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TECHSPEC[®] 12mm Dia. x 20mm FL, NIR I Coated, UV Double-Convex Lens



UV Fused Silica Double-Convex (DCX) Lenses



Stock **#22-165** 5 In Stock

☐ Other Coating Options

-

1

+

A\$241⁰⁰

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Volume Pricing	
Qty 1-5	A\$241.60 each
Qty 6-25	A\$193.60 each
Qty 26-49	A\$182.40 each
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General

Type:

Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm):

12.00 +0.0/-0.025	
<1	Centering (arcmin):
	Bevel:
Protective as needed	
4.37 ±0.05	Center Thickness CT (mm):
	Edge Thickness ET (mm):
2.27	
11.00	Clear Aperture CA (mm):

Optical Properties	
18.44	Back Focal Length BFL (mm):
20.00	Effective Focal Length EFL (mm):
	Coating:
NIR I (600-1050nm)	
R _{avg} ≤0.5% @ 600 - 1050nm	Coating Specification:
	Substrate: ☐
Fused Silica (Corning 7980)	
40-20	Surface Quality:
	Power (P-V) @ 632.8nm:
1.5λ	
λ/4	Irregularity (P-V) @ 632.8nm:
	Radius R ₁ =R ₂ (mm):
17.63	
	f/#:
1.67	
587.6	Focal Length Specification Wavelength (nm):
±1	Focal Length Tolerance (%):
0.30	Numerical Aperture NA:
600 - 1050	Wavelength Range (nm):
	Damage Threshold, Reference: ☐
7 J/cm ² @ 1064nm, 10ns	

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.

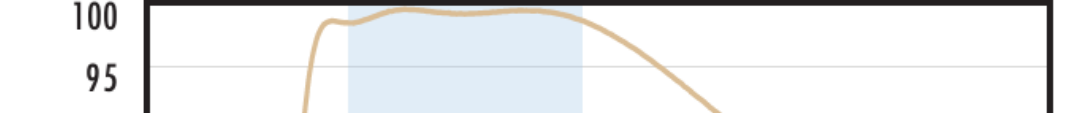
Technical Information



UV FS Transmission Curve



FUSED SILICA	
Uncoated Fused Silica Typical Transmission T (%) 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 Wavelength (nm) Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra. Click Here to Download Data	
Fused Silica with MgF₂ Coating Typical Transmission T (%) 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 Wavelength (nm) 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: $R_{avg} \leq 1.75\% \text{ @ } 400 - 700\text{nm (N-BK7)}$ 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 - 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
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: $R_{avg} \leq 0.4\% @ 425 - 675\text{nm}$ 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: $R_{abs} \leq 0.25\% @ 532\text{nm}$ $R_{abs} \leq 0.25\% @ 1064\text{nm}$ $R_{avg} \leq 1.0\% @ 500 - 1100\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
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: $R_{avg} \leq 0.5\% @ 600 - 1050\text{nm}$ 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: $R_{abs} \leq 1.5\% @ 750 - 800\text{nm}$ $R_{abs} \leq 1.0\% @ 800 - 1550\text{nm}$ $R_{avg} \leq 0.7\% @ 750 - 1550\text{nm}$ 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

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