

TECHSPEC<sup>®</sup> 50mm Dia. 1mm Thick VIS-EXT Coated, 1λ Fused Silica Window



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

Stock **#25-205** **5 In Stock**

-

1

+

€178<sup>00</sup>

ADD TO CART

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-5        | €178,00 each                  |
| Qty 6-25       | €142,00 each                  |
| Qty 26-49      | €133,00 each                  |
| Need More?     | <a href="#">Request Quote</a> |

Prices shown are exclusive of VAT/local taxes

Product Downloads

254.00

#Sorting:

General

Protective Window

Type:

Physical & Mechanical Properties

Clear Aperture CA (mm):

|                      |                          |
|----------------------|--------------------------|
| 45.00                |                          |
|                      | Diameter (mm):           |
| 50.00 +0.00/-0.20    |                          |
|                      | Thickness (mm):          |
| 1.00 ±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:                               |
| VIS-EXT (350-700nm)                  |                                        |
|                                      | Substrate: <div></div>                 |
| Fused Silica (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> ≤0.5% @ 350 - 700nm |                                        |
|                                      | Wavelength Range (nm):                 |
| 350 - 700                            |                                        |
|                                      | Damage Threshold, Reference:           |
| 5 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) |                                                              |
|                       | Fused Silica Grade:                                          |
| 7980 0G               |                                                              |

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

### Uncoated Fused Silica Typical Transmission



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

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### 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.

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|                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <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="1329 486 1854 537">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1476 549 1707 626"><p><math>R_{abs} \leq 1.0\% \text{ @ } 250 - 425\text{nm}</math></p><p><math>R_{avg} \leq 0.75\% \text{ @ } 250 - 425\text{nm}</math></p><p><math>R_{avg} \leq 0.5\% \text{ @ } 370 - 420\text{nm}</math></p></div> <p data-bbox="1329 638 1854 688">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1476 700 1707 721"><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="1329 1163 1854 1213">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1476 1225 1707 1279"><p><math>R_{abs} \leq 1.0\% \text{ @ } 350 - 450\text{nm}</math></p><p><math>R_{avg} \leq 1.5\% \text{ @ } 250 - 700\text{nm}</math></p></div> <p data-bbox="1329 1314 1854 1365">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1476 1377 1707 1397"><a href="#">Click Here to Download Data</a></p>                                                                     |
| <p data-bbox="569 1626 1089 1736"><b>Fused Silica with VIS-EXT Coating</b><br/><b>Typical Transmission</b></p>  | <p data-bbox="1329 1804 1854 1855">Typical transmission of a 3mm thick fused silica window with VIS-EXT (350-700nm) coating at 0° AOI.</p> <p data-bbox="1329 1866 1854 1917">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1476 1929 1707 1955"><p><math>R_{avg} \leq 0.5\% \text{ @ } 350 - 700\text{nm}</math></p></div> <p data-bbox="1329 1967 1854 2018">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1476 2030 1707 2050"><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="1329 2442 1854 2493">Typical transmission of a 3mm thick fused silica window with VIS-NIR (400-1000nm) coating at 0° AOI.</p> <p data-bbox="1329 2504 1854 2555">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1476 2567 1707 2644"><p><math>R_{abs} \leq 0.25\% \text{ @ } 880\text{nm}</math></p><p><math>R_{avg} \leq 1.25\% \text{ @ } 400 - 870\text{nm}</math></p><p><math>R_{avg} \leq 1.25\% \text{ @ } 890 - 1000\text{nm}</math></p></div> <p data-bbox="1329 2674 1854 2724">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1476 2736 1707 2757"><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:

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

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 II (750 - 1550nm) coating at 0° AOI.

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

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

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

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

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

[Click Here to Download Data](#)

# 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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