

TECHSPEC® 50mm Dia. x 250mm FL YAG-BBAR Coated, Double-Convex Lens

YAG-BBAR Coated Double-Convex (DCX) Lenses

Stock #89-293 **15 In Stock**[Other Coating Options](#) £66⁴⁰**ADD TO CART**

Volume Pricing	
Qty 1-9	£66.40 each
Qty 10-24	£59.60 each
Qty 25-99	£53.20 each
Need More?	Request Quote

• Prices shown are exclusive of VAT/local taxes**Product Downloads****SPECIFICATIONS**

General

Type:
Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm):
50.00 +0.0/-0.025

Centering (arcmin):
<1

Bevel:
Protective as needed

Center Thickness CT (mm):
4.93

Center Thickness Tolerance (mm):
±0.10

Edge Thickness ET (mm):
2.5

Clear Aperture CA (mm):
49.00

Optical Properties

Back Focal Length BFL (mm):
248.37

Effective Focal Length EFL (mm):
250.00

Coating:
YAG-BBAR (500-1100nm)

Coating Specification:
 $R_{abs} < 0.25\% @ 532nm$
 $R_{abs} < 0.25\% @ 1064nm$
 $R_{avg} < 1.0\% @ 500 - 1100nm$

Substrate:
N-BK7

Surface Quality:
40-20

Power (P-V) @ 632.8nm:
1.5λ

Irregularity (P-V) @ 632.8nm:
λ/4

Radius $R_1=R_2$ (mm):
257.57

f#:
5.00

Focal Length Specification Wavelength (nm):
587.6

Focal Length Tolerance (%):
±1

Numerical Aperture NA:
0.10

Wavelength Range (nm):
350 - 2200

Damage Threshold, By Design:
5 J/cm² @ 532nm, 10ns

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

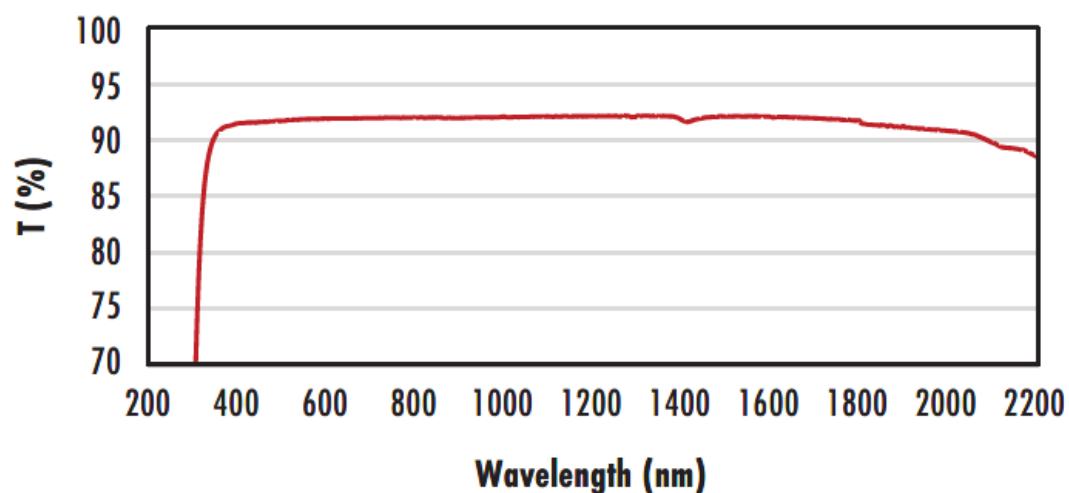
Reach 235:
Compliant

PRODUCT DETAILS

- Optimized for $R < 0.25\% @ 532nm$ and $1064nm$
- Minimize Aberrations Including Spherical and Coma
- UV Fused Silica DCX Lenses** Available
- Other Coating Options Available: **Uncoated, MgF₂, VIS 0°, NIR, NIR II, VIS-EXT, and VIS-NIR**

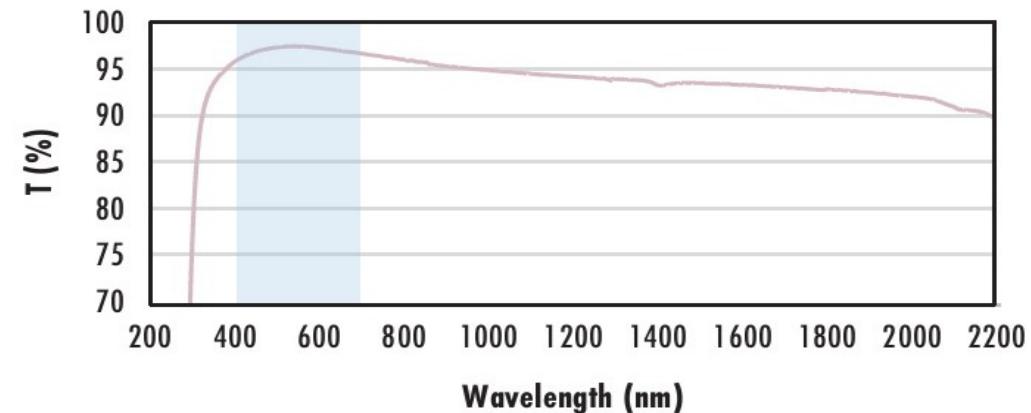
TECHSPEC® YAG-BBAR Coated Double-Convex (DCX) Lenses, also referred to as bi-convex lenses, have two positive, symmetrical faces with equal radii on both sides. These lenses are generally recommended for finite imaging applications with a conjugate ratio (ratio between object distance and image distance) 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 YAG-BBAR Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

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 MgF₂ Coating
Typical Transmission**

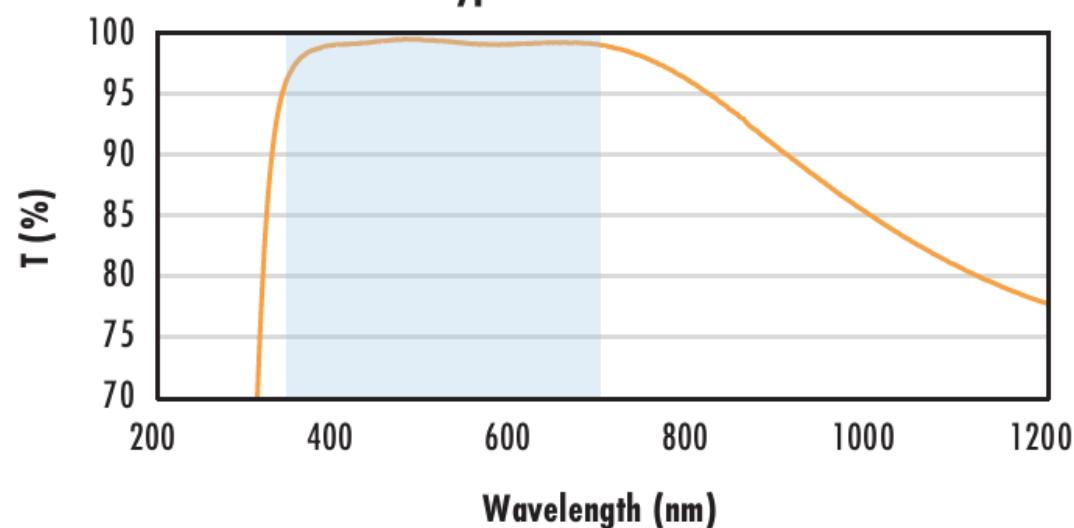
Typical transmission of a 3mm thick N-BK7 window with MgF₂ (400-700nm) coating at 0° AOI.

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

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

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**

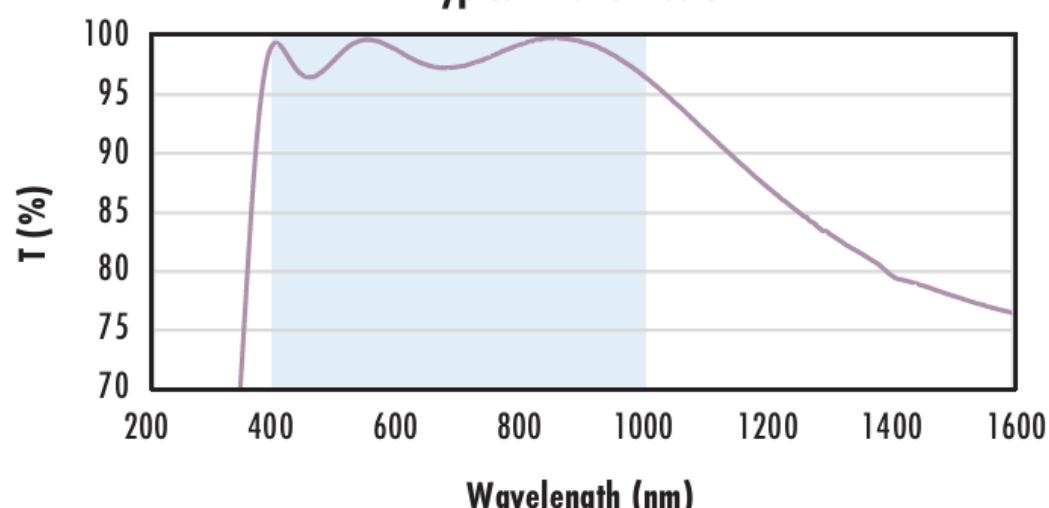
Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.

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

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

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

[Click Here to Download Data](#)

**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:

$$R_{abs} \leq 0.25\% @ 880\text{nm}$$

$$R_{avg} \leq 1.25\% @ 400 - 870\text{nm}$$

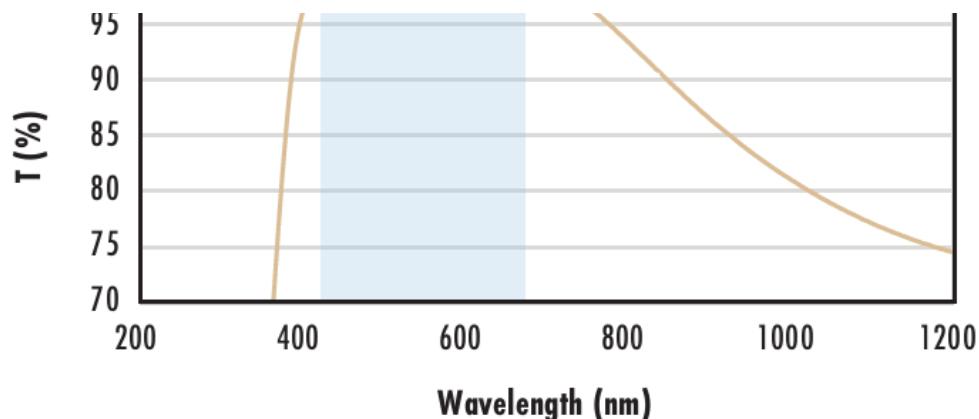
$$R_{avg} \leq 1.25\% @ 890 - 1000\text{nm}$$

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

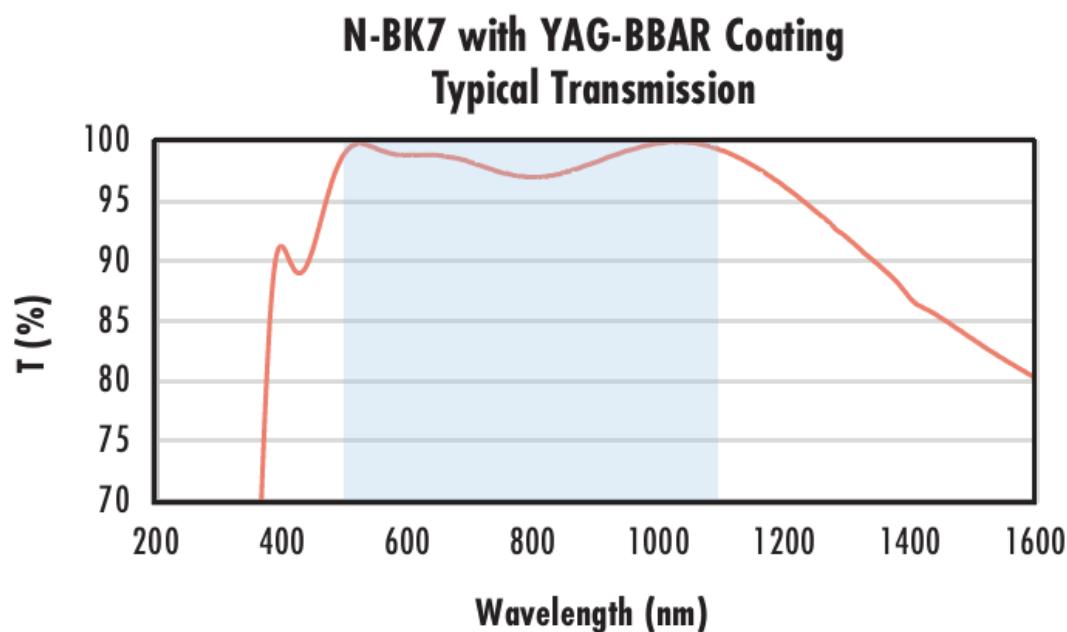
[Click Here to Download Data](#)

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

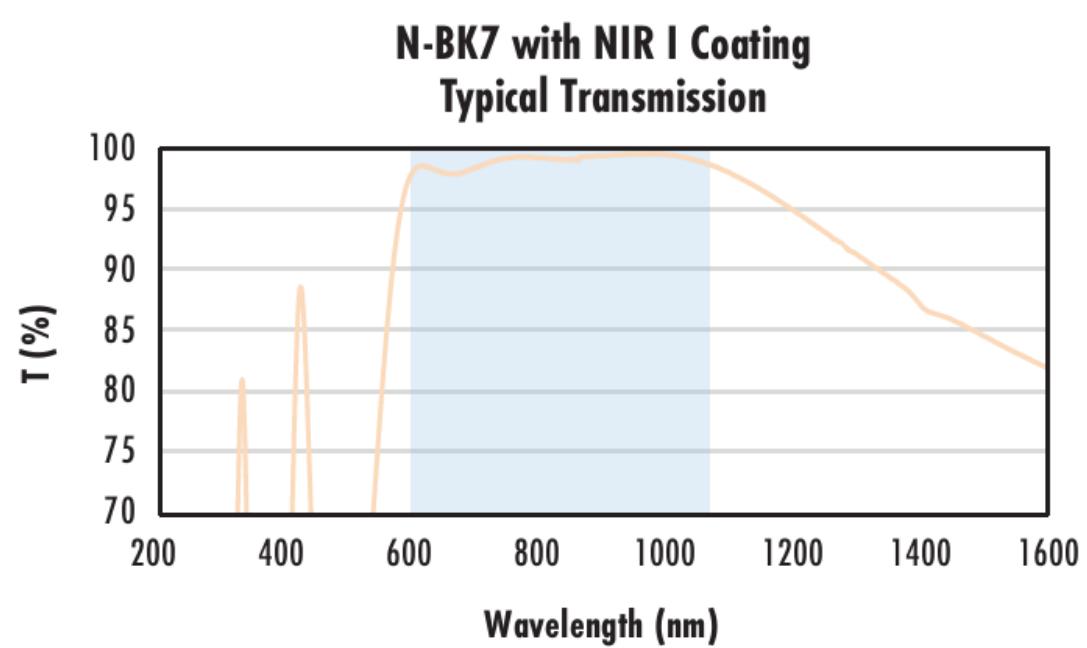
Typical transmission of a 3mm thick N-BK7 window with VIS 0°



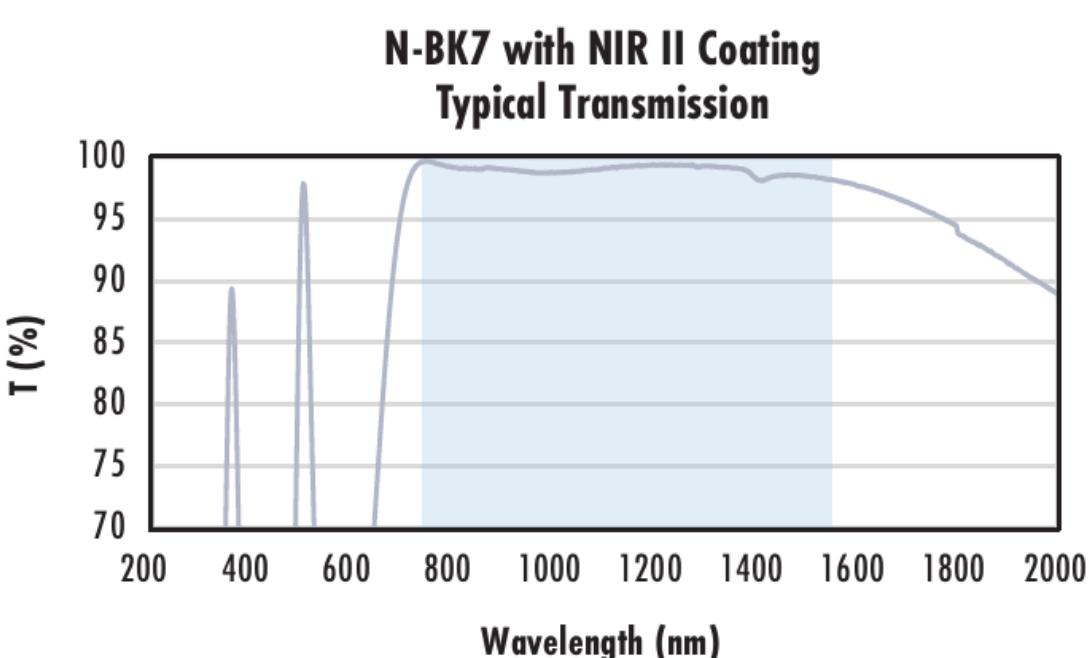
(425-675nm) coating at 0° AOI.
 The blue shaded region indicates the coating design wavelength range, with the following specification:
 $R_{avg} \leq 0.4\% @ 425 - 675\text{nm}$
 Data outside this range is not guaranteed and is for reference only.
[Click Here to Download Data](#)



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:
 $R_{abs} \leq 0.25\% @ 532\text{nm}$
 $R_{abs} \leq 0.25\% @ 1064\text{nm}$
 $R_{avg} \leq 1.0\% @ 500 - 1100\text{nm}$
 Data outside this range is not guaranteed and is for reference only.
[Click Here to Download Data](#)



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:
 $R_{avg} \leq 0.5\% @ 600 - 1050\text{nm}$
 Data outside this range is not guaranteed and is for reference only.
[Click Here to Download Data](#)



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:
 $R_{abs} \leq 1.5\% @ 750 - 800\text{nm}$
 $R_{abs} \leq 1.0\% @ 800 - 1550\text{nm}$
 $R_{avg} \leq 0.7\% @ 750 - 1550\text{nm}$
 Data outside this range is not guaranteed and is for reference only.
[Click Here to Download Data](#)

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
