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/ [NIR I Coated Plano-Concave \(PC\)](#)

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**TECHSPEC®**

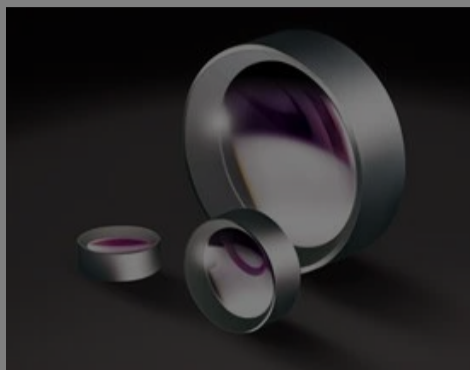
# 20.0mm Diameter

# Concave Lens

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Select Your Country/Region: European Union

Submit

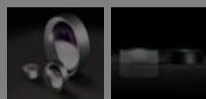


Stock #49-531 **4 In Stock** [Other Coating Options](#)

1

€49<sup>,75</sup>

**ADD TO CART**



### Volume Pricing

Qty 1-9 €49,75 each

Qty 10-25 €44,75 each

Qty 26-49 €39,75 each

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Prices shown are exclusive of VAT/local taxes

### Product Downloads

- STEP:stp
- Curve:pdf
- PDF Drawing:pdf
- ISO 10110 Drawing
- IGES:igs
- Curve (xlsx)
- Zemax:zar
- Zemax:zmx
- eDrawing:eprt
- Code V:seq
- EO Spec Sheet
- [Download All](#)

## General

**Type:** Plano-Concave Lens

## Physical & Mechanical Properties

**Diameter (mm):** 20.00  
+0.0/-0.025

**Bevel:** Protective as needed

**Center Thickness CT (mm):** 3.50

**Center Thickness Tolerance (mm):** ±0.10

**Centering (arcmin):** <1

**Clear Aperture CA (mm):** 19.00

**Edge Thickness ET (mm):** 5.39

## Optical Properties

**Effective Focal Length EFL (mm):** -30.00

**Substrate:** [N-SF11](#)

**f/#:** 1.5

**Numerical Aperture NA:** 0.33

**Coating:** NIR I (600-1050nm)

**Wavelength Range (nm):** 600 - 1050

**Back Focal Length BFL (mm):** -31.96

**Coating Specification:**  $R_{avg} \leq 0.5\%$  @ 600 - 1050nm

**Focal Length Specification:** 587.6

**Focal Length Tolerance (%):** ±1

<b>Wavelength (nm):</b>		
<b>Radius R<sub>1</sub> (mm):</b>	-23.54	<b>Surface Quality:</b> 40-20
<b>Damage Threshold, By Design: ①</b>	7 J/cm <sup>2</sup> @ 1064nm, 10ns	Please select your shipping country to view the most accurate inventory information, and to determine the correct Edmund Optics sales office for your order.  <b>Select Your Country/Region:</b>
<b>Irregularity (P-V) @ 632.8nm:</b>	λ/4	

## Regulatory Compliance

<b>RoHS 2015:</b>	<b>Compliant</b>	<b>Certificate of Conformance:</b>	<b>View</b>
<b>Reach 235:</b>	<b>Compliant</b>		

## 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](#).

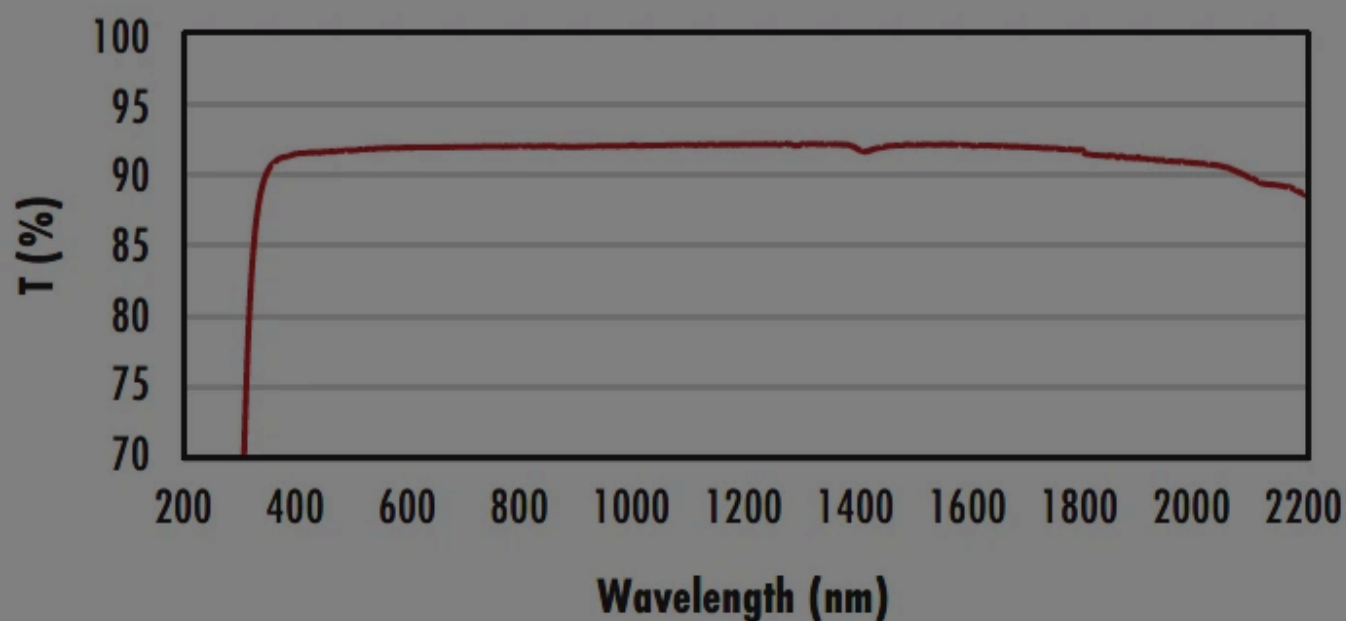
## Product Details

- AR Coated to Provide <0.5% Reflectance per Surface for 600 - 1050nm
- Designed for 0° Angle of Incidence
- Various Coating Options: **Uncoated**, **VIS-EXT**, **MgF<sub>2</sub>**, **VIS 0°**, **VIS-NIR**, **YAG-BBAR**, and **NIR II**

TECHSPEC® NIR I 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® NIR I Coated Plano-Concave (PCV) Lenses offer optimal performance in the 600nm to 1050nm range. These lenses are also available **Uncoated**, **VIS-EXT**, **MgF<sub>2</sub>**, **VIS 0°**, **VIS-NIR**, **YAG-BBAR**, or with **NIR II** AR coating options.

## Technical Information

### 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



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**Select Your Country/Region:**

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:

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

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:

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

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

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



Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

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

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

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

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### N-BK7 with VIS 0° Coating Typical Transmission



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Typical transmission of a 3mm thick N-BK7 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.

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### N-BK7 with YAG-BBAR Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 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.

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### N-BK7 with NIR I Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 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.

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## N-BK7 with NIR II Coating Typical Transmission



Please select your shipping country to view the most accurate inventory information, and to determine the correct Edmund Optics sales office for your order.

**Select Your Country/Region:**

Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.

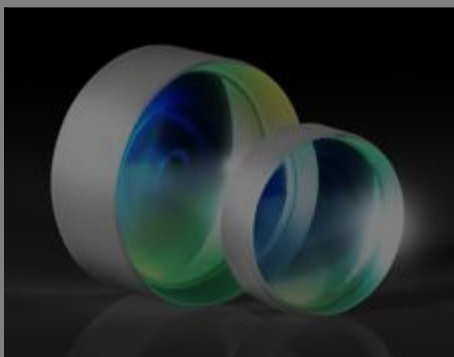
The blue shaded region indicates the coating design wavelength range, with the following specification:

- $R_{abs} \leq 1.5\%$  @ 750 - 800nm
- $R_{abs} \leq 1.0\%$  @ 800 - 1550nm
- $R_{avg} \leq 0.7\%$  @ 750 - 1550nm

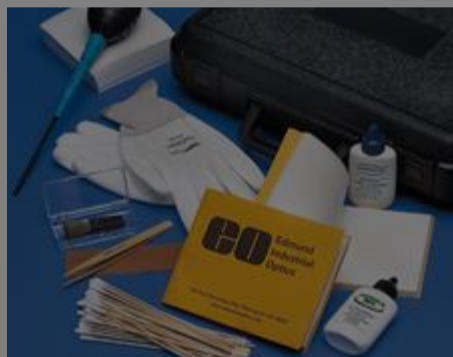
Data outside this range is not guaranteed and is for reference only.

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## Related Products



NIR I Coated Double-Concave (DCV) Lenses



Optical Cleaning

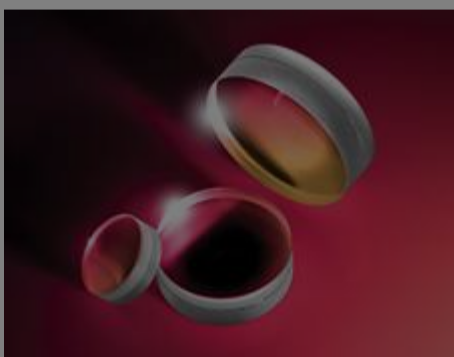


Optical Lens and Filter Mounts



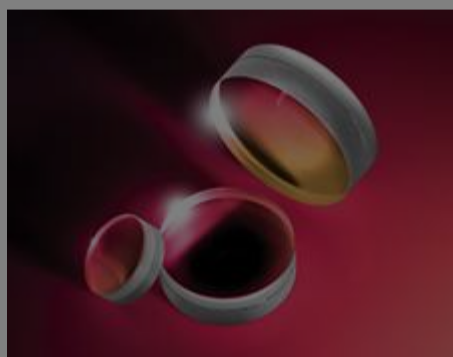
Optical Lenses

## Frequently Purchased Together



#33-209 - 25mm Dia. x 50mm FL, YAG-BBAR Coated, Achromatic Lens  
**€128,00**

Qty



#33-213 - 25mm Dia. x 200mm FL, YAG-BBAR Coated, Achromatic Lens  
**€128,00**

Qty



#37-322 - Norland Optical Adhesive NOA 61, 1 oz. Application Bottle  
**€41,50**

Qty



#45-266 - 18mm Dia. x 125mm FL, MgF<sub>2</sub> Coated, Achromatic Doublet Lens  
**€105,00**

Qty



## Compatible Mounts

	Title	Type	Compare	Stock Number	Price	Buy
<a href="#">MORE+</a>	20.0mm Optic Dia., Optic Mount	Fixed		#64-559	€32,75 <a href="#">Request Quote</a>	14 In Stock <input type="text" value="1"/>

	Title	Type	Compare	Stock Number	Price	Buy
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20mm  
Diameter,  
Mount Th  
Optic Mou

€59,50

11 In Stock

1



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## Resources

### Media Type

- Application Note
- Glossary
- Technical Tool
- Video
- FAQ
- Trending in Optics

APPLICATION NOTE

Anti-Reflection  
(AR) Coatings

APPLICATION NOTE

An  
Introduction to  
Optical  
Coatings

APPLICATION NOTE

Understanding  
Optical  
Specifications

APPLICATION NOTE

Lens Geometry  
Performance  
Comparison

GLOSSARY

NIR (Near  
Infrared)

GLOSSARY

VIS/NIR  
Coating

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