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TECHSPEC<sup>®</sup> 12mm Dia. x 12mm, UV-VIS Coated, UV Double-Convex Lens



UV Fused Silica Double-Convex (DCX) Lenses



Stock **#48-834** 7 In Stock

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-

1

+

€155<sup>.00</sup>

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| Volume Pricing |                               |
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| Qty 1-5        | €155,00 each                  |
| Qty 6-25       | €124,00 each                  |
| Qty 26-49      | €116,00 each                  |
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Product Downloads

General

Type:

Double-Convex Lens

Physical & Mechanical Properties

|                      |                           |
|----------------------|---------------------------|
| 12.00 +0.0/-0.025    | Diameter (mm):            |
| <1                   | Centering (arcmin):       |
| Protective as needed | Bevel:                    |
| 7.09 ±0.05           | Center Thickness CT (mm): |
| 2.96                 | Edge Thickness ET (mm):   |
| 11.00                | Clear Aperture CA (mm):   |

|                                                                              |                                                       |
|------------------------------------------------------------------------------|-------------------------------------------------------|
| Optical Properties                                                           |                                                       |
| 9.25                                                                         | Back Focal Length BFL (mm):                           |
| 12.00                                                                        | Effective Focal Length EFL (mm):                      |
| UV-VIS (250-700nm)                                                           | Coating:                                              |
| R <sub>abs</sub> ≤1.0% @ 350 - 450nm<br>R <sub>avg</sub> ≤1.5% @ 250 - 700nm | Coating Specification:                                |
| Fused Silica (Corning 7980)                                                  | Substrate: <input type="checkbox"/>                   |
| 40-20                                                                        | Surface Quality:                                      |
| 1.5λ                                                                         | Power (P-V) @ 632.8nm:                                |
| λ/4                                                                          | Irregularity (P-V) @ 632.8nm:                         |
| 9.74                                                                         | Radius R <sub>1</sub> =R <sub>2</sub> (mm):           |
| 1.00                                                                         | f#:                                                   |
| 587.6                                                                        | Focal Length Specification Wavelength (nm):           |
| ±1                                                                           | Focal Length Tolerance (%):                           |
| 0.50                                                                         | Numerical Aperture NA:                                |
| 250 - 700                                                                    | Wavelength Range (nm):                                |
| 3 J/cm² @ 355nm, 10ns<br>5 J/cm² @ 532nm, 10ns                               | Damage Threshold, Reference: <input type="checkbox"/> |

|                       |                             |
|-----------------------|-----------------------------|
| 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                                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>Uncoated Fused Silica<br/>Typical Transmission</div><div><div><div>T (%)</div><div><div></div></div></div><div><div></div><div>Wavelength (nm)</div></div></div></div>                     |  | <div><div>Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra.</div><div><a href="#">Click Here to Download Data</a></div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <div><div>Fused Silica with MgF<sub>2</sub> Coating<br/>Typical Transmission</div><div><div><div>T (%)</div><div><div></div></div></div><div><div></div><div>Wavelength (nm)</div></div></div></div> |  | <div><div>Typical transmission of a 3mm thick fused silica window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.</div><div>The blue shaded region indicates the coating design wavelength range, with the following specification:<div><div><div><div><div><div><math>R_{avg} \leq 1.75\%</math></div><div>@ 400 - 700nm</div></div></div><div>(N-BK7)</div></div></div><div>Data outside this range is not guaranteed and is for reference only.</div></div><div><a href="#">Click Here to Download Data</a></div></div></div>                                                                                                         |
| <div><div>Fused Silica with UV-AR Coating<br/>Typical Transmission</div><div><div><div>T (%)</div><div><div></div></div></div><div><div></div><div>Wavelength (nm)</div></div></div></div>           |  | <div><div>Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI.</div><div>The blue shaded region indicates the coating design wavelength range, with the following specification:<div><div><div><div><div><div><math>R_{abs} \leq 1.0\%</math></div><div>@ 250 - 425nm</div></div></div><div><math>R_{avg} \leq 0.75\%</math></div><div>@ 250 - 425nm</div></div><div><math>R_{avg} \leq 0.5\%</math></div><div>@ 370 - 420nm</div></div></div><div>Data outside this range is not guaranteed and is for reference only.</div></div><div><a href="#">Click Here to Download Data</a></div></div> |

|                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>Fused Silica with UV-VIS Coating</div><div>Typical Transmission</div></div>    | <div><p>Typical transmission of a 3mm thick fused silica window with UV-VIS (250-700nm) coating at 0° AOI.</p><p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p><div><div><math>R_{abs} \leq 1.0\%</math> @ 350 - 450nm</div><div><math>R_{avg} \leq 1.5\%</math> @ 250 - 700nm</div></div><p>Data outside this range is not guaranteed and is for reference only.</p><p><a href="#">Click Here to Download Data</a></p></div>                                                         |
| <div><div>Fused Silica with VIS-EXT Coating</div><div>Typical Transmission</div></div>  | <div><p>Typical transmission of a 3mm thick fused silica window with VIS-EXT (350-700nm) coating at 0° AOI.</p><p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p><div><div><math>R_{avg} \leq 0.5\%</math> @ 350 - 700nm</div></div><p>Data outside this range is not guaranteed and is for reference only.</p><p><a href="#">Click Here to Download Data</a></p></div>                                                                                                                |
| <div><div>Fused Silica with VIS-NIR Coating</div><div>Typical Transmission</div></div> | <div><p>Typical transmission of a 3mm thick fused silica window with VIS-NIR (400-1000nm) coating at 0° AOI.</p><p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p><div><div><math>R_{abs} \leq 0.25\%</math> @ 880nm</div><div><math>R_{avg} \leq 1.25\%</math> @ 400 - 870nm</div><div><math>R_{avg} \leq 1.25\%</math> @ 890 - 1000nm</div></div><p>Data outside this range is not guaranteed and is for reference only.</p><p><a href="#">Click Here to Download Data</a></p></div> |
| <div><div>Fused Silica with VIS 0° Coating</div><div>Typical Transmission</div></div>  | <div><p>Typical transmission of a 3mm thick fused silica window with VIS 0° (425-675nm) coating at 0° AOI.</p><p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p><div><div><math>R_{avg} \leq 0.4\%</math> @ 425 - 675nm</div></div><p>Data outside this range is not guaranteed and is for reference only.</p><p><a href="#">Click Here to Download Data</a></p></div>                                                                                                                 |
| <div><div>Fused Silica with YAG-BBAR Coating</div></div>                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><h3>Typical Transmission</h3></div>                                        | <p>Typical transmission of a 3mm thick fused silica window with YAG-BBAR (500-1100nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{abs} \leq 0.25\%</math> @ 532nm<br/><math>R_{abs} \leq 0.25\%</math> @ 1064nm<br/><math>R_{avg} \leq 1.0\%</math> @ 500 - 1100nm</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>           |
| <div><h3>Fused Silica with NIR I Coating<br/>Typical Transmission</h3></div>   | <p>Typical transmission of a 3mm thick fused silica window with NIR I (600 - 1050nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 0.5\%</math> @ 600 - 1050nm</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                       |
| <div><h3>Fused Silica with NIR II Coating<br/>Typical Transmission</h3></div> | <p>Typical transmission of a 3mm thick fused silica window with NIR II (750 - 1550nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{abs} \leq 1.5\%</math> @ 750 - 800nm<br/><math>R_{abs} \leq 1.0\%</math> @ 800 - 1550nm<br/><math>R_{avg} \leq 0.7\%</math> @ 750 - 1550nm</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p> |

## 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](#).

## Compatible Mounts