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TECHSPEC® 50mm Dia. x 500mm FL, MgF₂ Coated, Achromatic Doublet Lens



MgF₂ Coated Achromatic Lenses



Stock **#45-271** **20+ In Stock**

[Other Coating Options](#)

1 **\$271⁰⁰**

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Volume Pricing	
Qty 1-5	\$271.60 each
Qty 6-25	\$217.00 each
Qty 26-49	\$204.40 each
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Product Downloads

General

Achromatic Lens **Type:**

Physical & Mechanical Properties

Diameter (mm):

50.00 +0.0/-0.025

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

<1 **Centering (arcmin):**

12.00 ±0.20 **Center Thickness CT (mm):**

8.00 ±0.10 **Center Thickness CT 1 (mm):**

4.00 ±0.10 **Center Thickness CT 2 (mm):**

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

Protective as needed **Bevel:**

Optical Properties

500.00 **Effective Focal Length EFL (mm):**

±1 **Focal Length Tolerance (%):**

494.50 **Back Focal Length BFL (mm):**

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

305.74 **Radius R₁ (mm):**

-223.20 **Radius R₂ (mm):**

-663.82 **Radius R₃ (mm):**

Substrate:
N-BK7 / N-SF5

40-20 **Surface Quality:**

10.00 **f#:**

0.05 **Numerical Aperture NA:**

MgF₂ (400-700nm) **Coating:**

R_{avg} ≤1.75% @400 - 700nm **Coating Specification:**

1.5λ **Power (P-V) @ 632.8nm:**

M4 **Irregularity (P-V) @ 632.8nm:**

400 - 700 **Wavelength Range (nm):**

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](#).

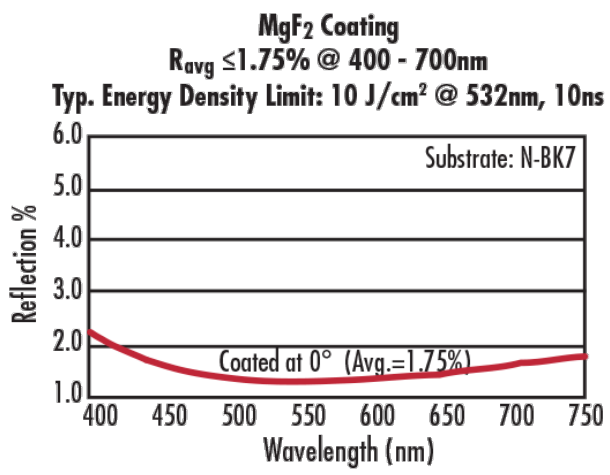
Product Details

- Designed for 0° Angle of Incidence

- Less Than 1.75% Reflectance Per Surface @400 - 700nm
- **VIS 0°** and **VIS-NIR** Coated Achromats Also Available

TECHSPEC® MgF₂ Coated Achromatic Lenses consist of two optical components cemented together to form an achromatic doublet which is computer optimized to correct for on-axis spherical and chromatic aberrations. These lenses feature a single layer of MgF₂ which provides less than 1.75% reflectivity from 400 – 700nm. TECHSPEC MgF₂ Coated Achromatic Lenses are best for applications involving multi-color (white light) imaging due to their specific doublet lens pairing that enables them to correct the color separation inherent in glass. Having eliminated the problematic chromatic aberrations, achromatic doublet lenses become the most cost-efficient means for polychromatic illumination and imaging.

Technical Information



Coating Curves

Compatible Mounts