Company HISTORY

FOUNDED IN 1942 by Norman Edmund

Managed today by
Robert Edmund (CEO & Chairman of the Board)

Family run and privately held

OVER 700 STAFF MEMBERS GLOBALLY:
sales – engineering – manufacturing

Well recognized as WORLD’S LARGEST
INVENTORY OF OFF-THE-SHELF OPTICS

EO MISSION STATEMENT:
BUILDING A GLOBAL NETWORK OF OPTICAL EXPERTISE
AND OPTICAL PRODUCTS IN SERVICE TO OUR CUSTOMERS.

World’s LARGEST INVENTORY of Optical Components

Edmund Optics® is a PHOTONICS and IMAGING company that manufactures and supplies industries around the globe with precision optical components and subassemblies. You know our catalog, which contains over 28,900 unique products, but that is just the beginning of the services EO offers.

“We have more of the products we use daily.”
-Optics Purchaser, Readex Research Survey

We DESIGN. We MANUFACTURE. We DELIVER.
Why EDMUND OPTICS®?

RELIABILITY
We process and ship **95% of orders the same day**. With over **75 years in business**, EO’s promise to customers is

MORE OPTICS, MORE TECHNOLOGY, 
AND MORE SERVICE.

QUALITY
- ISO 9001 Certified and MIL-SPEC quality systems
- Complete testing and metrology services

CAPABILITIES AND SERVICE
- Global optical manufacturing
- Free global technical support, applications engineering, and design assistance – available in 7 languages
- Over 28,900 unique optical components available for next day delivery

#1 PREFERRED SUPPLIER
of optical components 9 years in a row.

From industry-leading customer service to real-world technical support, Edmund Optics® is dedicated to serving your needs and making your next project a success.

“A wide variety of stock components are available for overnight delivery. Custom components are available; however, I always find what I need from their stock.”

-Optics Purchaser, Readex Research Survey
GLOBAL SALES, DESIGN, & MANUFACTURING

With over 193,000 sq. ft. (17,900 m²) of manufacturing space and two world-class design centers, Edmund Optics® is ready to take your next project from design to prototype to volume production.

ARIZONA, USA
CALIFORNIA, USA
NEW JERSEY, USA
SINGAPORE
SHENZHEN, CHINA
AKITA, JAPAN

- **Silicon Valley Office** housing business development, sales, and applications engineering dedicated to servicing the unique needs of the Silicon Valley region
- On-site lab for testing and system development
- Classroom for hosting regularly scheduled training courses

- **Tucson Design and Sales Center** specializing in customer focused applications engineering
- Coordinates with sales and manufacturing to ensure design solutions meet customer manufacturability, cost, and performance requirements
- Over 30 years design experience in the UV - LWIR wavebands
- Emphasis in optical design engineering techniques for imaging and sighting optics assemblies
- Product development of EO Designed and Manufactured TECHSPEC® components

- **Headquarters** 120,000 sq. ft. (11,148 m²); 20,000 sq. ft. (1,858 m²) of dedicated manufacturing space
- High precision optomechanical and imaging assemblies
- 7 Laminar flow assembly workstations
- MRF super finishing for prisms and aspheres
- On-site lab, including MTF, interferometry, spectrophotometry, profilometry, and environmental testing
- ISO 9001 certified and ITAR compliant
- Expanded facility with 77,000 sq. ft. (7,150 m²) of manufacturing, coating, and assembly space
- Custom prism manufacturing with angle tolerances down to 1 arcsec
- State-of-the-art machined asphere cell
- 8 coating chambers for anti-reflection, mirror, beamsplitter, and filter coatings
- Double-sided flat polishing to ½λ, for windows, mirrors, filters, and other coating substrates
- Highly vertically integrated for OEM production
- On-site assembly and testing, including interferometry and spectrophotometry
- ISO 9001 certified and ITAR compliant

- 16,140 sq. ft. (1,500 m²) facility
- Class 10,000 clean room
- Class 100 Laminar flow booths
- Optical and mechanical design, prototyping, and testing capability
- High volume assembly of optomechanical and imaging assemblies
- On-site testing equipment, including MTF and interferometry
- On-site design services supporting assembly, manufacturing, and product development of EO Designed and Manufactured TECHSPEC® imaging lenses
- ISO 9001 certified

- 80,000 sq. ft. (7,432 m²) of manufacturing space
- High precision spherical optics from 5 - 100mm diameter
- State-of-the-art coating chambers for multi-layer and dielectric thin film coatings
- Dedicated workstations for cementing spherical lens doublets and triplets
- Class 10,000 clean rooms and Class 100 Laminar flow booths
- On-site assembly and testing including, interferometry and spectrophotometry
- Over 50 years of experience in spherical optics fabrication
Global QUALITY PROGRAMS

• Commitment to Continuous Improvement
• Robust Global Compliance Systems
• Thorough Preventive and Corrective Action Procedures

Edmund Optics® maintains state-of-the-art quality control equipment and procedures to meet customer and regulatory requirements globally. Our tools, techniques, policies, and technology are continuously improved to meet a wide range of customer application requirements. EO’s global compliance team ensures all procedures are reviewed and followed for maximum efficiency. We work to continually improve the effectiveness of the quality management system through the use of quality policy, quality objectives, audit results, analysis of data, corrective actions, preventive actions, and annual customer surveys.

QUALITY STANDARDS

• ISO 9001:2008
• ISO 14001
• ANSI / ASME Y14.5
• ISO 10110
• MIL-C-48497A
• MIL-STD-810
• MIL-PRF-13830B
• MIL-C-675C
• Fully ITAR Compliant Factories
State-of-the-Art METROLOGY

Edmund Optics® is fully equipped to measure specified optical and optomechanical parameters with state-of-the-art testing and metrology. We utilize industry proven methods for improvement and troubleshooting to ensure maximum quality throughout all aspects of the production cycle. Our staff of skilled manufacturing and test engineers design and implement systems used to ensure each product fully meets all performance requirements.

EO DESIGNED TESTING EQUIPMENT

- MTF, CTF Test Beds
- Depth of Field
- Prism Geometry
- Contrast & Distortion
- Telecentricity
- Lateral Color Shift

ENVIRONMENTAL TESTING CAPABILITIES

- Temperature Cycling
- Salt Fog / Spray
- Shock
- Vibration
- Humidity
- Immersion

Varian Spectrophotometer

Zygo® NewView™

Taylor Hobson® Profilometer
SPHERICAL Lenses

- 5,900+ Stock Spherical Lenses Ready for Purchase
- Available in Glass and Crystalline Materials with a Variety of Standard and Custom Coatings
- Stock or Custom, from Design to Prototype to Volume Production

Edmund Optics® designs and manufactures stock and custom spherical optics to suit any application. From singlet and doublet optical lenses to ball lenses and condenser lenses, we have spherical optics to meet your needs. Contact us today to speak with an expert!

<table>
<thead>
<tr>
<th>SPHERICAL MANUFACTURING CAPABILITIES</th>
<th>Commercial</th>
<th>Precision</th>
<th>High Precision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>4 - 200mm</td>
<td>4 - 200mm</td>
<td>4 - 200mm</td>
</tr>
<tr>
<td>Diameter Tolerance</td>
<td>+0/-0.100mm</td>
<td>+0/-0.025mm</td>
<td>+0/-0.010mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>±0.100mm</td>
<td>±0.050mm</td>
<td>±0.010mm</td>
</tr>
<tr>
<td>Surface Sag</td>
<td>±0.050mm</td>
<td>±0.025mm</td>
<td>±0.010mm</td>
</tr>
<tr>
<td>Clear Aperture</td>
<td>80%</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td>Radius</td>
<td>±0.3%</td>
<td>±0.1%</td>
<td>Fix to Test Plate</td>
</tr>
<tr>
<td>Power (P - V)</td>
<td>3.0x</td>
<td>1.5x</td>
<td>≥/2</td>
</tr>
<tr>
<td>Irregularity (P - V)</td>
<td>1.0x</td>
<td>≥/4</td>
<td>≥/20</td>
</tr>
<tr>
<td>Centering (Beam Deviation)</td>
<td>3 arcmin</td>
<td>1 arcmin</td>
<td>0.5 arcmin</td>
</tr>
<tr>
<td>Bevel (Face width @45 degrees)</td>
<td>&lt;1.0mm</td>
<td>&lt;0.5mm</td>
<td>&lt;0.25mm</td>
</tr>
<tr>
<td>Surface Quality</td>
<td>80-50</td>
<td>40-20</td>
<td>10-5</td>
</tr>
</tbody>
</table>

STOCK OPTICS
Customized in 2-3 Weeks
- 24 Hour Quote Response
- 19,400 Unique Optics
- From Design to Prototype to Volume Production – We make it easy!

For a COMPLETE LISTING OF OUR SPHERICAL LENSES, visit www.edmundoptics.com/lenses
ASPHERIC Lenses

- 450+ Stock Aspheric Lenses Ready for Purchase
- Optical Glass, Plastic, Fused Silica, Germanium, Zinc Selenide, and Chalcogenide Substrates
- Stock or Custom, from Design to Prototype to Volume Production

Whether your need is for an aspheric lens in glass, plastic, or infrared crystalline material, with low-cost or high performance specifications, for either monochromatic or broadband illumination, Edmund Optics® has an aspheric lens to meet your needs. Explore our aspheric capabilities, state-of-the-art equipment, and most innovative aspheric product families. Whether you need just a few aspheric lenses for prototype, a few dozen for pre-production, or a large volume for full production, Edmund Optics® ensures your project is successful.

<table>
<thead>
<tr>
<th>ASPHERE MANUFACTURINO CAPABILITIES</th>
<th>Commercial</th>
<th>Precision</th>
<th>High Precision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>10 - 150mm</td>
<td>10 - 150mm</td>
<td>10 - 150mm</td>
</tr>
<tr>
<td>Diameter Tolerance</td>
<td>+0/-0.100mm</td>
<td>+0/-0.025</td>
<td>+0/-0.010</td>
</tr>
<tr>
<td>Asphere Figure Error (P - V)</td>
<td>5μm</td>
<td>0.632 - 1.5μm</td>
<td>&lt;0.312μm</td>
</tr>
<tr>
<td>Vertex Radius (Asphere)</td>
<td>±1%</td>
<td>±0.1%</td>
<td>±0.05%</td>
</tr>
<tr>
<td>Radius (Spherical)</td>
<td>±0.3%</td>
<td>±0.1%</td>
<td>±0.025%</td>
</tr>
<tr>
<td>Power (Spherical)</td>
<td>2λ</td>
<td>λ/2</td>
<td>λ/10</td>
</tr>
<tr>
<td>Irregularity (Spherical)</td>
<td>λ/2</td>
<td>λ/4</td>
<td>λ/20</td>
</tr>
<tr>
<td>Sag</td>
<td>25mm max</td>
<td>25mm max</td>
<td>25mm max</td>
</tr>
<tr>
<td>Typical Slope Tolerance</td>
<td>1μm/mm</td>
<td>0.35μm/mm</td>
<td>0.15μm/mm</td>
</tr>
<tr>
<td>Centering (Beam Deviation)</td>
<td>3 arcmin</td>
<td>1 arcmin</td>
<td>0.5 arcmin</td>
</tr>
<tr>
<td>Center Thickness Tolerance</td>
<td>±0.100mm</td>
<td>±0.050mm</td>
<td>±0.010mm</td>
</tr>
<tr>
<td>Surface Quality (Scratch Dig)</td>
<td>80-50</td>
<td>40-20</td>
<td>10-5</td>
</tr>
<tr>
<td>Aspheric Surface Metrology</td>
<td>Profilometry</td>
<td>Profilometry</td>
<td>Profilometry</td>
</tr>
</tbody>
</table>

For a COMPLETE LISTING OF OUR ASPHERES, visit www.edmundoptics.com/aspheres
Edmund Optics® designs and manufactures stock and custom optical prisms and windows to suit any application. Whether you need a prism for image displacement, laser beam steering, or dispersion, we have an optical component to meet your needs. Windows are available in sizes ranging from 3 - 500mm and thickness starting at 0.2mm. Our fully integrated optical manufacturing enables mid- and high-volume production. Need to speak with an expert? Interested in a free quote? Contact us today!

PRISMS & FLATWORK

- Prisms in Any Geometry
- Windows in All Optical Glass Types
- Stock or Custom, from Design to Prototype to Volume Production

Edmund Optics® designs and manufactures stock and custom optical prisms and windows to suit any application. Whether you need a prism for image displacement, laser beam steering, or dispersion, we have an optical component to meet your needs. Windows are available in sizes ranging from 3 - 500mm and thickness starting at 0.2mm. Our fully integrated optical manufacturing enables mid- and high-volume production. Need to speak with an expert? Interested in a free quote? Contact us today!

For a COMPLETE LISTING OF OUR PRISMS, visit www.edmundoptics.com/prisms
FILTERS & COATINGS

- Durable, Hard Coated, Single Substrate Filters
- High Transmission, Deep Blocking, Steep Slopes
- Custom Designs – UV; Visible; & Near, Mid-Wave, & Long-Wave IR

COATING TYPES

- Laser Line Mirrors
- Fluorescence Filters
- Dichroic Filters
- Narrow Bandpass Filters
- Multi-Bandpass Filters
- Notch Filters
- Edge Filters (SWP and LWP)
- Polarizing Beamsplitters
- Non-Polarizing Beamsplitters
- High Damage Threshold
- Metal Mirror
- Transparent Conductive ITO
- Broadband or Laser Line AR

PROCESS CAPABILITY

- Ion Assisted Deposition
- Magnetron Sputtering
- Hard Coatings to Meet Stringent Environmental and Durability Requirements

FILTER COATING CAPABILITIES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (Diameter or Square)</td>
<td>2 - 1000mm</td>
</tr>
<tr>
<td>Substrates</td>
<td>All Glass Types</td>
</tr>
<tr>
<td>Spectral Ranges</td>
<td>193nm - 14μm</td>
</tr>
<tr>
<td>Edge Steepness (T50% to OD&gt;4)</td>
<td>&lt;0.5%</td>
</tr>
<tr>
<td>Spectral Edge Tolerance</td>
<td>&lt;1% Deviation, &lt;0.2% Special Cases</td>
</tr>
<tr>
<td>Blocking</td>
<td>&gt;OD 7, Measured</td>
</tr>
<tr>
<td>Neutral Density Tolerance</td>
<td>±0.5%</td>
</tr>
<tr>
<td>CWL</td>
<td>±1nm</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>1nm - Broadband</td>
</tr>
<tr>
<td>Transmission</td>
<td>&gt;95%, Typical</td>
</tr>
<tr>
<td>Reflection</td>
<td>0.1 - 99.95%</td>
</tr>
<tr>
<td>Polarization (S:P)</td>
<td>10,000:1</td>
</tr>
<tr>
<td>Laser Damage Threshold</td>
<td>Up to 20 J/cm² @ 20ns Pulses</td>
</tr>
<tr>
<td>Durability</td>
<td>MIL-STD-810F, Section 507.4, MIL-C-48497A, Section 3.4.1</td>
</tr>
<tr>
<td>Parallelism</td>
<td>1 arcsec</td>
</tr>
<tr>
<td>Surface Quality</td>
<td>20-10</td>
</tr>
</tbody>
</table>

For a COMPLETE LISTING OF OUR FILTERS, visit www.edmundoptics.com/filters
IMAGING Lenses

- Over 800 Imaging Lenses In Stock and Available Now
- Covering Sensors up to 90mm
- Cost Effective Solutions for Prototype and Volume Production

Edmund Optics® prides itself on understanding how customers need to implement imaging technology in their applications. This knowledge allows us to quickly deploy the right option from our off-the-shelf products or a custom designed solution to meet your specific requirement. Our global network of engineers evaluates each design with knowledge of manufacturing, tolerancing, and integration. In addition to a team of dedicated imaging solution support engineers, EO Designed TECHSPEC® imaging lenses are fully supported by downloadable 3D models, datasheets, and drawings.

<table>
<thead>
<tr>
<th>EO DESIGNED IMAGING LENSES</th>
<th>Fixed Focal Length Lenses</th>
<th>Telecentric Measuring Lenses</th>
<th>Fixed Magnification Lenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor Sizes</td>
<td>up to 43.3mm</td>
<td>up to 30mm</td>
<td>up to 90mm</td>
</tr>
<tr>
<td>Resolution</td>
<td>up to 29 Megapixel</td>
<td>up to 5 Megapixel</td>
<td>up to 12k Line Scan</td>
</tr>
<tr>
<td>Lens Mounts</td>
<td>C-Mount, F-Mount, S-Mount, M42</td>
<td>C-Mount, F-Mount, M42</td>
<td>C-Mount, F-Mount, M42, M72</td>
</tr>
<tr>
<td>Number of Options</td>
<td>110+</td>
<td>70+</td>
<td>65+</td>
</tr>
<tr>
<td>Modifications Available</td>
<td>Focal Length, Housing, f/#, Coating</td>
<td>Magnification, Housing, f/#, In-line Illumination, Working Distance</td>
<td>Magnification, Housing</td>
</tr>
<tr>
<td>Custom Design Capabilities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

For a COMPLETE LISTING OF OUR IMAGING LENSES, visit www.edmundoptics.com/imaging
IMAGING Solutions

- Supporting Applications Across a Wide Variety of Markets
- Extensive Network of Vision Integration Partners (VIPs) for On-site Integration
- Complete Offering of Components to Develop Complex Imaging Systems

Supporting the semiconductor, electronics, automation, advanced medical diagnostics, assembly, and manufacturing markets across the globe, Edmund Optics’ machine vision solutions have been used in a variety applications including food, automotive, and pharmaceutical inspection. EO’s vast offering of machine vision lenses, illumination sources, and cameras offer a dynamic choice of solutions for any application. For customers looking for on-site integration, EO offers a select network of Vision Integration Partners who facilitate system setup.

APPLICATIONS
Factory Automation
Gauging & Metrology
OCR & OCV
Web Inspection
In-line Inspection
Bar Code & Data Matrix
Color Measurement & Sorting
Quality Control Analysis

PRODUCT EXPERTISE
Imaging Optics
Illumination
Cameras
Hardware & Software
Filters
Mounting & Fixturing

To LEARN MORE ABOUT OUR IMAGING SOLUTIONS, visit www.edmundoptics.com/vip
Edmund Optics® manufactures products for a variety of markets. This diversity allows for innovation across markets with regards to design, development, and testing. Our team of global engineers is uniquely qualified to offer a number of application-oriented services and provide optimum solutions to any optical challenge.

ADVANCED DIAGNOSTICS & LIFE SCIENCES
IMAGING, INSPECTION, & MACHINE VISION
RESEARCH & DEVELOPMENT
AEROSPACE & DEFENSE
SEMICONDUCTOR / INSPECTION EQUIPMENT

IMAGING AND MACHINE VISION
• Advanced Diagnostics
• Machine Vision & Inspection
• Industrial Metrology
• Barcode Scanning
• Pharmaceutical Imaging
• Security & Surveillance

ADVANCED DIAGNOSTICS
• Brain, Blood, Eye, and More
• Bio-Imaging & Microscopy
• Genomics
• Spectroscopy
• Ophthalmology
• Medical Lasers

To LEARN MORE ABOUT THE MARKETS WE SERVE, visit www.edmundoptics.com/applications
ENGINEERING SUPPORT...We Make Integration Easy!

FREE TECHNICAL SUPPORT
• 24 Hour Engineering Assistance
• Online Chat
• Over 37,000 Data Sheets, Zemax Files, Autocad Files, Filter Curves, and More
• Extensive Technical Library Includes Online Videos, Application Notes, Product Selection Tools, and Calculators

“EO’s website is one of the easiest websites to use! Makes my job easier.”
-Procurement Manager (Knoxville, TN)

We Speak YOUR LANGUAGE

English Español 日本語
Français Deutsch 한국어 中文
SALES offices

US HEADQUARTERS
EDMUND OPTICS®
101 East Gloucester Pike
Barrington, NJ 08007 USA
Phone: 1-856-547-3488
Toll-Free: 1-800-363-1992
Fax: 1-856-573-6295
E-mail: sales@edmundoptics.com

TUCSON
DESIGN CENTER / SALES
6274 East Grant Road
Tucson, AZ 85715 USA
Phone: 1-520-574-2572
Fax: 1-520-574-2683
E-mail: tucson@edmundoptics.com

EDMUND OPTICS
SILICON VALLEY / SALES
20380 Town Center Lane
Suite 172
Cupertino, CA, 95014 USA
E-mail: visionsupport@edmundoptics.com

EDMUND OPTICS SARL
Phone: +33 (0)2 20 20 75 55
Fax: +33 (0)820 206 303
E-mail: sales@edmundoptics.fr

EDMUND OPTICS FINLAND
Phone: +358 (0)9 751 99 000
Fax: +44 (0)1904 788 610
E-mail: sales@edmundoptics.eu

EDMUND OPTICS CHINA
5th Floor, Block 3
Luck-King Scientific & Industrial Park
Industry East Road
Longhua, Shenzhen 518109
Phone: +86 0755 2967 5435
Fax: +86 0755 2967 5436
E-mail: chinасаlus@edmundoptics.cn

EDMUND OPTICS JAPAN LTD.
4F Pacific Square Sengoku,
2-29-24, Honkomagome,
Bunkyo-ku
Tokyo, Japan 113-0021
Phone: +81-3-3944-6210
Fax: +81-3-3944-6211
E-mail: sales@edmundoptics.jp

EDMUND OPTICS KOREA LTD.
#606, Taeyang Bld. 22
Yeouidaebang-ro 67-gil
Yeongdeungpo-gu
Seoul, Korea
Phone: +82-2-769-4600
Fax: +82-2-6677-9221
E-mail: krsales@edmundoptics.co.kr

EDMUND OPTICS SINGAPORE PTE. LTD.
18 Woodlands Loop #04-00
Singapore 738100
Phone: +65 6273 6644
Fax: +65 6272 1763
E-mail: SGSales@edmundoptics.com.sg

BRAZIL REPRESENTATIVE
CIDEPE
Phone: +55 51 3477 4909
Fax: +55 51 3075 9500
E-mail: cidepe@cidepe.com.br

ISRAEL REPRESENTATIVE
Prolog Optics
Phone: +972-(0)3-5364011
Fax: +972-(0)3-5364012
E-mail: edmundoptics@prologlt.com

INDIA REPRESENTATIVE
Infrared Optics
Phone: +91 129 2222328
Fax: +91 129 2264640
E-mail: info@infraredoptics.in

MEXICO REPRESENTATIVE
Intec Instrumentación S.A. de C.V.
Phone: +52 222 756 2900
Fax: +52 222 231 5166
E-mail: ventas@intecssa.com.mx

POLAND REPRESENTATIVE
Spectropol
Phone: +48 2261676 17
Fax: +48 2261676 97
E-mail: biuro@spectropol.pl