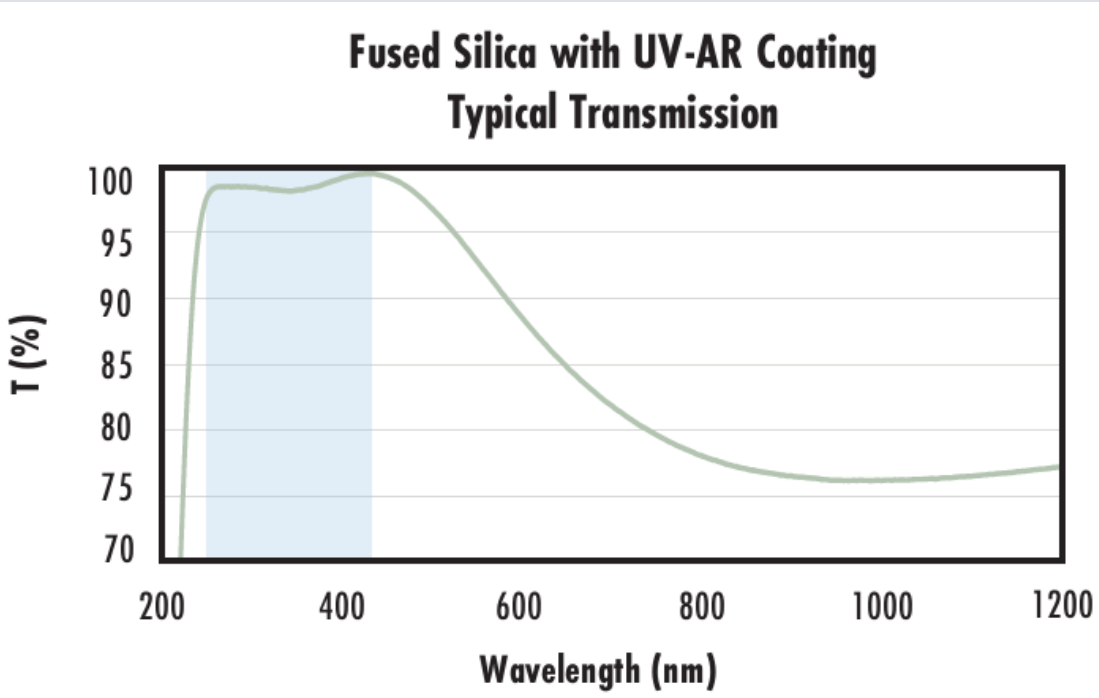

Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI.

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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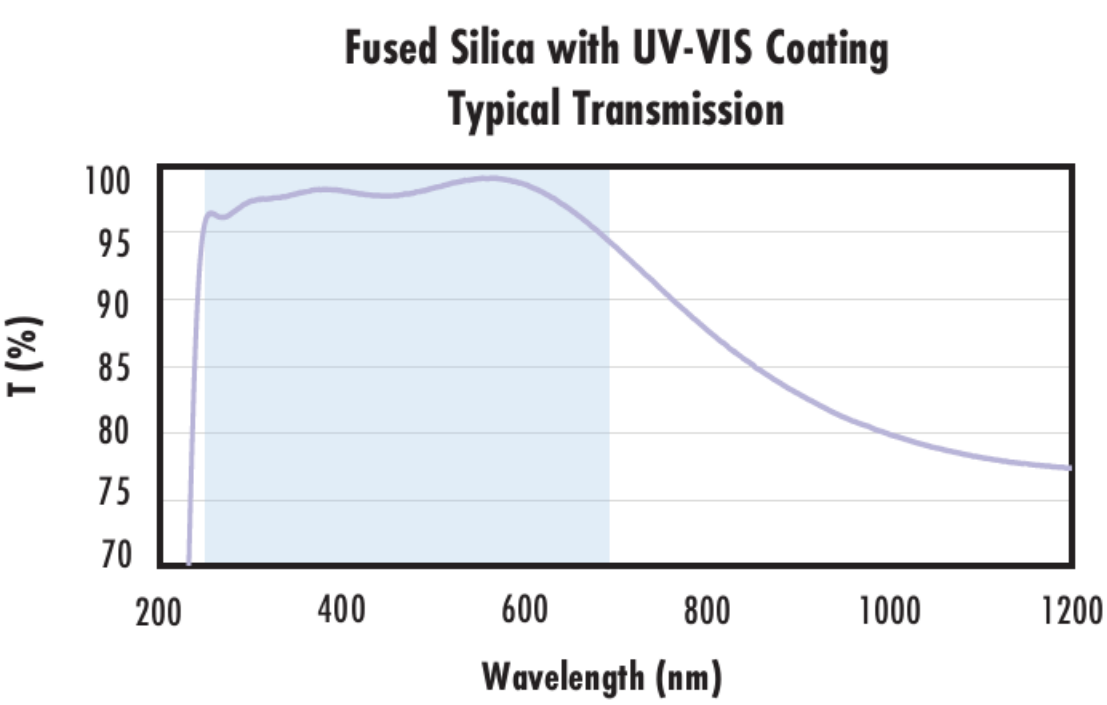

Typical transmission of a 3mm thick fused silica window with UV-VIS (250-700nm) coating at 0° AOI.

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

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

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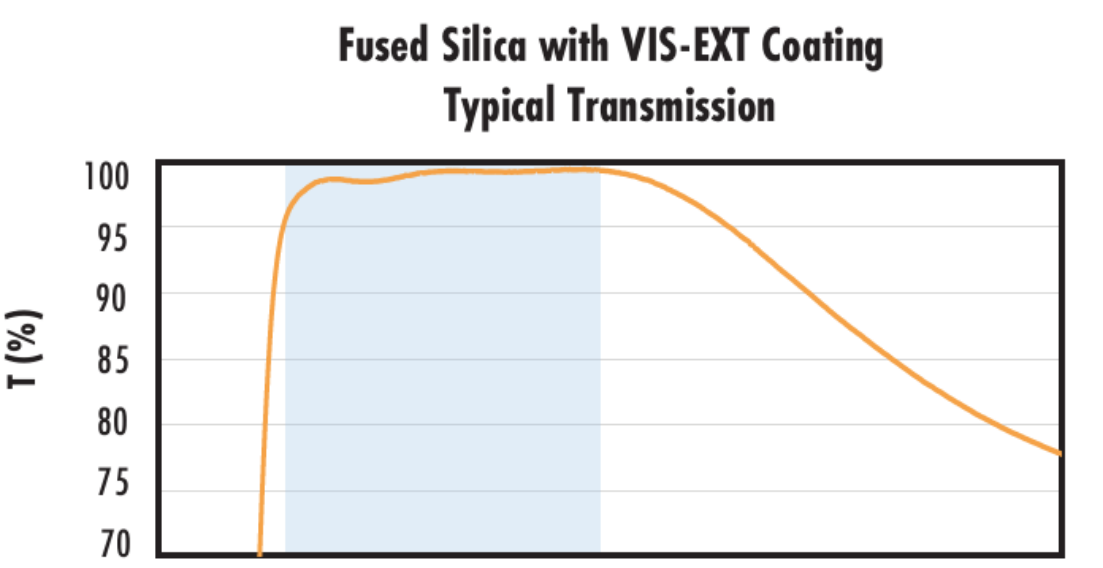

Typical transmission of a 3mm thick fused silica window with VIS-EXT (350-700nm) coating at 0° AOI.

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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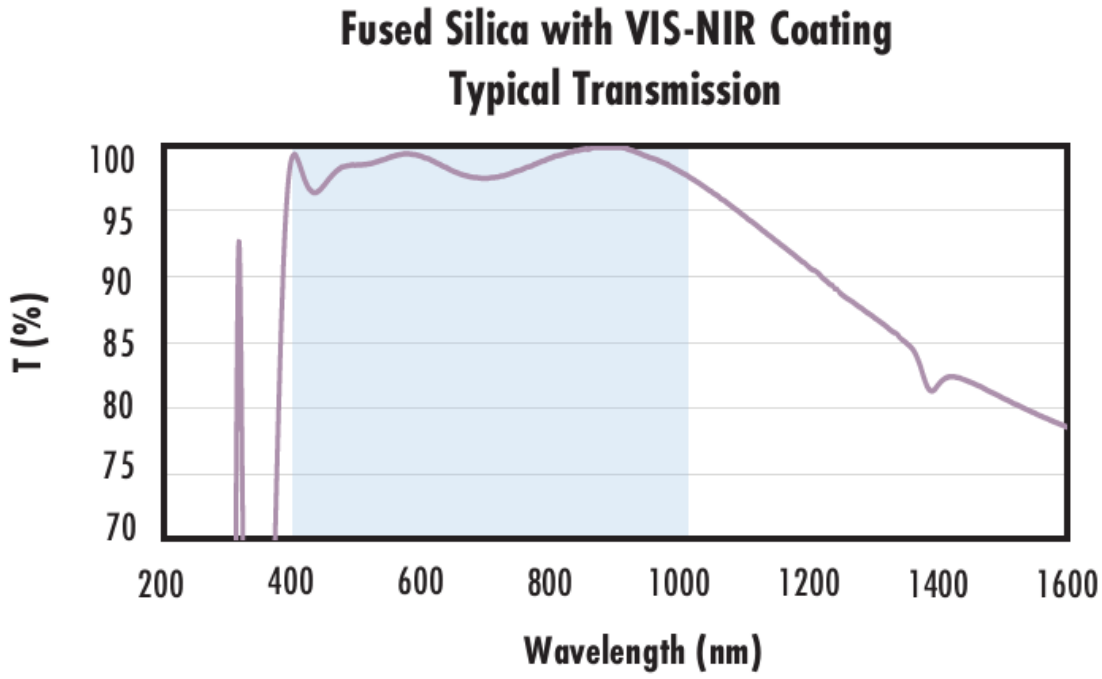

Typical transmission of a 3mm thick fused silica window with VIS-NIR (400-1000nm) coating at 0° AOI.

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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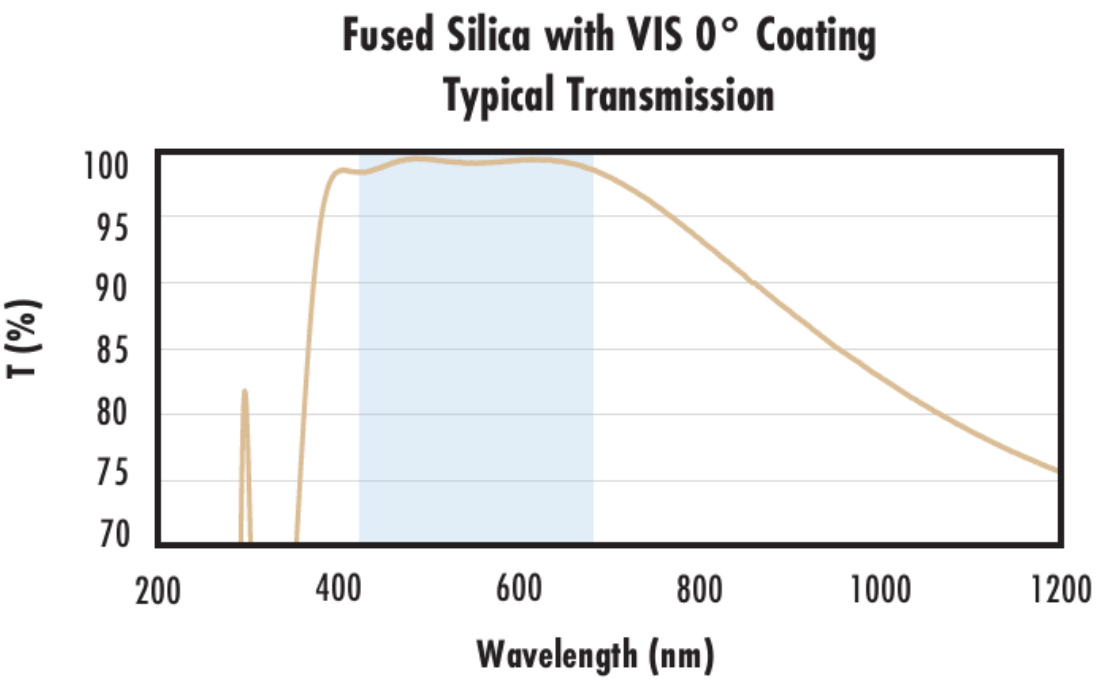

Typical transmission of a 3mm thick fused silica window with VIS 0° (425-675nm) coating at 0° AOI.

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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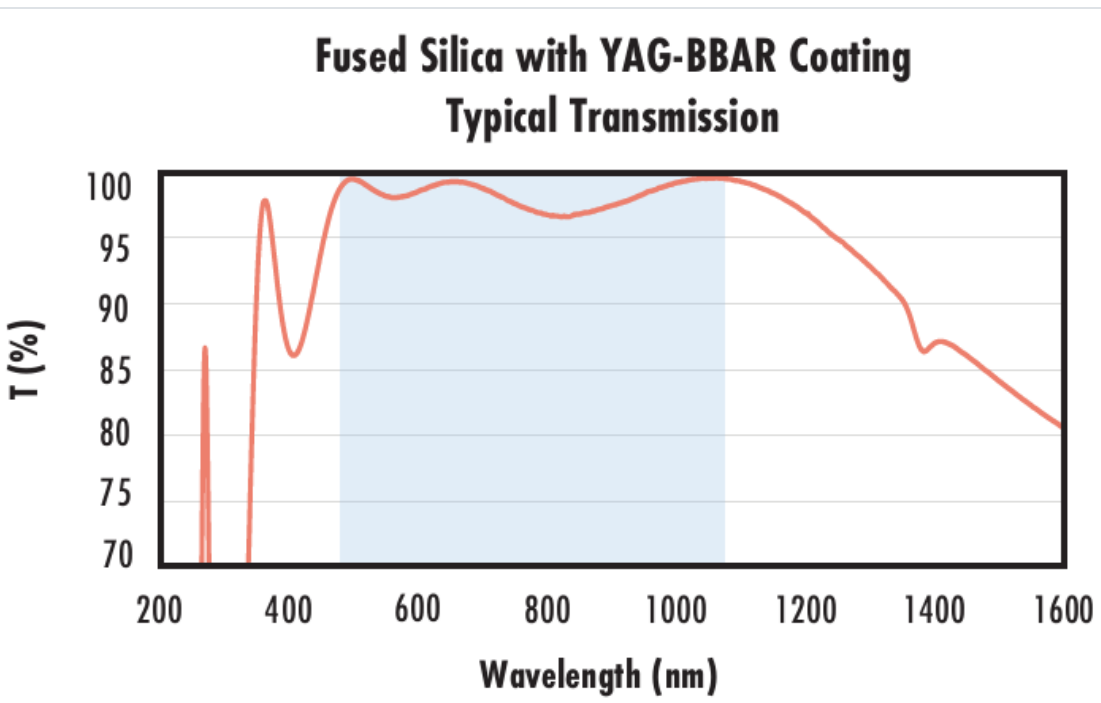

Typical transmission of a 3mm thick fused silica window with YAG-BBAR (500-1100nm) coating at 0° AOI.

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

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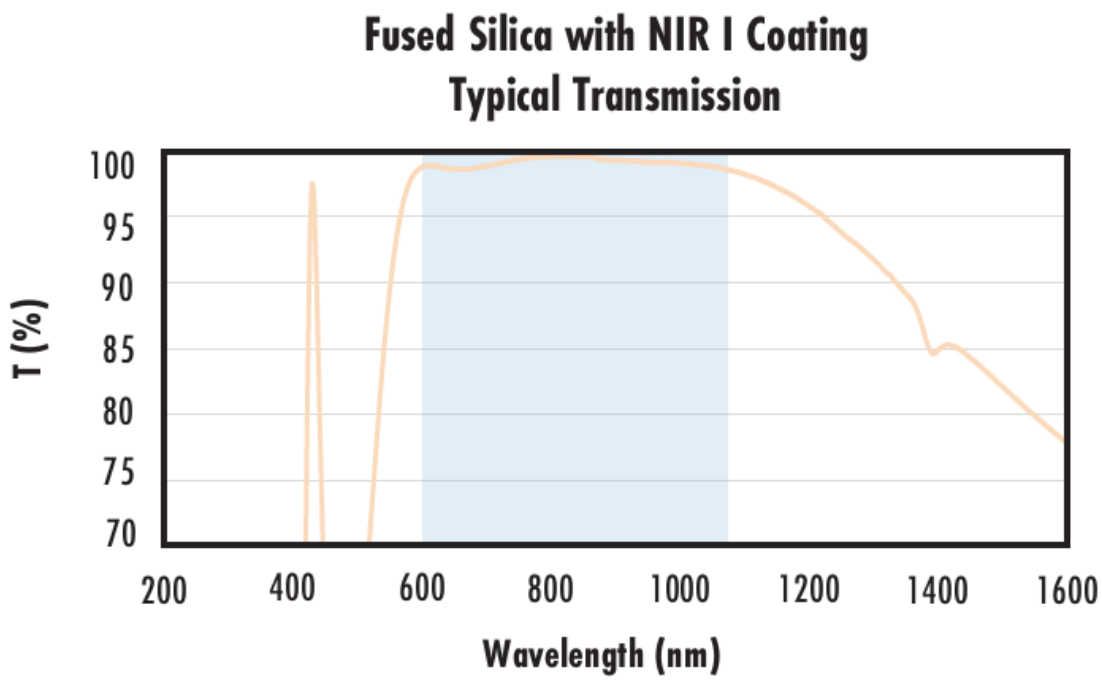

Typical transmission of a 3mm thick fused silica window with NIR I (600 - 1050nm) coating at 0° AOI.

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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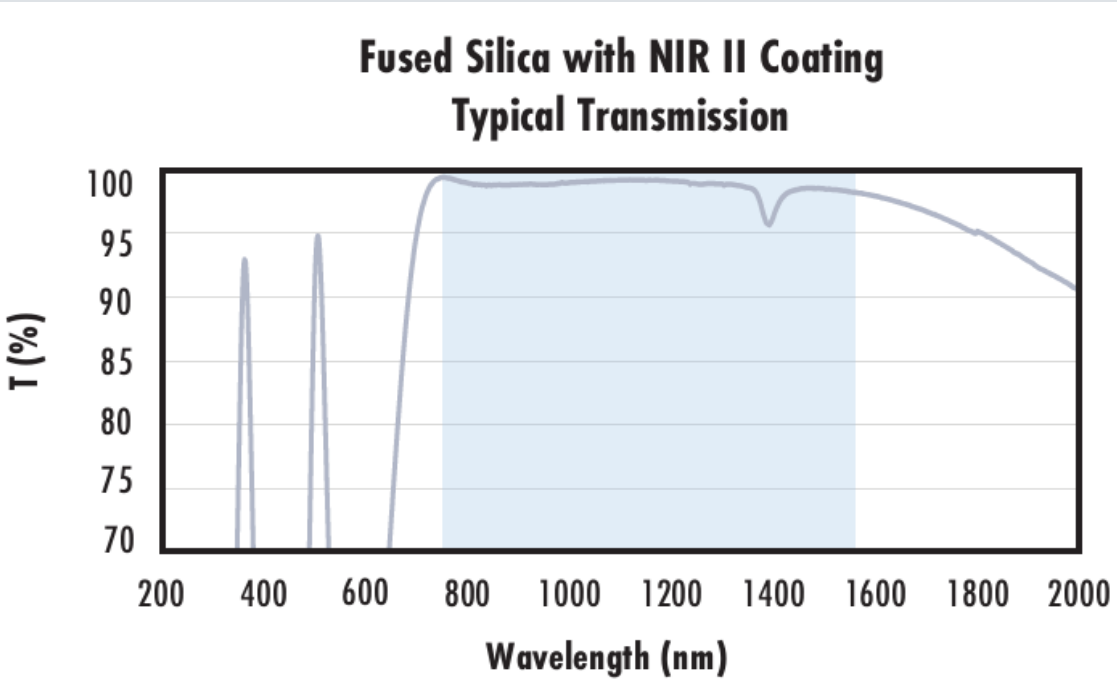

Typical transmission of a 3mm thick fused silica window with NIR II (750 - 1550nm) coating at 0° AOI.

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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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

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