

TECHSPEC® 12.0mm Dia. x -50 FL, Uncoated , UV Plano-Concave Lens



UV Fused Silica Plano-Concave (PCV) Lenses



Stock #48-049 **20+ In Stock**

[Other Coating Options](#)

- 1 + C\$184.⁰⁰

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Volume Pricing	
Qty 1-5	C\$184.80 each
Qty 6-25	C\$147.00 each
Qty 26-49	C\$137.90 each
Need More?	Request Quote

Product Downloads

General

Plano-Concave Lens

Type:

Max Flat Annulus is 0.3mm

Note:

Physical & Mechanical Properties

12.00 +0.0/-0.025 **Diameter (mm):**

2.00 **Center Thickness CT (mm):**

±0.05 **Center Thickness Tolerance (mm):**

<1 **Centering (arcmin):**

11 **Clear Aperture CA (mm):**

2.72 **Edge Thickness ET (mm):**

Optical Properties

-50.00 **Effective Focal Length EFL (mm):**

Fused Silica (Coming 7980) **Substrate:**

4.17 **f#:**

0.12 **Numerical Aperture NA:**

Uncoated **Coating:**

200 - 2200 **Wavelength Range (nm):**

-51.37 **Back Focal Length BFL (mm):**

587.6 **Focal Length Specification Wavelength (nm):**

±1 **Focal Length Tolerance (%):**

-22.92 **Radius R₁ (mm):**

40-20 **Surface Quality:**

1.5λ **Power (P-V) @ 632.8nm:**

λ/4 **Irregularity (P-V) @ 632.8nm:**

Regulatory Compliance

Compliant **RoHS 2015:**

Compliant **Reach 224:**

View **Certificate of Conformance:**

Need different specs or modifications?

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](#).

Product Details

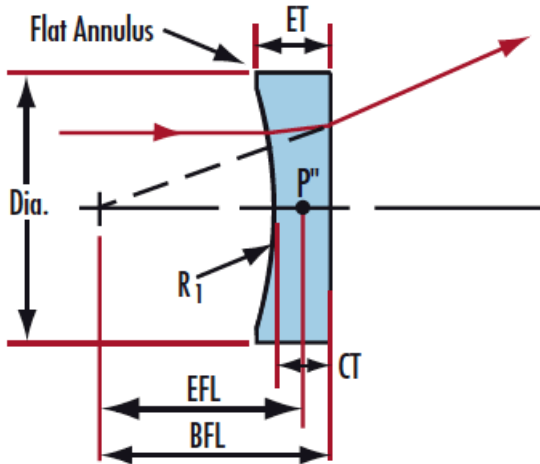
- Negative Focal Lengths for Beam Expansion or Light Projection Applications
- Wavelength Range of 200 - 2200nm
- Popular UV-AR Coating Option Available

TECHSPEC® UV Fused Silica Plano-Concave (PCV) Lenses are high performance UV optic elements, manufactured utilizing state of the art CNC equipment. Zygo's GPI-XP Interferometer is used to assure the surface accuracy and performance of these UV optics. UV Grade lenses are precision manufactured using research-grade synthetic fused silica. In addition to providing excellent transmission characteristics and higher operating temperatures, synthetic fused silica also exhibits an exceptional inclusion specification and chemical purity. TECHSPEC® UV Fused Silica Plano-Concave (PCV) Lenses are an ideal choice for many laser and imaging applications, particularly those involving ultraviolet wavelengths. A broadband anti-reflection coating is available for optimized throughput in the ultraviolet spectrum.

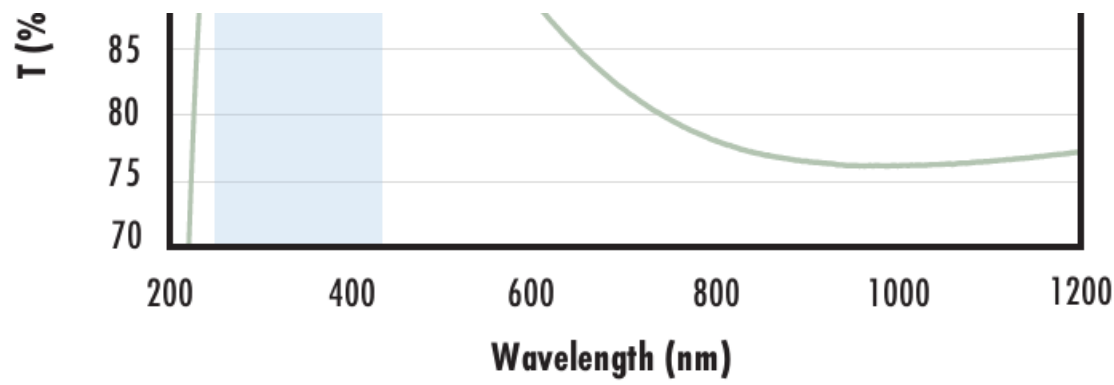
Technical Information



UV FS Transmission Curve



FUSED SILICA	
<h3>Uncoated Fused Silica Typical Transmission</h3> <p>The graph shows typical transmission for uncoated fused silica. The y-axis is T (%) from 70 to 100. The x-axis is Wavelength (nm) from 200 to 2200. The transmission is consistently high, around 93-95%, with a small dip at approximately 1400 nm.</p>	<p>Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra.</p> <p>Click Here to Download Data</p>
<h3>Fused Silica with MgF₂ Coating Typical Transmission</h3> <p>The graph shows typical transmission for fused silica with MgF₂ coating. The y-axis is T (%) from 70 to 100. The x-axis is Wavelength (nm) from 200 to 2200. A blue shaded region indicates the coating design wavelength range from 400 nm to 700 nm. The transmission is high, around 95-97%, with a dip at 1400 nm.</p>	<p>Typical transmission of a 3mm thick fused silica window with MgF₂ (400-700nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p>$R_{avg} \leq 1.75\% @ 400 - 700\text{nm (N-BK7)}$</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p>Click Here to Download Data</p>
<h3>Fused Silica with UV-AR Coating Typical Transmission</h3> <p>The graph shows typical transmission for fused silica with UV-AR coating. The y-axis is T (%) from 90 to 100. The x-axis is Wavelength (nm) from 200 to 2200. A blue shaded region indicates the coating design wavelength range from 250 nm to 425 nm. The transmission is high, around 98-100%, with a dip at 1400 nm.</p>	<p>Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p>

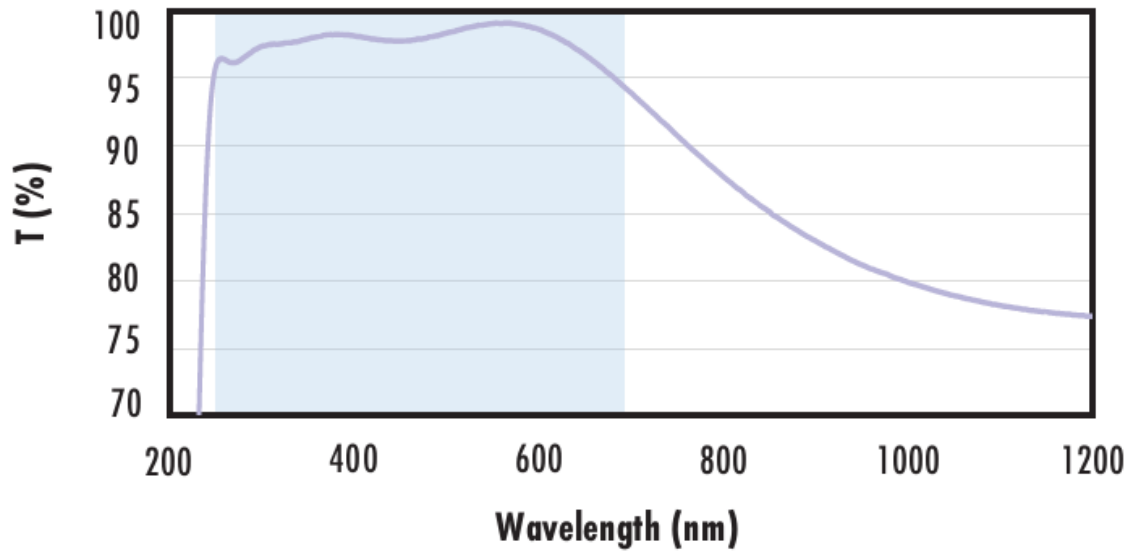


$R_{abs} \leq 1.0\% @ 250 - 425\text{nm}$
 $R_{avg} \leq 0.75\% @ 250 - 425\text{nm}$
 $R_{avg} \leq 0.5\% @ 370 - 420\text{nm}$

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.

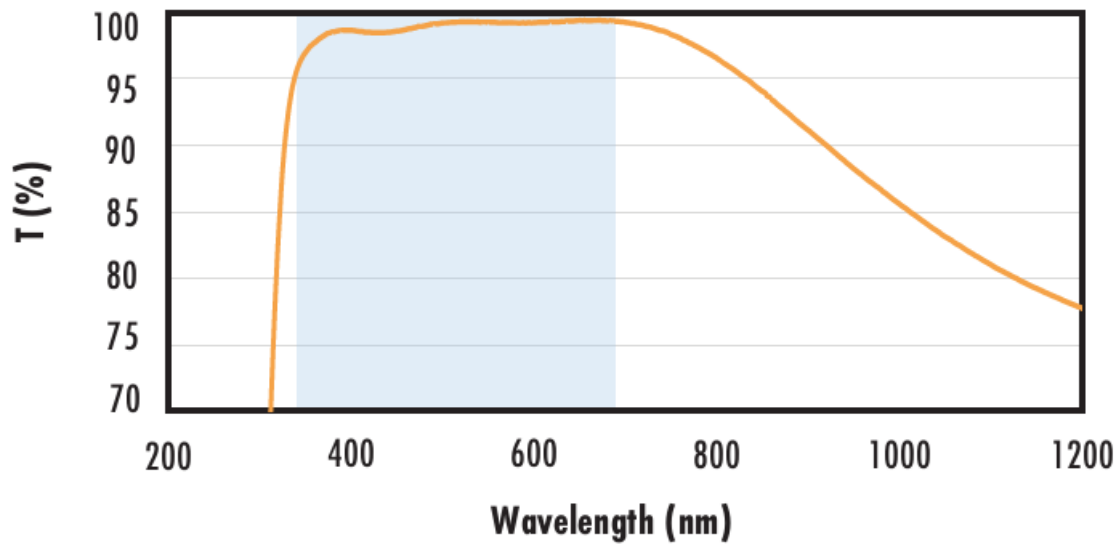
The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{abs} \leq 1.0\% @ 350 - 450\text{nm}$
 $R_{avg} \leq 1.5\% @ 250 - 700\text{nm}$

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:

$R_{avg} \leq 0.5\% @ 350 - 700\text{nm}$

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.

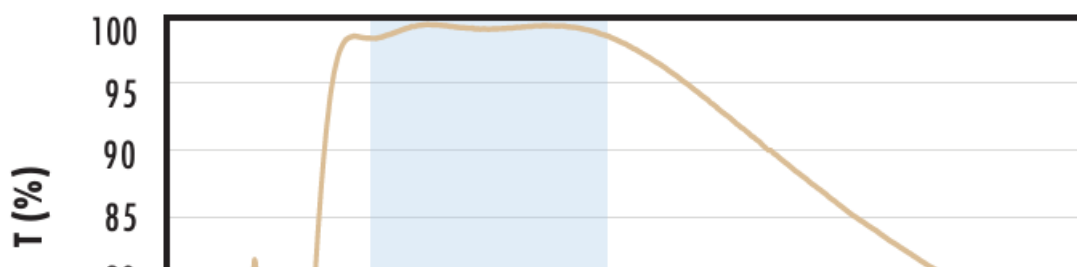
The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{abs} \leq 0.25\% @ 880\text{nm}$
 $R_{avg} \leq 1.25\% @ 400 - 870\text{nm}$
 $R_{avg} \leq 1.25\% @ 890 - 1000\text{nm}$

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

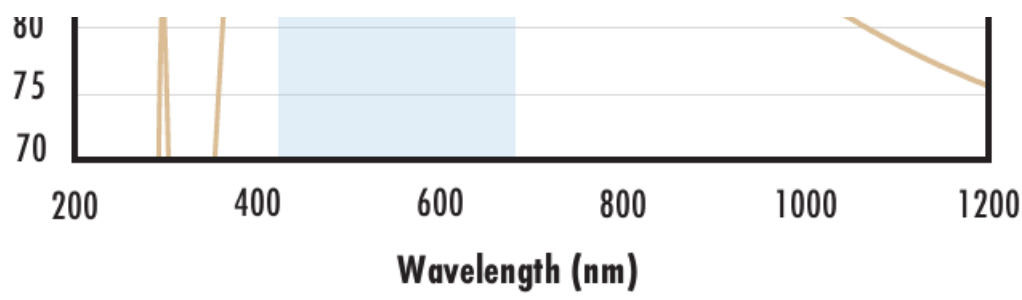


Typical transmission of a 3mm thick fused silica window with VIS 0° (425-675nm) coating at 0° AOI.

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

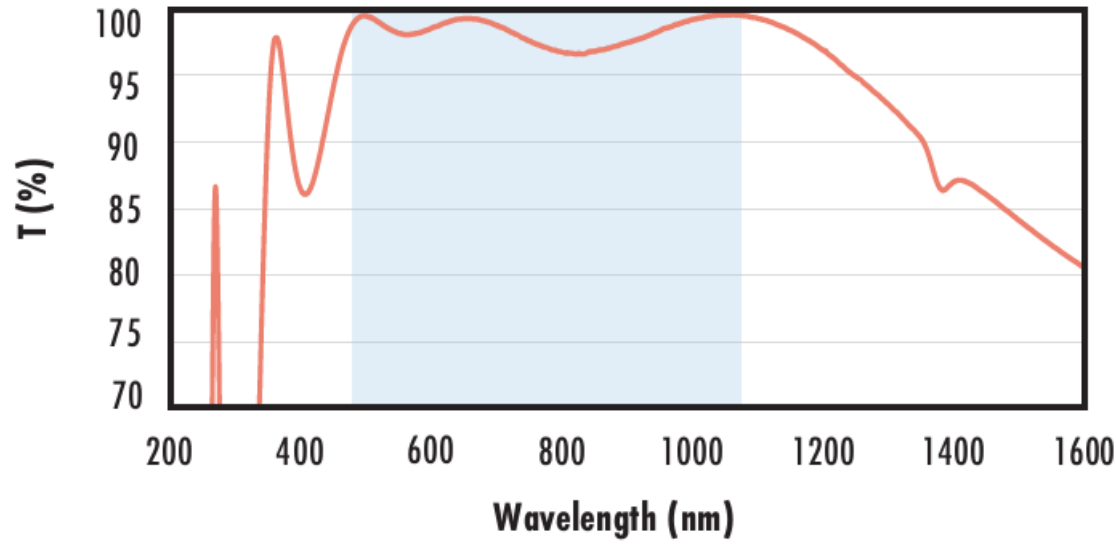
$R_{avg} \leq 0.4\% @ 425 - 675\text{nm}$

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



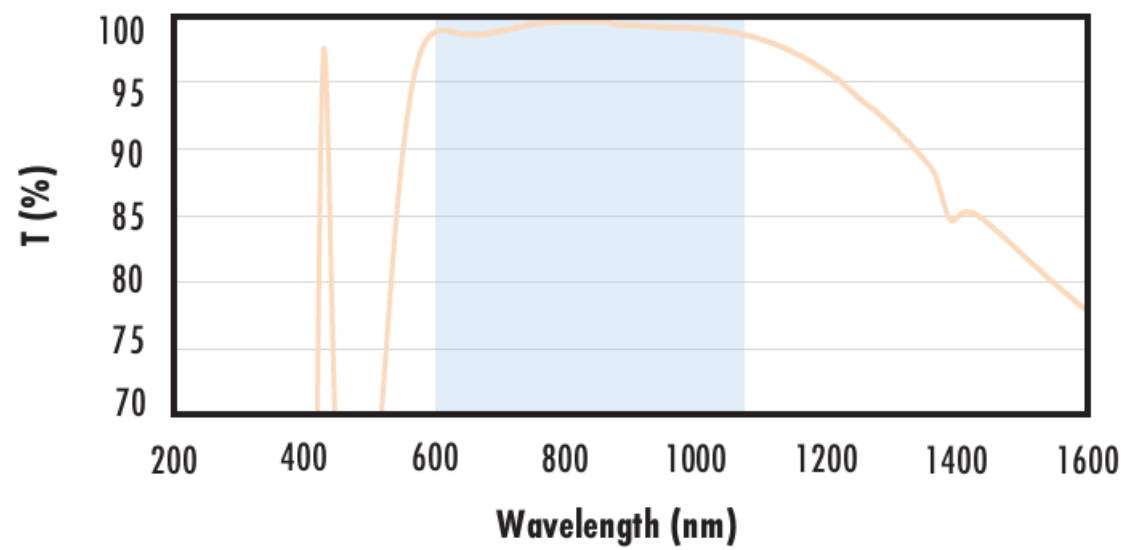
reference only.
[Click Here to Download Data](#)

**Fused Silica with YAG-BBAR Coating
 Typical Transmission**



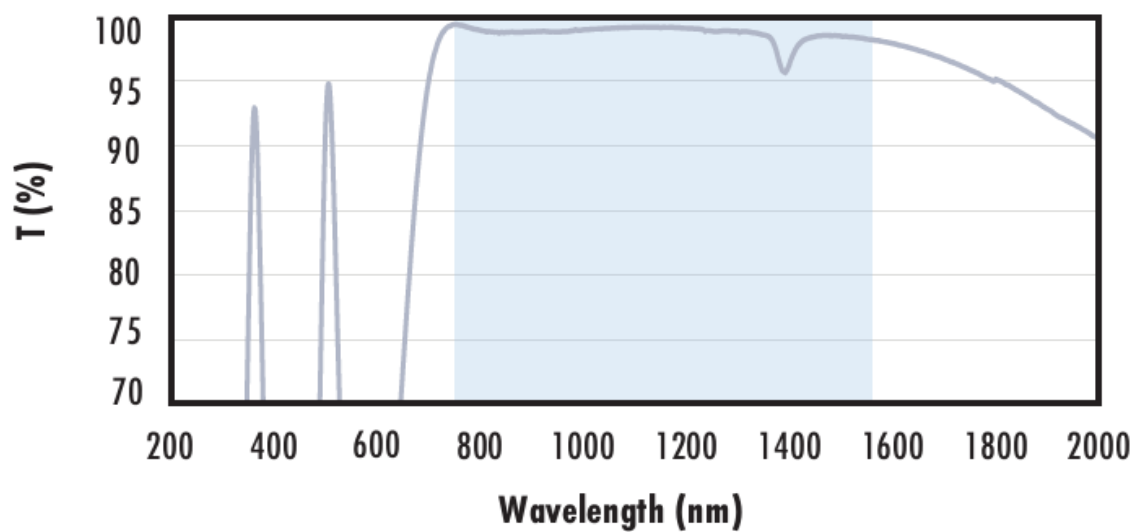
Typical transmission of a 3mm thick fused silica window with YAG-BBAR (500-1100nm) coating at 0° AOI.
 The blue shaded region indicates the coating design wavelength range, with the following specification:
 $R_{abs} \leq 0.25\%$ @ 532nm
 $R_{abs} \leq 0.25\%$ @ 1064nm
 $R_{avg} \leq 1.0\%$ @ 500 - 1100nm
 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:
 $R_{avg} \leq 0.5\%$ @ 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:
 $R_{abs} \leq 1.5\%$ @ 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.
[Click Here to Download Data](#)

Compatible Mounts