

**TECHSPEC® 15° Beam Dev. 12.5mm Dia. Uncoated, N-BK7 Wedge Prism**Stock #35-742 **17** In Stock   £34<sup>99</sup>**ADD TO CART**

Volume Pricing	
Qty 1-5	£34.60 each
Qty 6-25	£27.60 each
Qty 26-49	£25.80 each
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! Prices shown are exclusive of VAT/local taxes**Product Downloads****SPECIFICATIONS****General****Type:**

Wedge Prism

**Note:**  
Specify this is S1 & S2 power and irregularity, not  
the overall power of the wedge

## Physical & Mechanical Properties

12.50 +0.00/-0.10	<b>Diameter (mm):</b>
1.50	<b>Thickness (mm):</b>
Protective as needed	<b>Bevel:</b>
25° 14'	<b>Wedge Angle (arcmin):</b>

## Optical Properties

±30	<b>Angle Tolerance (arcsec):</b>
Uncoated	<b>Coating:</b>
632.8	<b>Design Wavelength DWL (nm):</b>
N-BK7	<b>Substrate:</b> □
20-10	<b>Surface Quality:</b>
Beam Deviation	<b>Image Orientation:</b>
350 - 2200	<b>Wavelength Range (nm):</b>
0.50	<b>Power (fringes) @ 632.8nm:</b>
0.20	<b>Irregularity (fringes) @ 632.8nm:</b>
15.00	<b>Ray Deviation @ 633nm (°):</b>
26.79	<b>Power (diopters):</b>
25.23°	<b>Wedge Angle (°):</b>

## Material Properties

7.1	<b>Coefficient of Thermal Expansion CTE (<math>10^{-6}/^{\circ}\text{C}</math>):</b>
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## Regulatory Compliance

Compliant	<b>RoHS 2015:</b>
Compliant	<b>Reach 219:</b>
View	<b>Certificate of Conformance:</b>

## PRODUCT DETAILS

- Ideal for Beam Steering
- 0.5° - 15° Beam Deviation Options
- Available Uncoated or Anti-Reflection Coated
- **Anamorphic Prism Pair** Also Available

Wedge prisms can be used individually to deviate a laser beam a set angle, or two wedge prisms can be used together for beam steering applications. A single wedge prism's ability to deviate the angle of an incident beam is measured in Diopters with 1 diopter deviating the beam 1cm at a 1m working distance.

Two wedge prisms can be used as an anamorphic pair for beam shaping (to correct the elliptical shape of diode outputs). Wedge prisms can also be paired to steer a beam anywhere within a circle described by the full angle  $4\theta$ , where  $\theta$  is the deviation from a single prism. This beam steering is accomplished by rotating the two wedge prisms independently of each other and is typically used to scan a beam to different locations in imaging applications.

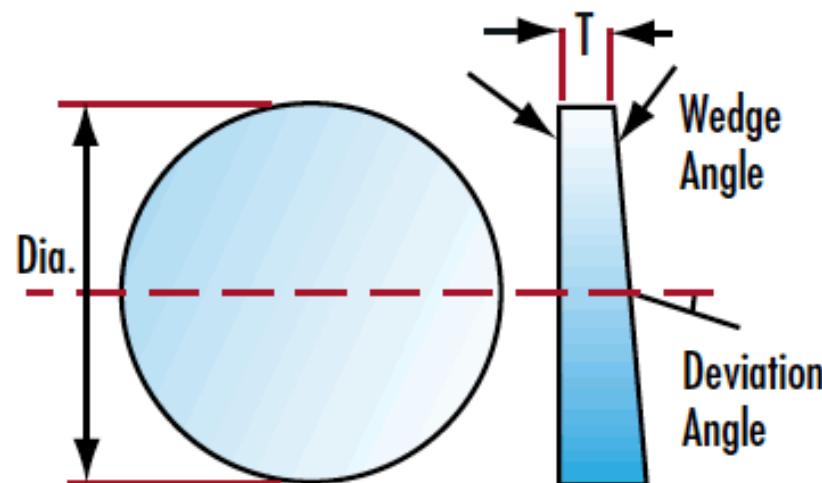
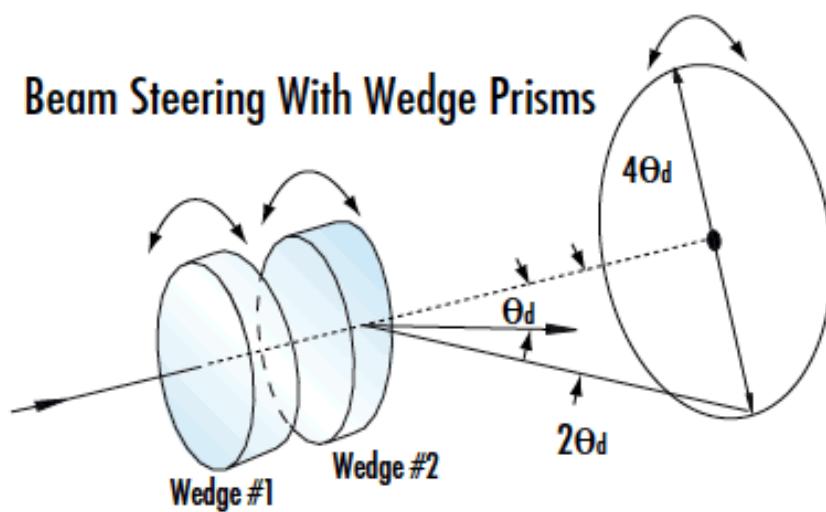
Note: Beam deviation is shown in degrees and diopters. One diopter is 1cm of deviation at a distance of 1m from the prism.

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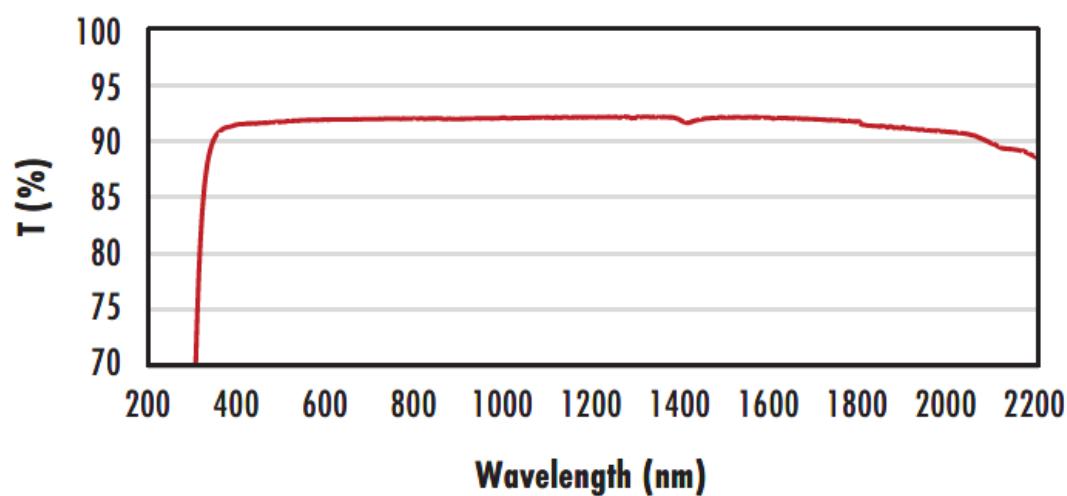
## TECHNICAL INFORMATION

## Beam Steering With Wedge Prisms



N-BK7

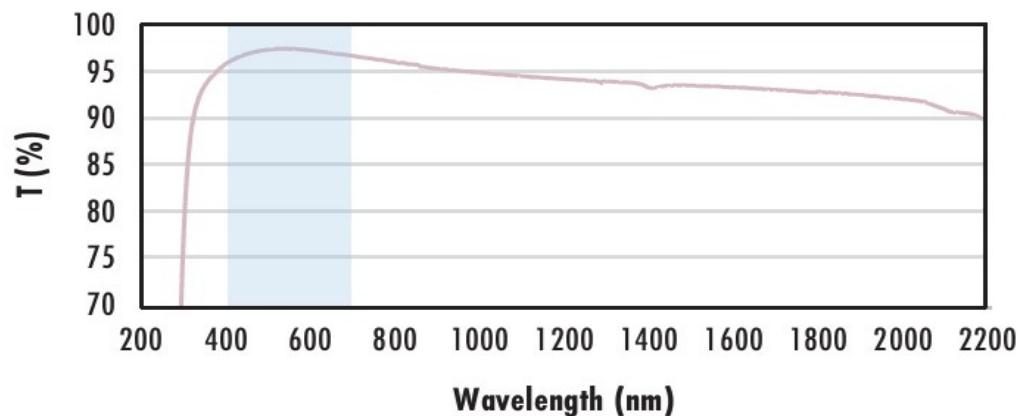
### Uncoated N-BK7 Typical Transmission



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

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### N-BK7 with $\text{MgF}_2$ Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with  $\text{MgF}_2$  (400-700nm) coating at 0° AOI.

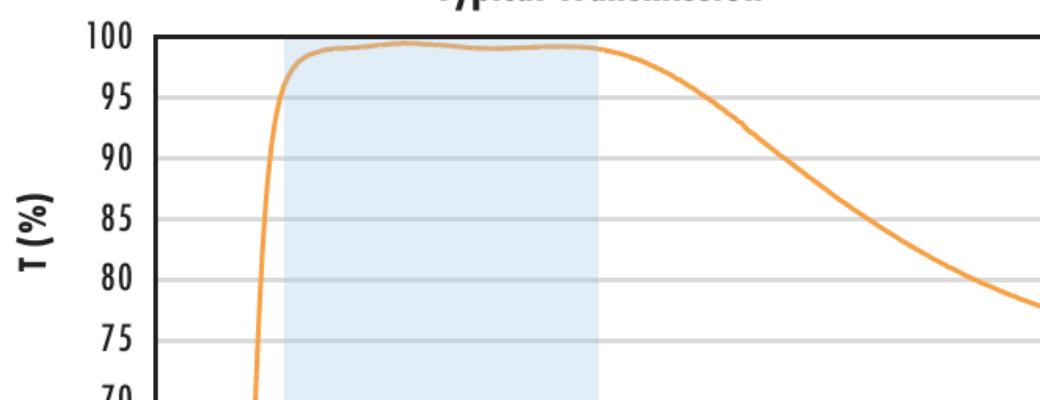
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

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### 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:

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

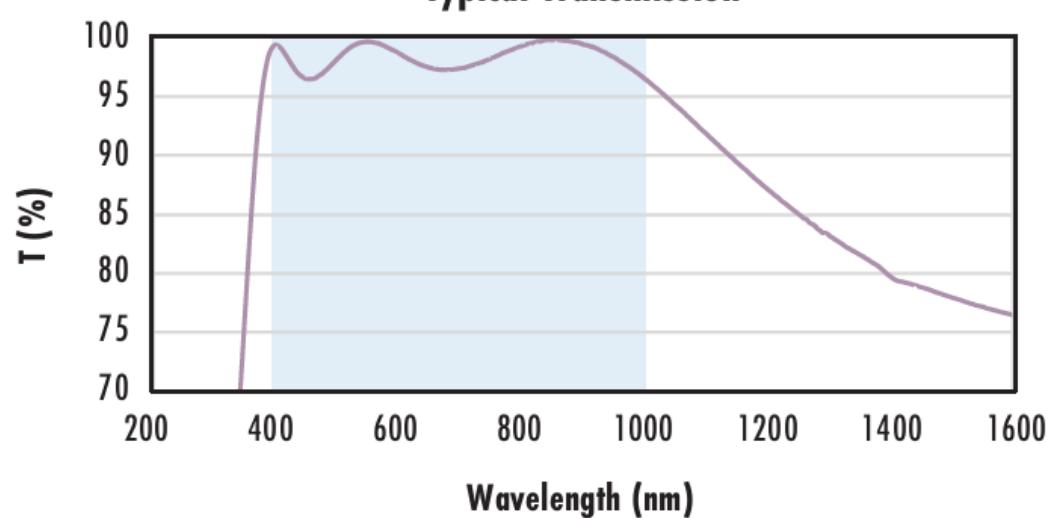
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200 400 600 800 1000 1200

Wavelength (nm)

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



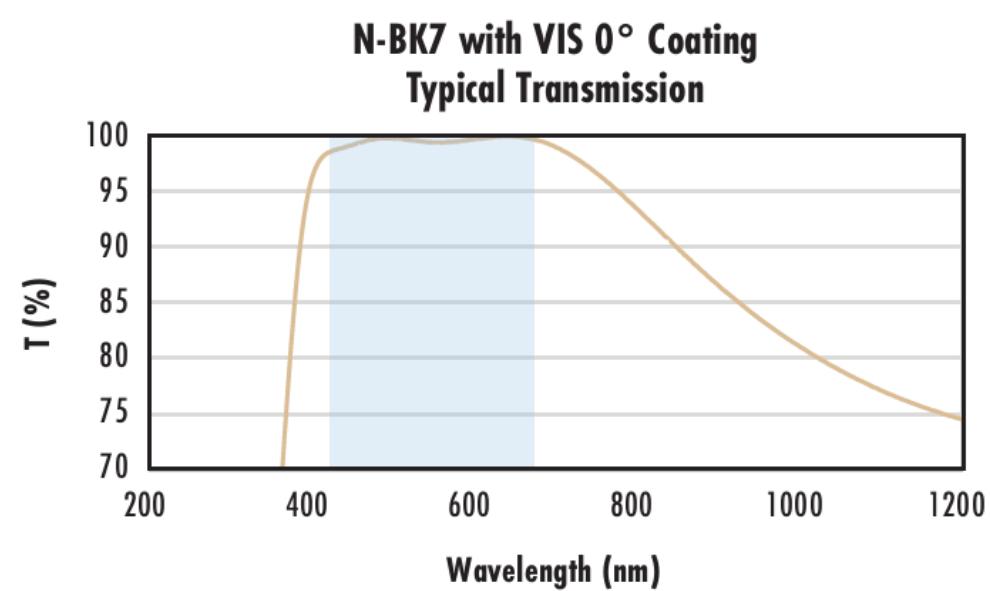
Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

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

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

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

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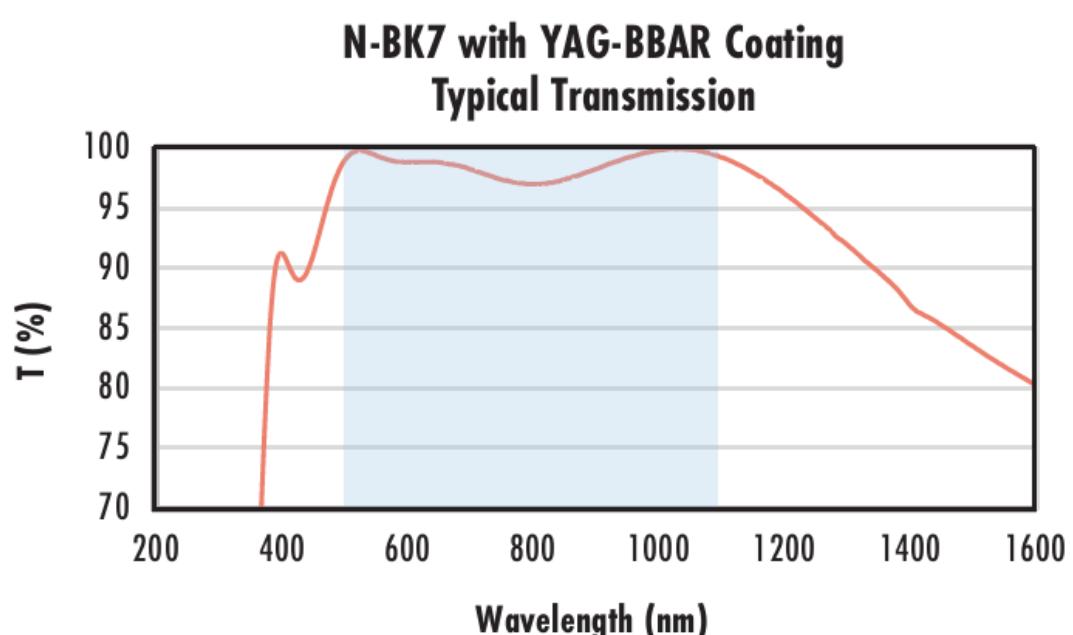
Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

The blue shaded region indicates the coating design 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.

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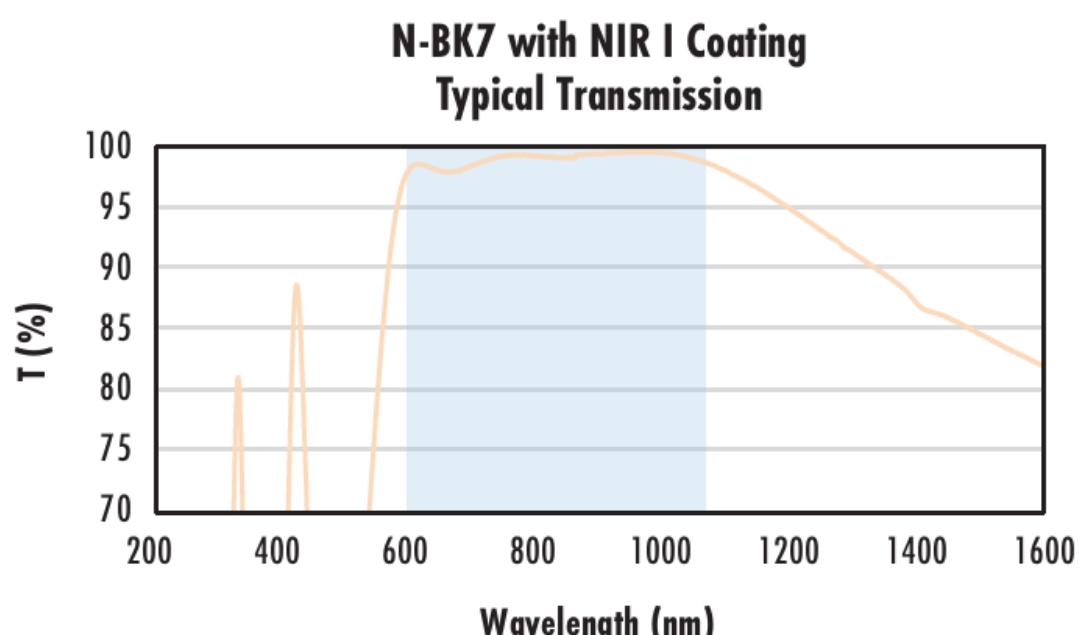
Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

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

$$\begin{aligned} R_{abs} &\leq 0.25\% @ 532\text{nm} \\ R_{abs} &\leq 0.25\% @ 1064\text{nm} \\ R_{avg} &\leq 1.0\% @ 500 - 1100\text{nm} \end{aligned}$$

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

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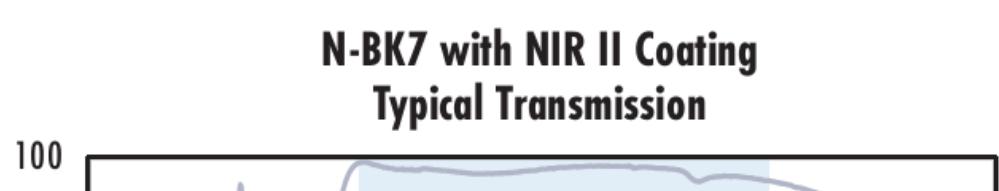
Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

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

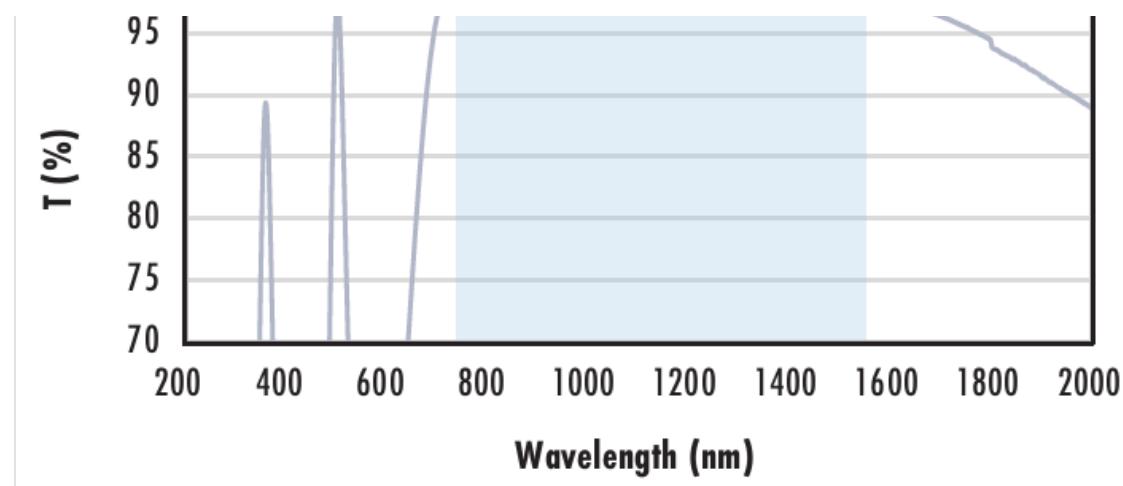
$$R_{avg} \leq 0.5\% @ 600 - 1050\text{nm}$$

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

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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 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.

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## CUSTOM

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Our capabilities include:

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- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

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