

TECHSPEC® 50mm Dia., 4mm Thick, NIR I Coated, λ /4 Fused Silica Window



TECHSPEC® λ /4 UV Fused Silica Windows

Stock **#18-344** **5 In Stock**

-

1

+

S\$330⁴⁰

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Volume Pricing	
Qty 1-5	S\$330.40 each
Qty 6-25	S\$263.20 each
Qty 26-49	S\$246.40 each
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83.00

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General

Protective Window

Type:

Physical & Mechanical Properties

45.00

Clear Aperture CA (mm):

50.00 +0.00/-0.10	Diameter (mm):
4.00 ±0.10	Thickness (mm):
<1	Parallelism (arcmin):
Protective as needed	Bevel:
90	Clear Aperture (%):
Fine Ground	Edges:
0.16	Poisson's Ratio:
73	Young's Modulus (GPa):
522.00	Knoop Hardness (kg/mm²):

Optical Properties

NIR I (600-1050nm)	Coating:
Fused Silica (Corning 7980)	Substrate: ☐
1.458	Index of Refraction (n _d):
40-20	Surface Quality:
λ/4	Transmitted Wavefront, P-V:
67.8	Abbe Number (v _d):
R _{avg} ≤0.5% @ 600 - 1050nm	Coating Specification:
600 - 1050	Wavelength Range (nm):
7 J/cm² @ 1064nm, 10ns	Damage Threshold, Reference:

Material Properties

2.20	Density (g/cm³):
0.52 (+5 to +35°C) 0.57 (0 to +200°C) 0.48 (-100 to +200°C)	Coefficient of Thermal Expansion CTE (10 ⁻⁶ /°C):
7980 0G	Fused Silica Grade:

Regulatory Compliance

Compliant	RoHS 2015:
View	Certificate of Conformance:
Compliant	REACH 241:

Product Details

- Available Uncoated or BBAR Coated for UV, Visible, and NIR
 - Ideal for Imaging Applications
 - Circular and Rectangular Sizes from 5 to 200mm
 - [1λ](#) or [λ/10](#) UV Fused Silica Windows Also Available
- TECHSPEC® λ/4 UV Fused Silica Windows are manufactured with 40-20 surface quality and λ/4 transmitted wavefront error specifications, making them ideal for imaging applications. Featuring UV fused silica substrates, these windows provide high transmission from the ultraviolet (UV) through the visible and near-infrared (NIR). Broadband anti-reflection (BBAR) coating options are available to minimize reflection losses and increase transmission. TECHSPEC λ/4 UV Fused Silica Windows are used in optical imaging applications, in low to medium powered laser applications, and as protective windows, especially in applications requiring transmission of UV light.

Technical Information



FUSED SILICA																																			
Uncoated Fused Silica Typical Transmission <table border="1"><caption>Approximate data for Uncoated Fused Silica Transmission</caption><thead><tr><th>Wavelength (nm)</th><th>Transmission T (%)</th></tr></thead><tbody><tr><td>200</td><td>92</td></tr><tr><td>400</td><td>94</td></tr><tr><td>600</td><td>94</td></tr><tr><td>800</td><td>94</td></tr><tr><td>1000</td><td>94</td></tr><tr><td>1200</td><td>94</td></tr><tr><td>1400</td><td>92</td></tr><tr><td>1600</td><td>94</td></tr><tr><td>1800</td><td>94</td></tr><tr><td>2000</td><td>94</td></tr><tr><td>2200</td><td>90</td></tr></tbody></table>	Wavelength (nm)	Transmission T (%)	200	92	400	94	600	94	800	94	1000	94	1200	94	1400	92	1600	94	1800	94	2000	94	2200	90	Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra. Click Here to Download Data										
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200	92																																		
400	94																																		
600	94																																		
800	94																																		
1000	94																																		
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Fused Silica with MgF₂ Coating Typical Transmission <table border="1"><caption>Approximate data for MgF2 Coated Fused Silica Transmission</caption><thead><tr><th>Wavelength (nm)</th><th>Transmission T (%)</th></tr></thead><tbody><tr><td>200</td><td>94</td></tr><tr><td>400</td><td>96</td></tr><tr><td>600</td><td>96</td></tr><tr><td>800</td><td>95</td></tr><tr><td>1000</td><td>95</td></tr><tr><td>1200</td><td>95</td></tr><tr><td>1400</td><td>93</td></tr><tr><td>1600</td><td>95</td></tr><tr><td>1800</td><td>95</td></tr><tr><td>2000</td><td>95</td></tr><tr><td>2200</td><td>90</td></tr></tbody></table>	Wavelength (nm)	Transmission T (%)	200	94	400	96	600	96	800	95	1000	95	1200	95	1400	93	1600	95	1800	95	2000	95	2200	90	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 - 700nm (N-BK7) Data outside this range is not guaranteed and is for reference only. Click Here to Download Data										
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200	94																																		
400	96																																		
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Fused Silica with UV-AR Coating Typical Transmission <table border="1"><caption>Approximate data for UV-AR Coated Fused Silica Transmission</caption><thead><tr><th>Wavelength (nm)</th><th>Transmission T (%)</th></tr></thead><tbody><tr><td>200</td><td>75</td></tr><tr><td>250</td><td>98</td></tr><tr><td>300</td><td>99</td></tr><tr><td>350</td><td>99</td></tr><tr><td>400</td><td>99</td></tr><tr><td>425</td><td>100</td></tr><tr><td>500</td><td>99</td></tr><tr><td>600</td><td>98</td></tr><tr><td>800</td><td>90</td></tr><tr><td>1000</td><td>80</td></tr><tr><td>1200</td><td>75</td></tr><tr><td>1400</td><td>75</td></tr><tr><td>1600</td><td>75</td></tr><tr><td>1800</td><td>75</td></tr><tr><td>2000</td><td>75</td></tr><tr><td>2200</td><td>76</td></tr></tbody></table>	Wavelength (nm)	Transmission T (%)	200	75	250	98	300	99	350	99	400	99	425	100	500	99	600	98	800	90	1000	80	1200	75	1400	75	1600	75	1800	75	2000	75	2200	76	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 - 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. Click Here to Download Data
Wavelength (nm)	Transmission T (%)																																		
200	75																																		
250	98																																		
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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: $R_{abs} \leq 1.0\%$ @ 350 - 450nm $R_{avg} \leq 1.5\%$ @ 250 - 700nm 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 - 700nm 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: $R_{abs} \leq 0.25\%$ @ 880nm $R_{avg} \leq 1.25\%$ @ 400 - 870nm $R_{avg} \leq 1.25\%$ @ 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

Wavelength (nm)	
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: $R_{\text{abs}} \leq 0.25\%$ @ 532nm $R_{\text{abs}} \leq 0.25\%$ @ 1064nm $R_{\text{avg}} \leq 1.0\%$ @ 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: $R_{\text{avg}} \leq 0.5\%$ @ 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: $R_{\text{abs}} \leq 1.5\%$ @ 750 - 800nm $R_{\text{abs}} \leq 1.0\%$ @ 800 - 1550nm $R_{\text{avg}} \leq 0.7\%$ @ 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.

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- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

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Compatible Mounts