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TECHSPEC®

20mm Dia. x 30mm

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Stock #45-885 **20+ In Stock** [Other Coating Options](#)

1

€54^{,50}

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Volume Pricing

Qty 1-9 €54,50 each

Qty 10-24 €49,00 each

Qty 25-99 €43,75 each

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Product Downloads

- STEP:stp
- PDF Drawing:pdf
- ISO 10110 Drawing
- IGES:igs
- Zemax:zar
- Zemax:zmx
- eDrawing:eprt
- Code V:seq
- EO Spec Sheet
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General

Type: Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm): 20.00 +0.0/-0.025

Centering (arcmin): <1

Bevel: Protective as needed

Center Thickness CT (mm): 5.30

Center Thickness Tolerance (mm): ±0.10

Edge Thickness ET (mm): 1.88

Clear Aperture CA (mm): 19.00

Optical Properties

Back Focal Length BFL (mm): 28.20

Effective Focal Length EFL (mm): 30.00

Coating: VIS-NIR (400-1000nm)

Coating Specification: R_{abs} ≤ 0.25% @ 880nm
R_{avg} ≤ 1.25% @ 400 - 870 nm
R_{avg} ≤ 1.25% @ 890 - 1000nm

Substrate: **N-BK7**

Surface Quality: 40-20

Power (P-V) @ 632.8nm: 1.5λ

Irregularity (P-V) @ 632.8nm: λ/4

| | | | |
|--|-----------------------------------|---|-----|
| Radius R₁=-R₂ (mm): | 30.08 | f/#: | 1.5 |
| Focal Length Specification Wavelength (nm): | 587.6 | Focal Length Tolerance: | ±1 |
| Numerical Aperture NA: | 0.33 | <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Please select your shipping country to view the most accurate inventory information, and to determine the correct Edmund Optics sales office for your order.</p> <p>Select Your Country/Region:</p> </div> | |
| Damage Threshold, By Design: ⓘ | 5 J/cm ² @ 532nm, 10ns | | |

Regulatory Compliance

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

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](#).

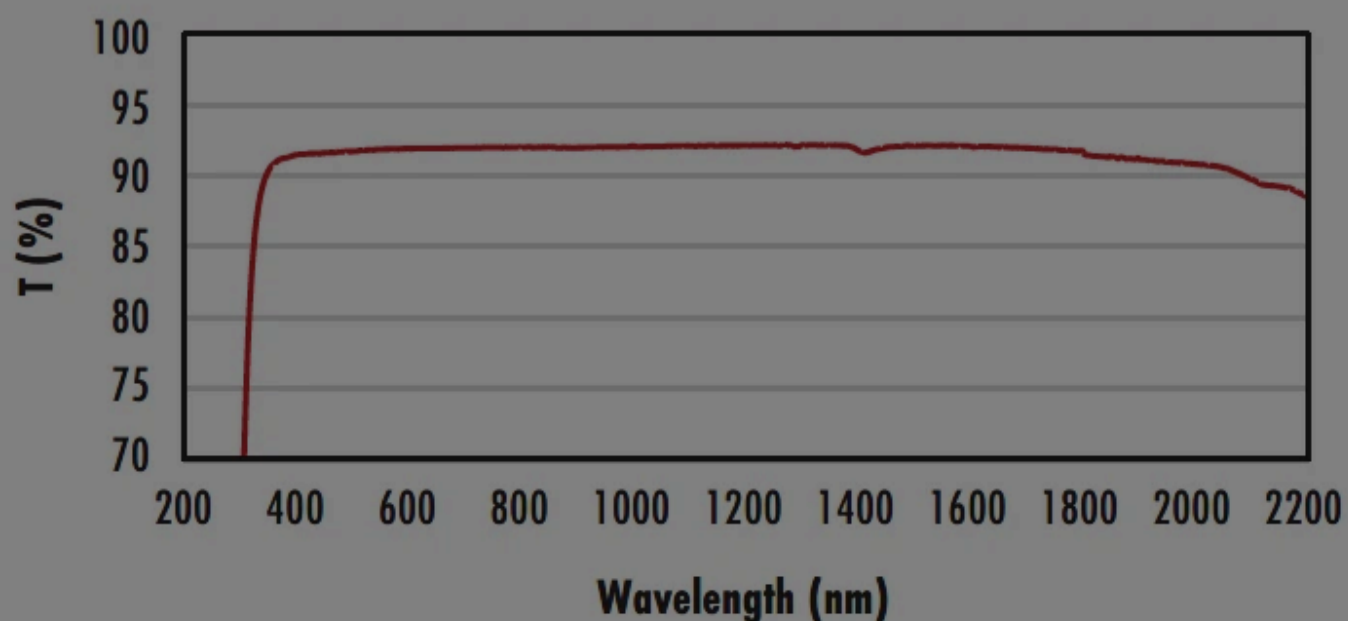
Product Details

- AR Coated to Provide <1.25% Reflectance per Surface for 400 - 1000nm
- Minimize Aberrations Including Spherical and Coma
- **UV Fused Silica DCX Lenses** Available
- Other Coating Options Available: **Uncoated**, **MgF₂**, **VIS 0°**, **NIR I**, **NIR II**, **VIS-EXT**, and **YAG-BBAR**

TECHSPEC® VIS-NIR Coated 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 cancelled due to the symmetric lens design. TECHSPEC® VIS-NIR Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

Technical Information

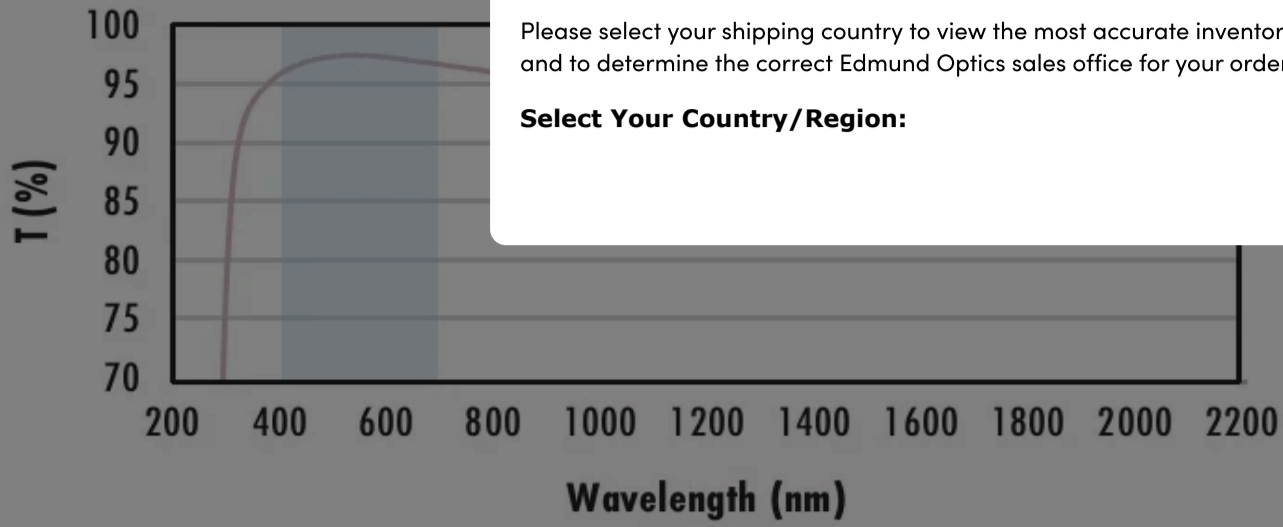
Uncoated N-BK7 Typical Transmission



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

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N-BK7 with MgF₂ Coating Typical Transmission



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Typical transmission of a 3mm thick N-BK7 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](#)

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.

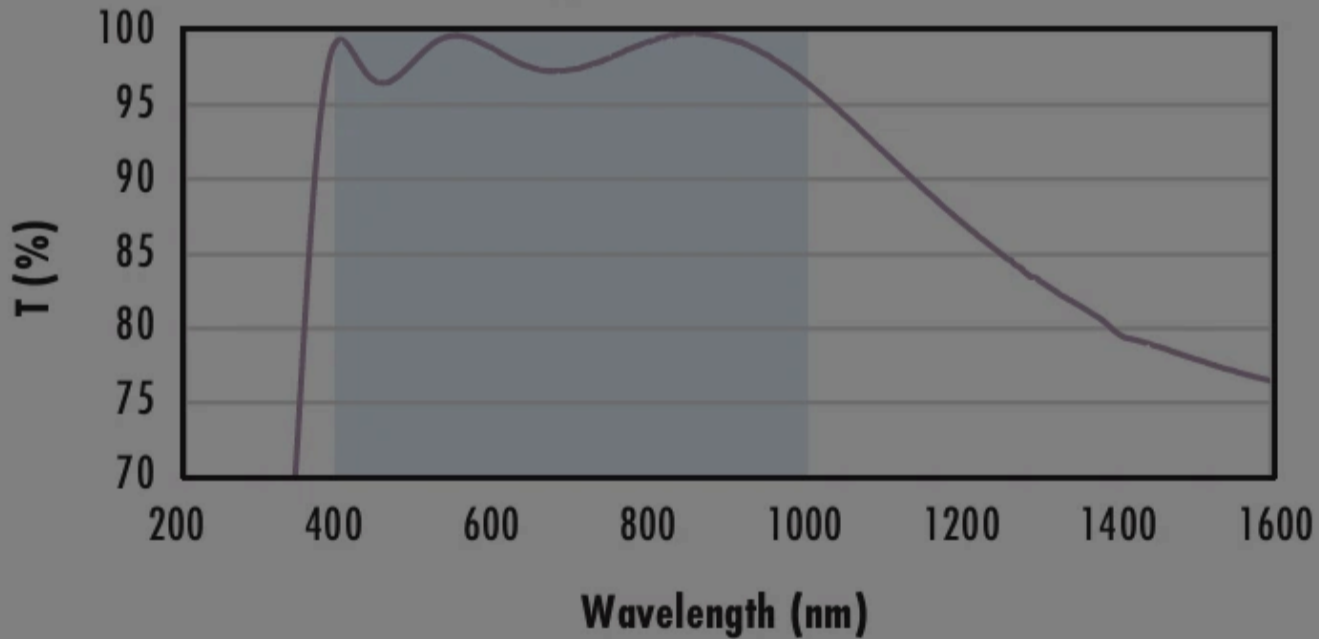
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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.

[Click Here to Download Data](#)

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.

[Click Here to Download Data](#)

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.

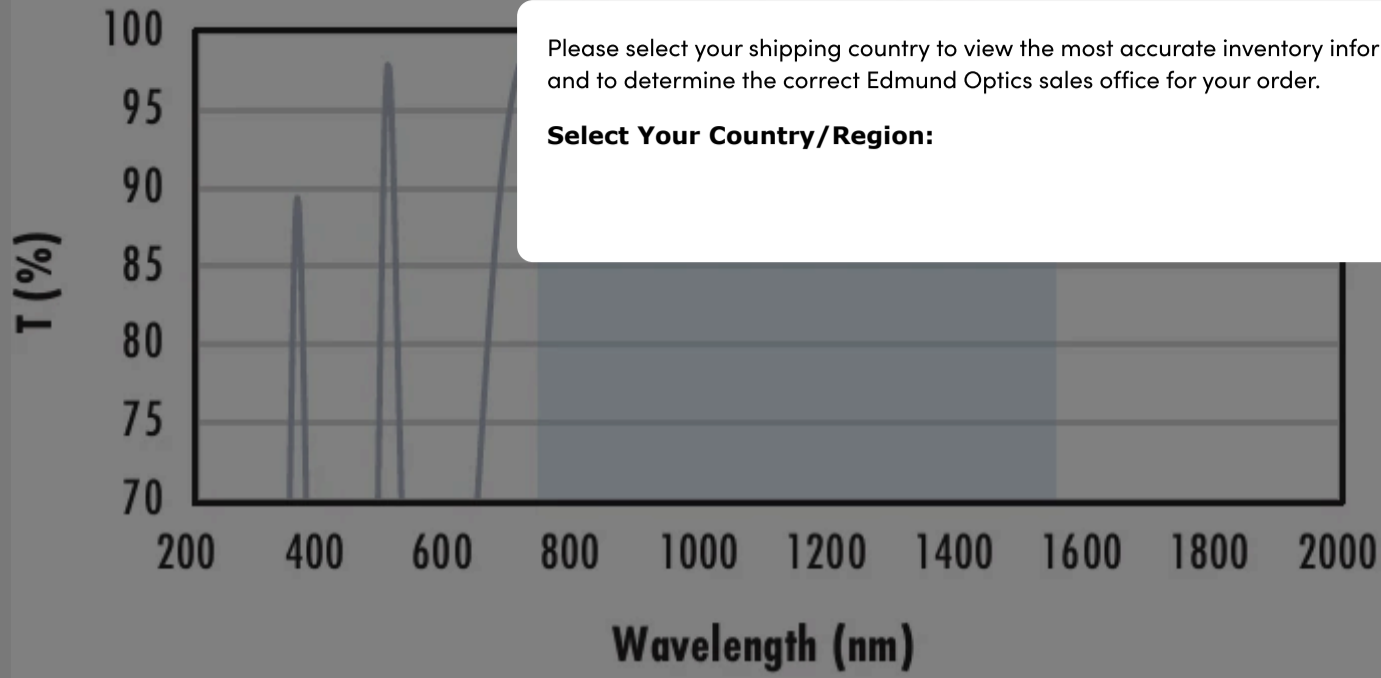
The blue shaded region indicates the coating design wavelength range, with the following specification:

$$R_{avg} \leq 0.5\% @ 600 - 1050nm$$

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

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N-BK7 with NIR II Coating Typical Transmission



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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:

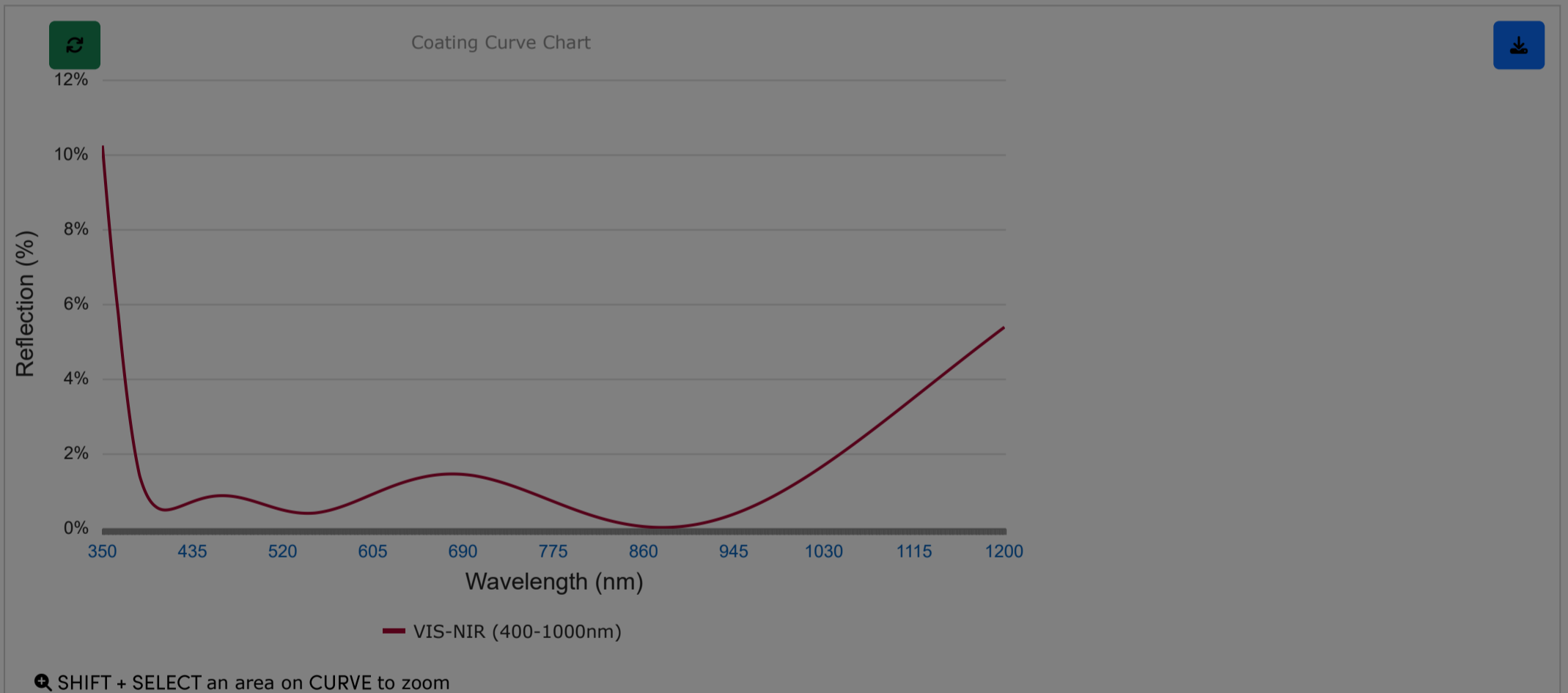
- $R_{abs} \leq 1.5\%$ @ 750 - 800nm
- $R_{abs} \leq 1.0\%$ @ 800 - 1550nm
- $R_{avg} \leq 0.7\%$ @ 750 - 1550nm

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

[Click Here to Download Data](#)

Coating Curves

VIS-NIR (400-1000nm)



Please note that coating performance outside each product's specified design range is theoretical and may vary.

Related Products



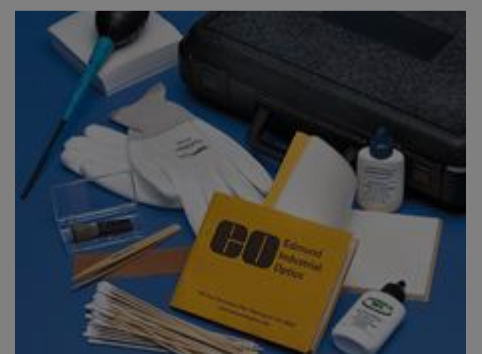
UV Fused Silica Double-Convex (DCX) Lenses



Uncoated Double-Convex (DCX) Lenses



Plano-Convex (PCX) and Simple Lens Kits

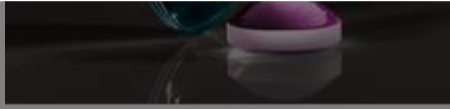


Optical Cleaning

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#36-171 - 50mm Dia x 40mm FL,
Uncoated Molded Aspheric
Condenser Lens
€53,00

Qty

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| | Title | Type | Compare | Stock Number | Price | Buy |
|--------------------------------------|---|-------|---------|--------------|---|--|
| <input type="button" value="MORE+"/> | 20.0mm Optic Dia., Optic Mount | Fixed | | #64-559 | €32,75 Request Quote | 14 In Stock <input type="text" value="1"/> <input type="button" value="Add to Cart"/> |
| <input type="button" value="MORE+"/> | 20mm Inner Single Optic Mount | Fixed | | #38-754 | €41,00 Request Quote | 20+ In Stock <input type="text" value="1"/> <input type="button" value="Add to Cart"/> |
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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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