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TECHSPEC® 12.0mm Diameter x -48 FL, NIR I Coated, Plano-Concave Lens

Stock **#49-530** **20+ In Stock**

Other Coating Options

- 1 + A$77.20

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Volume Pricing	
Qty 1-9	**A$77.20** each
Qty 10-25	**A$69.20** each
Qty 26-49	**A$61.60** each
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SPECIFICATIONS

General

Type:

Plano-Concave Lens

Physical & Mechanical Properties

Diameter (mm):
12.00 +0.0/-0.025

Bevel:
Protective as needed

Center Thickness CT (mm):
3.50

Center Thickness Tolerance (mm):
±0.05

Centering (arcmin):
<1

Clear Aperture CA (mm):
11.00

Edge Thickness ET (mm):
4.12

Optical Properties

Effective Focal Length EFL (mm):
-48.00

Substrate:
N-BK7

f/#:
4

Numerical Aperture NA:
0.13

Coating:
NIR I (600-1050nm)

Wavelength Range (nm):
600 - 1050

Back Focal Length BFL (mm):
-50.31

Coating Specification:
R_{avg} ≤0.5% @ 600 - 1050nm

Focal Length Specification Wavelength (nm):
587.6

Focal Length Tolerance (%):
±1

Radius R_1 (mm):
-24.81

Surface Quality:
40-20

Damage Threshold, By Design:
7 J/cm^2 @ 1064nm, 10ns

Power (P-V) @ 632.8nm:
1.5λ

Irregularity (P-V) @ 632.8nm:
λ/4

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

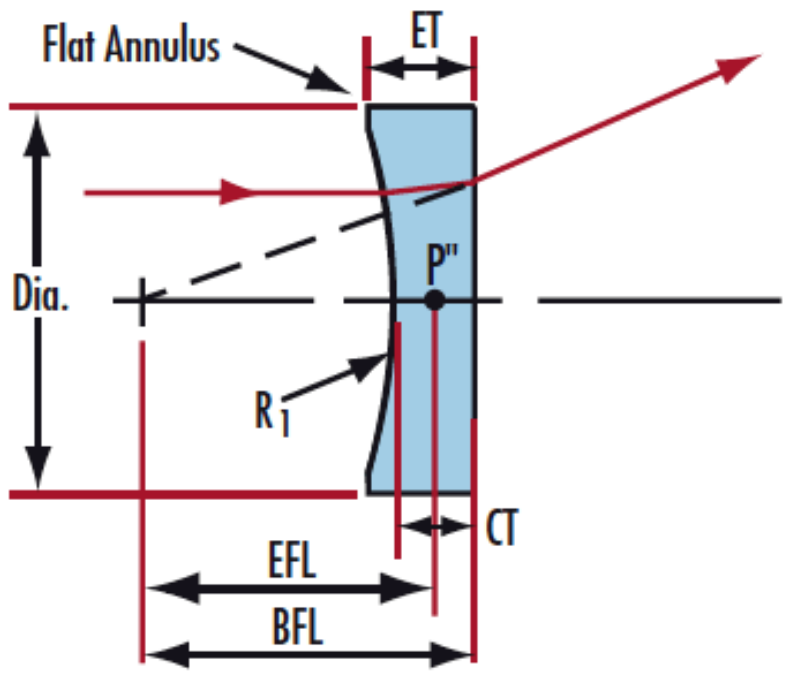
Reach 235:
Compliant

PRODUCT DETAILS

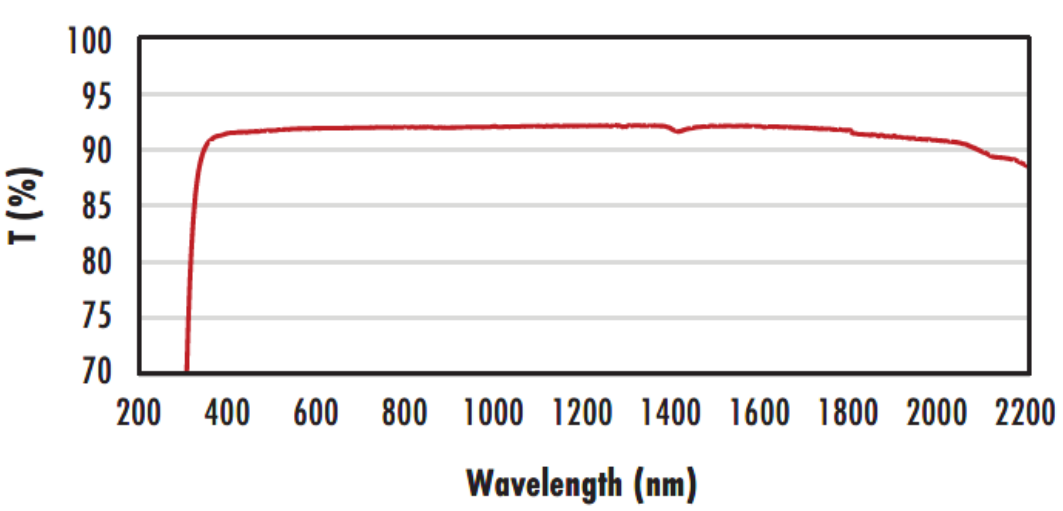
- AR Coated to Provide <0.5% Reflectance per Surface for 600 - 1050nm
- Designed for 0° Angle of Incidence
- Various Coating Options: Uncoated, VIS-EXT, MgF_2, VIS 0°, VIS-NIR, YAG-BBAR, and NIR II

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_2, VIS 0°, VIS-NIR, YAG-BBAR, or with NIR II AR coating options.

TECHNICAL INFORMATION



N-BK7



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

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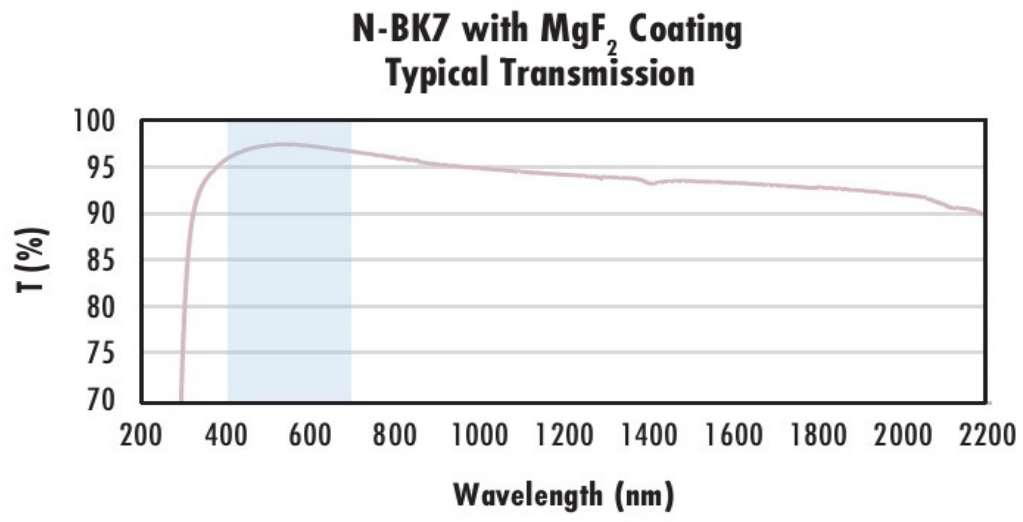

Typical transmission of a 3mm thick N-BK7 window with MgF2 (400-700nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelengh 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.

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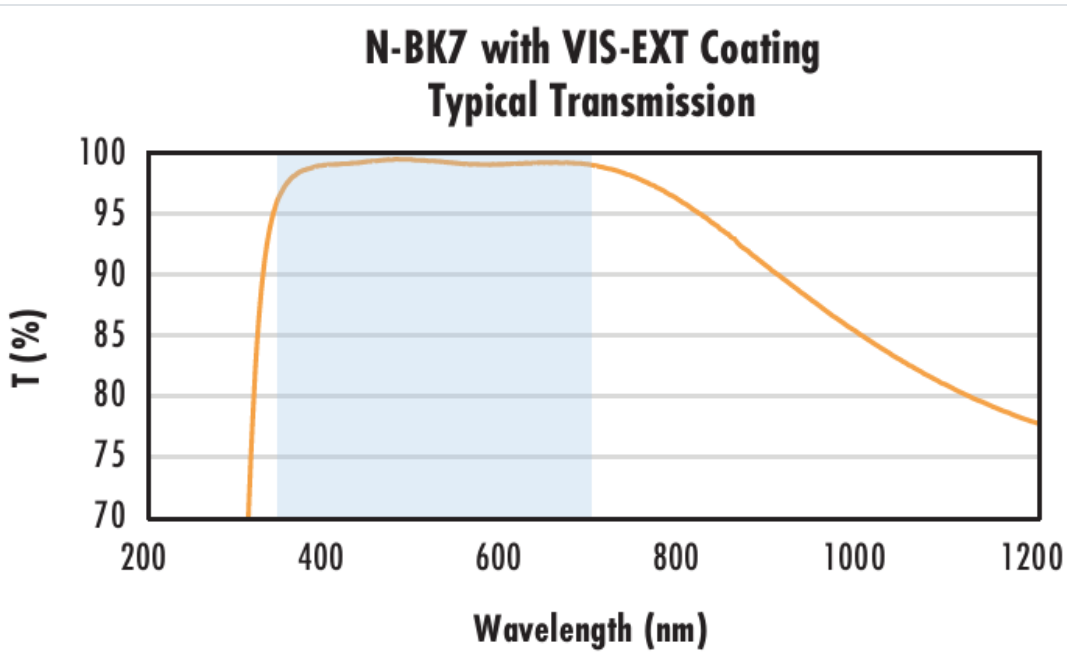

Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.

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

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

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

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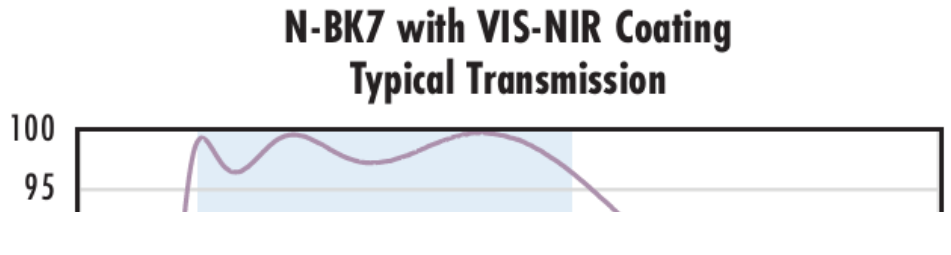
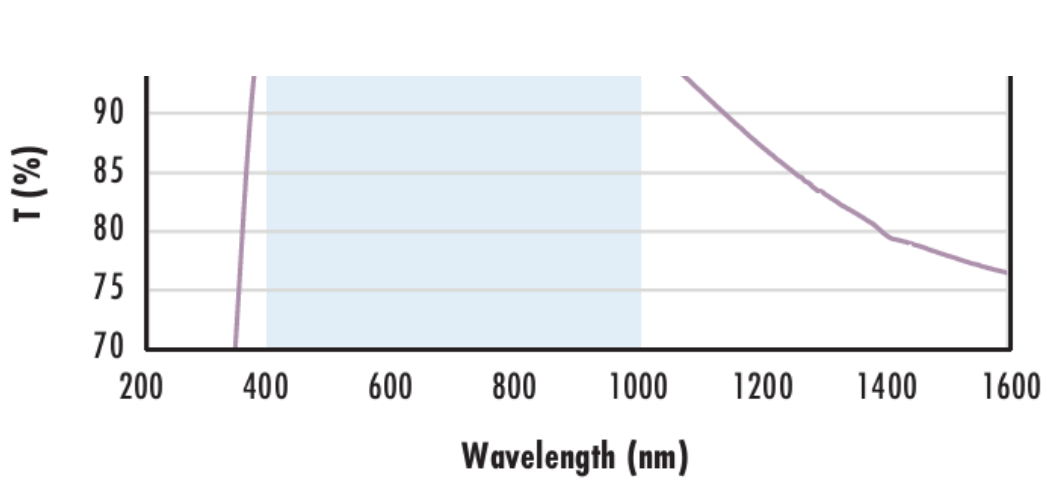


Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelengh



range, with the following specification:

$R_{abs} \leq 0.25\%$ @ 880nm
$R_{avg} \leq 1.25\%$ @ 400 - 870nm
$R_{avg} \leq 1.25\%$ @ 890 - 1000nm

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

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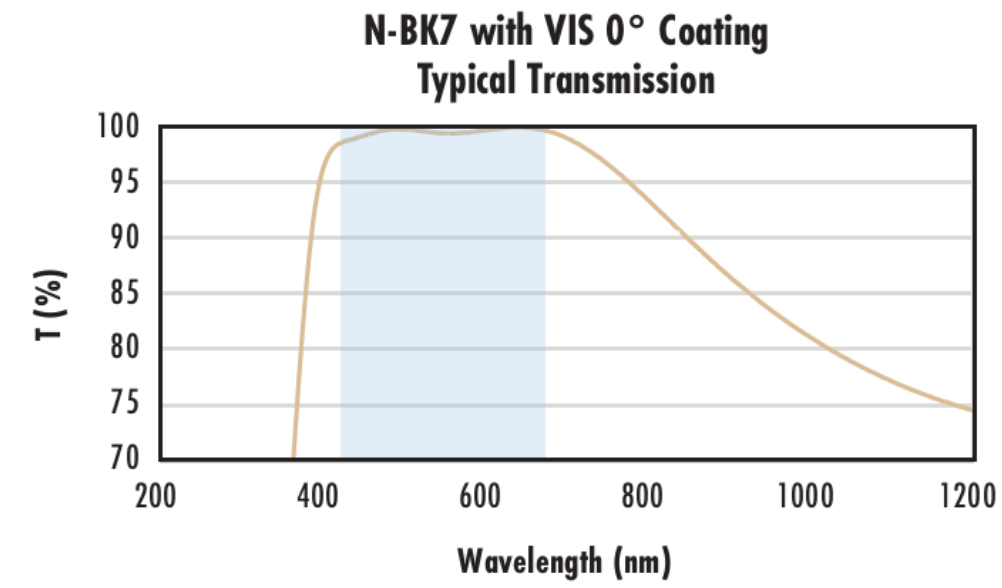

Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelengh 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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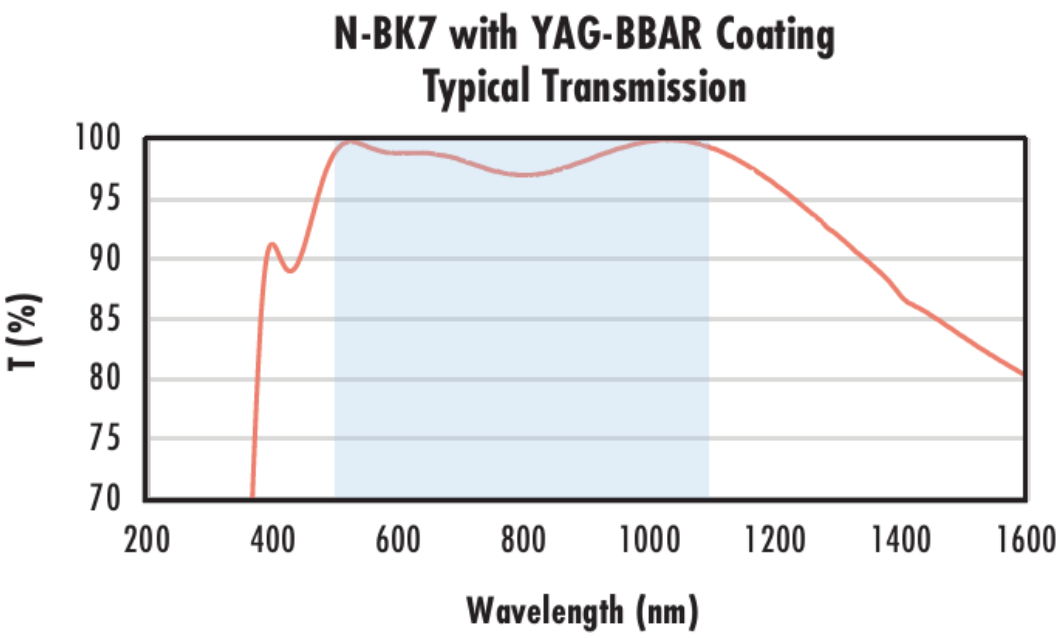

Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelengh 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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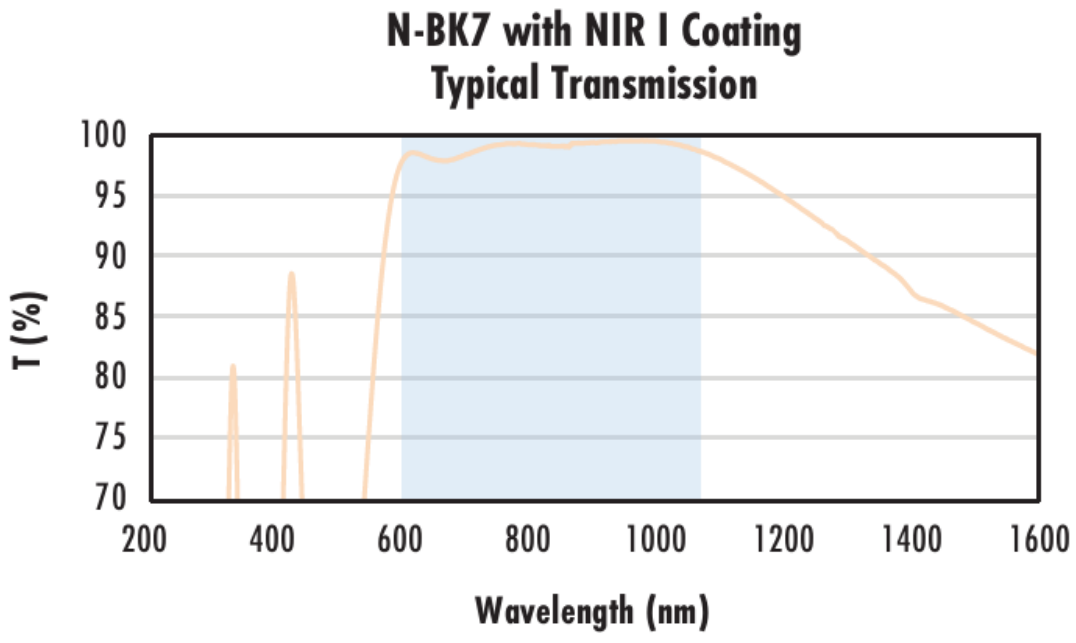

Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelengh 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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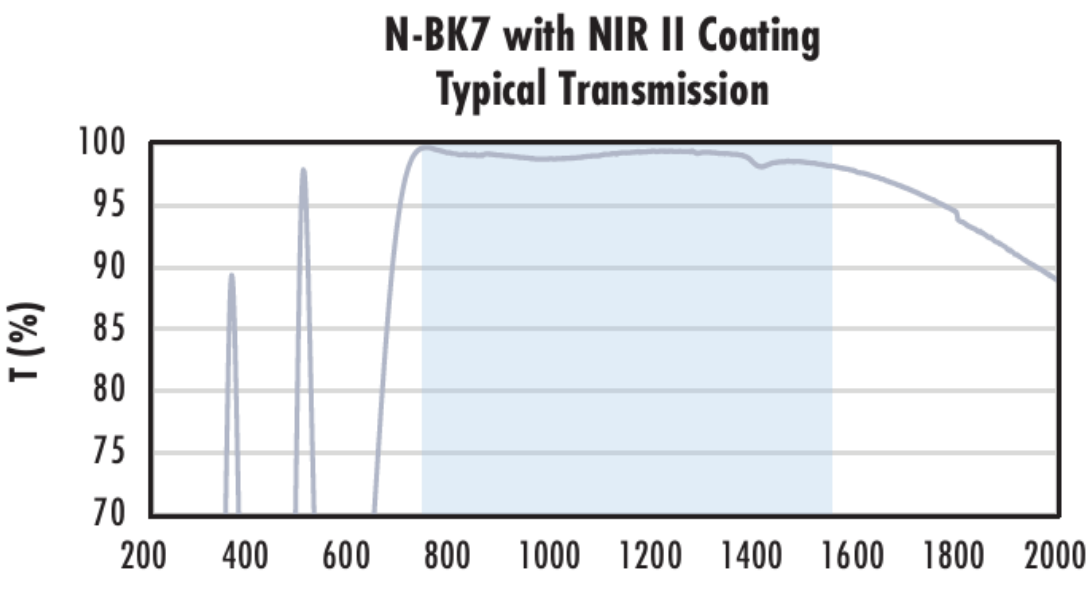

Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelengh 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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Wavelength (nm)

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

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COMPATIBLE MOUNTS