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TECHSPEC<sup>®</sup> 12.0mm Diameter x -15 FL, MgF<sub>2</sub> Coated, Plano-Concave Lens



Stock **#48-685** [CONTACT US](#)

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-

1

+

€41<sup>.25</sup>

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| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-9        | €41,25 each                   |
| Qty 10-25      | €37,00 each                   |
| Qty 26-49      | €33,25 each                   |
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Product Downloads

General

Plano-Concave Lens

Type:

Physical & Mechanical Properties

|                      |                                  |
|----------------------|----------------------------------|
| 12.00 +0.0/-0.025    | Diameter (mm):                   |
| Protective as needed | Bevel:                           |
| 3.00                 | Center Thickness CT (mm):        |
| ±0.05                | Center Thickness Tolerance (mm): |
| <1                   | Centering (arcmin):              |
| 11.00                | Clear Aperture CA (mm):          |
| 4.47                 | Edge Thickness ET (mm):          |

Optical Properties

|                                      |                                                   |
|--------------------------------------|---------------------------------------------------|
| -15.00                               | Effective Focal Length EFL (mm):                  |
| N-SF11                               | Substrate: <input type="text"/>                   |
| 1.25                                 | f#:                                               |
| 0.40                                 | Numerical Aperture NA:                            |
| MgF <sub>2</sub> (400-700nm)         | Coating:                                          |
| 400 - 700                            | Wavelength Range (nm):                            |
| -16.68                               | Back Focal Length BFL (mm):                       |
| R <sub>avg</sub> ≤1.75% @400 - 700nm | Coating Specification:                            |
| 587.6                                | Focal Length Specification Wavelength (nm):       |
| ±1                                   | Focal Length Tolerance (%):                       |
| -11.77                               | Radius R <sub>1</sub> (mm):                       |
| 40-20                                | Surface Quality:                                  |
| 10 J/cm <sup>2</sup> @ 532nm, 10ns   | Damage Threshold, By Design: <input type="text"/> |
| 1.5λ                                 | Power (P-V) @ 632.8nm:                            |
| λ/4                                  | Irregularity (P-V) @ 632.8nm:                     |

Regulatory Compliance

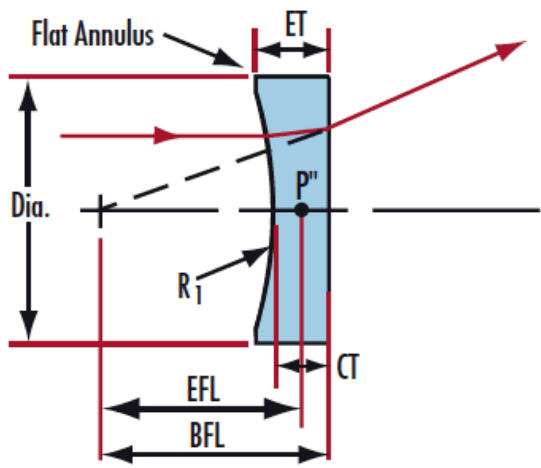
|           |                             |
|-----------|-----------------------------|
| Compliant | RoHS 2015:                  |
| View      | Certificate of Conformance: |
| Compliant | Reach 235:                  |

## Product Details

- AR Coated to Provide <1.75% Reflectance per Surface for 400 - 700nm
- Designed for 0° Angle of Incidence
- Various Coating Options: [Uncoated](#), [VIS-EXT](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), [NIR I](#), and [NIR II](#)

TECHSPEC® MgF<sub>2</sub> Coated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system due to their negative spherical aberration. Plano-Concave (PCV) lenses are commonly used in a variety of applications including image reduction, beam expansion and telescopes. TECHSPEC MgF<sub>2</sub> Coated Plano-Concave (PCV) Lenses are ideal for broadband applications. These lenses are also available [Uncoated](#), [VIS-EXT](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), [NIR I](#), or with [NIR II](#) AR coating options.

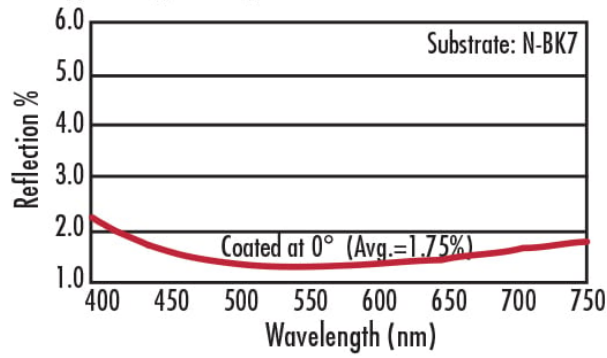
## Technical Information



### MgF<sub>2</sub> Coating

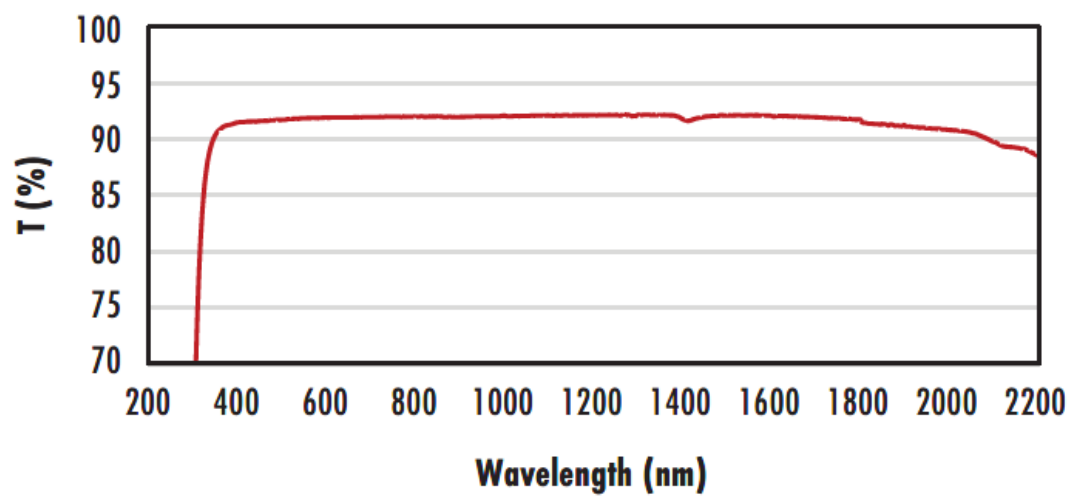
$R_{avg} \leq 1.75\%$  @ 400 - 700nm

Typ. Energy Density Limit: 10 J/cm<sup>2</sup> @ 532nm, 10ns



### N-BK7

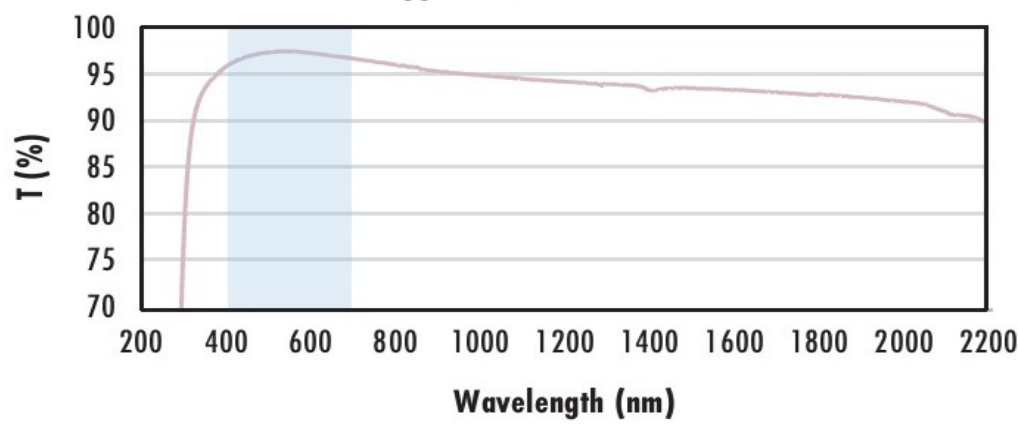
#### Uncoated N-BK7 Typical Transmission



Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.

[Click Here to Download Data](#)

#### N-BK7 with MgF<sub>2</sub> Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.

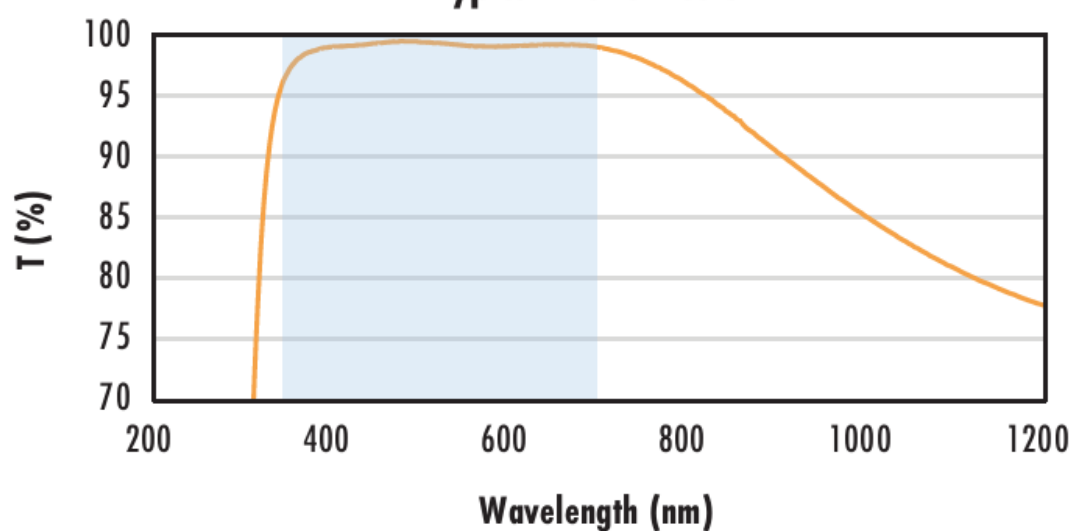
The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{avg} \leq 1.75\%$  @ 400 - 700nm (N-BK7)

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

[Click Here to Download Data](#)

#### N-BK7 with VIS-EXT Coating Typical Transmission



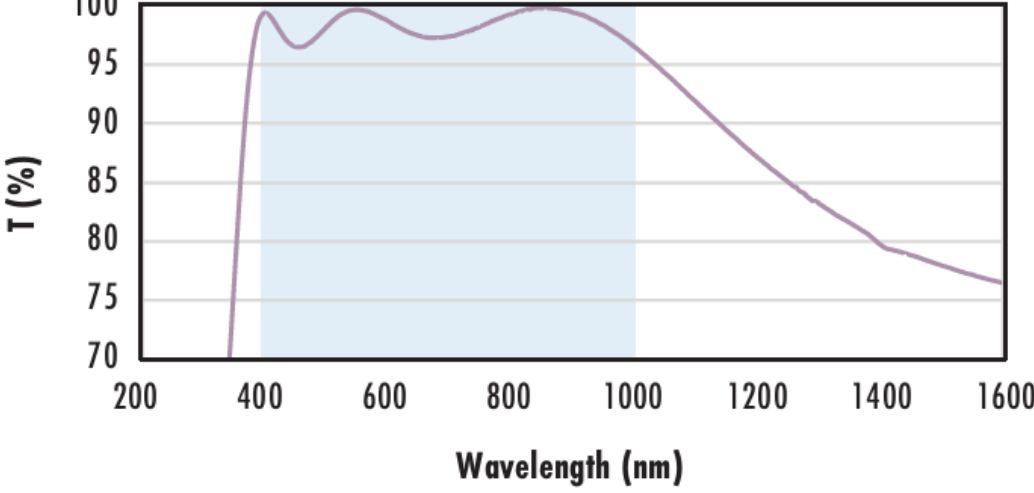
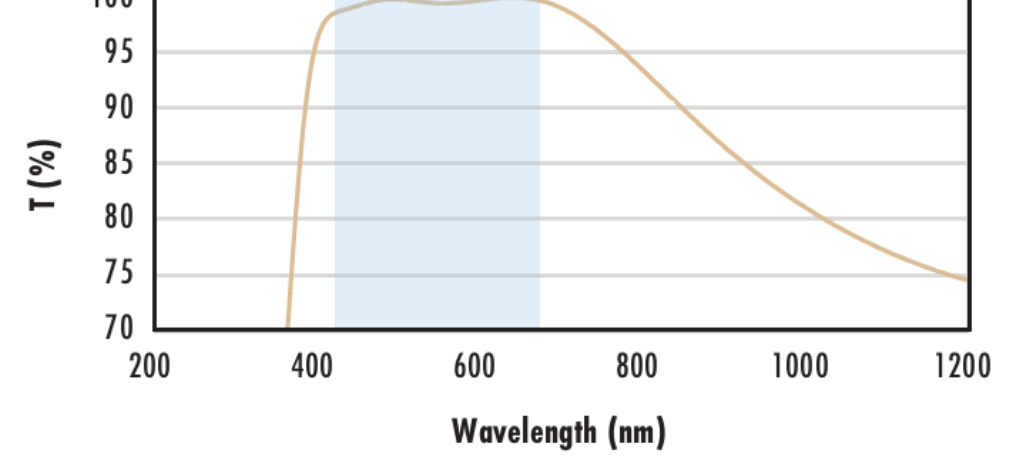
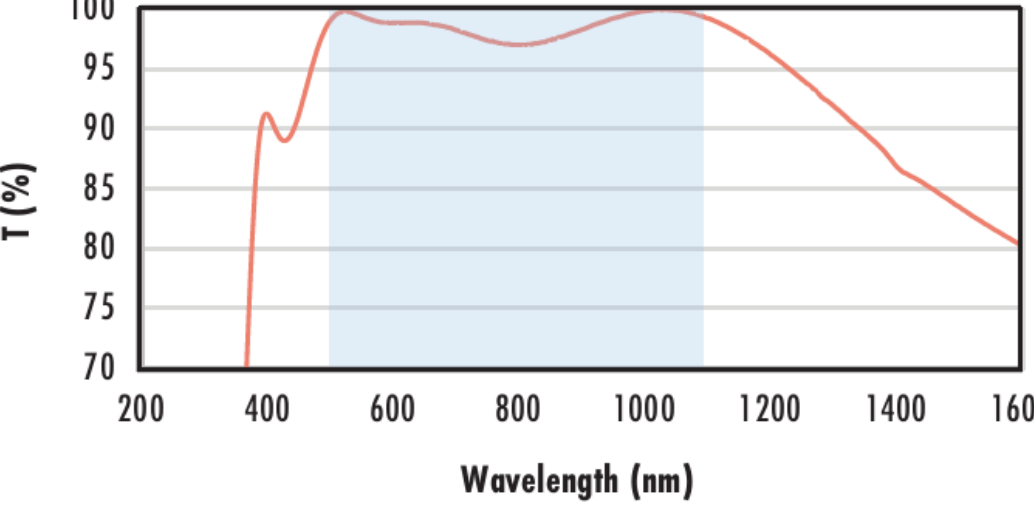
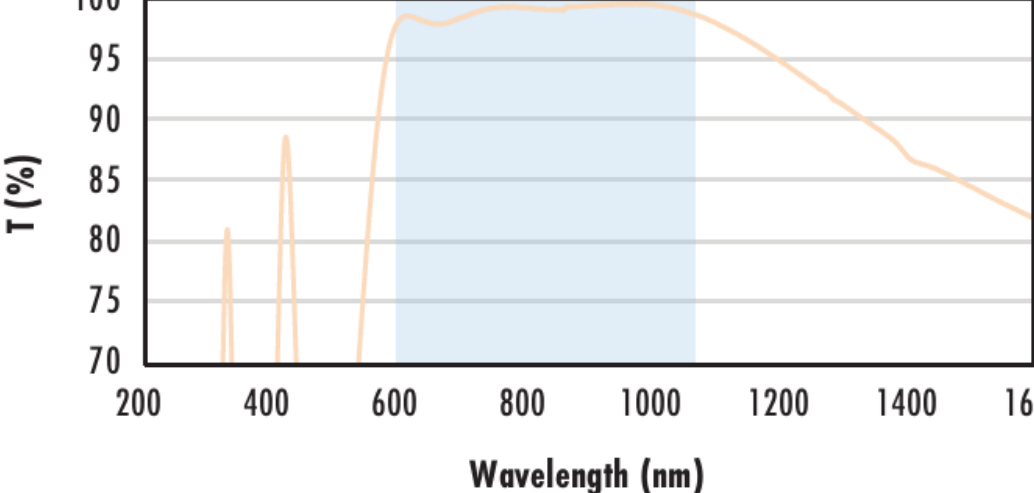
Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.

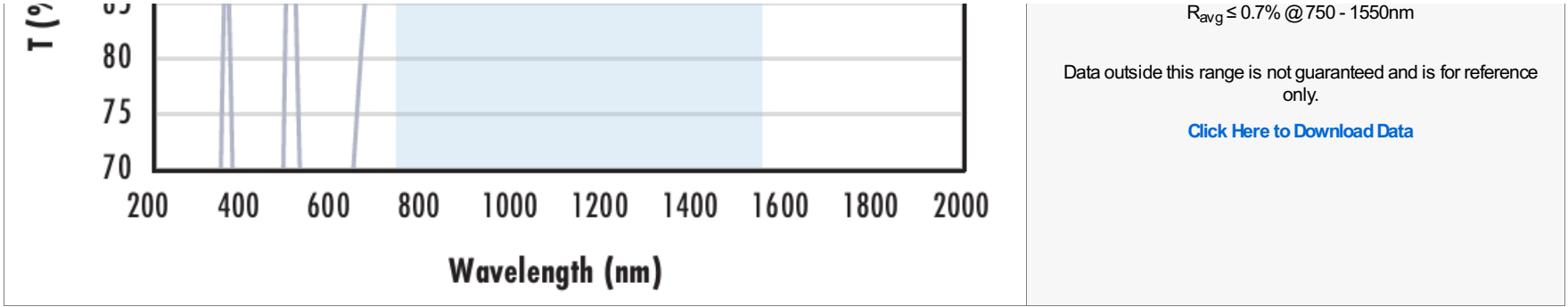
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

[Click Here to Download Data](#)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <p><b>N-BK7 with VIS-NIR Coating</b><br/><b>Typical Transmission</b></p>  <p>Typical transmission of a 3mm thick N-BK7 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> <p><math>R_{abs} \leq 0.25\% @ 880\text{nm}</math><br/><math>R_{avg} \leq 1.25\% @ 400 - 870\text{nm}</math><br/><math>R_{avg} \leq 1.25\% @ 890 - 1000\text{nm}</math></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> |  |
| <p><b>N-BK7 with VIS 0° Coating</b><br/><b>Typical Transmission</b></p>  <p>Typical transmission of a 3mm thick N-BK7 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> <p><math>R_{avg} \leq 0.4\% @ 425 - 675\text{nm}</math></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>                                                                                                                   |  |
| <p><b>N-BK7 with YAG-BBAR Coating</b><br/><b>Typical Transmission</b></p>  <p>Typical transmission of a 3mm thick N-BK7 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\% @ 532\text{nm}</math><br/><math>R_{abs} \leq 0.25\% @ 1064\text{nm}</math><br/><math>R_{avg} \leq 1.0\% @ 500 - 1100\text{nm}</math></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>   |  |
| <p><b>N-BK7 with NIR I Coating</b><br/><b>Typical Transmission</b></p>  <p>Typical transmission of a 3mm thick N-BK7 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\% @ 600 - 1050\text{nm}</math></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>                                                                                                                |  |
| <p><b>N-BK7 with NIR II Coating</b><br/><b>Typical Transmission</b></p>  <p>Typical transmission of a 3mm thick N-BK7 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\% @ 750 - 800\text{nm}</math><br/><math>R_{abs} \leq 1.0\% @ 800 - 1550\text{nm}</math></p>                                                                                                                                                                                    |  |



## Coating Curves

### 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