Tinsley Custom Optics

Precision Optical Fabrication

Coherent is a world-renowned supplier of custom optical components and assemblies for diverse applications such as silicon annealing, directed energy, and astronomy.

We provide components and subsystems for aspheric lenses, and mirror-based systems.

The technology for creating these high-performance optical surfaces is based on a sophisticated, computer-driven manufacturing, testing and measurement technique called “Computer-Controlled Optical Surfacing” (CCOS).

By pushing optical fabrication and polishing performance to higher levels, we enable customer success in exacting applications. Superior performance and quality is engineered into every product through extensive knowledge and an open, customer-centric collaborative process.

FEATURES & BENEFITS

• Aperture sizes over 1m
• Aspheres, free-forms, cylinders
• Any optical substrate material – aluminum, silicon carbide, low-expansion glass, standard optical glass
• Space qualified coatings including FSS99 (protected silver), FSG98 (protected gold)
• World-class optical testing capabilities

APPLICATIONS

• Space-based Imaging (Satellites)
• Ground-based Telescopes
• Military Identification, Surveillance, and Reconnaissance
• Laser Beam Delivery Systems
• Directed Energy
• Scientific Research

Meter class beryllium mirrors for the James Webb Space Telescope polished by Coherent. Photo Courtesy of NASA.
Tinsley Custom Optics Datasheet

SPECIFICATIONS

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<thead>
<tr>
<th></th>
<th>Glass</th>
<th>Metal</th>
<th>SiC (Si Clad)</th>
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<tbody>
<tr>
<td>Operating Wavelength</td>
<td>UV to IR</td>
<td>UV to IR</td>
<td>UV to IR</td>
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<tr>
<td>Surface Accuracy (nm, RMS)</td>
<td>3</td>
<td>12</td>
<td>3</td>
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<tr>
<td>Surface Roughness (Å, RMS)</td>
<td>5</td>
<td>15</td>
<td>5</td>
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<tr>
<td>Dimensions</td>
<td>15 mm to 1.6m</td>
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SURFACE MAPS

30 inch Aluminum Optic

40x 5A RSP Roughness

4 inch Wedge Ellipse Zerodur

10x 5A Zerodur Glass

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent offers a limited warranty for all Custom Optics. For full details of this warranty coverage, please refer to the Service section at www.coherent.com or contact your local Sales or Service Representative.

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