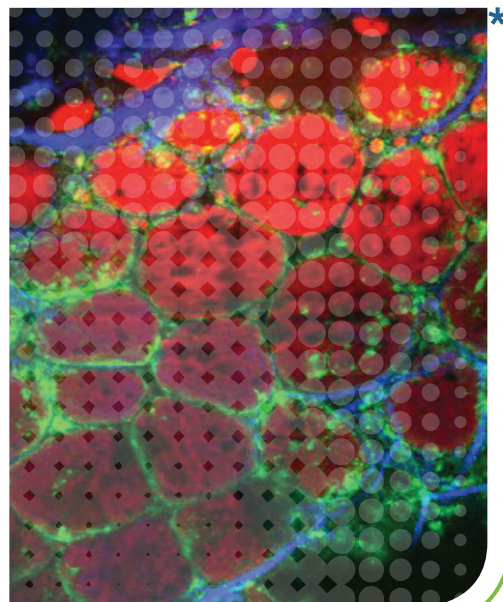
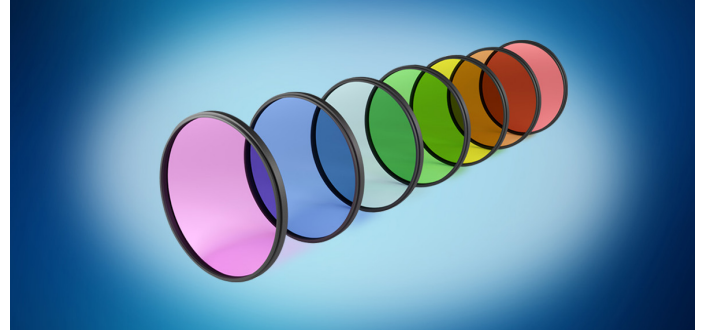


NEWPORT ODiate™ HIGH-PERFORMANCE OPTICAL FILTER COATINGS





REDEFINING OPTICAL COATING PERFORMANCE

At MKS, we are committed to constant innovation. Using our novel thin-film deposition processes, we have expanded our capabilities to deliver the most challenging optical filter coatings. Alongside best-in-class optical performance, our ODiate optical filters are supported by an exceptional worldwide Newport technical team. Discover how ODiate optical coatings can differentiate the performance of your life & health science applications, medical instrumentation, and chemical or material analyses.

With over 55 years of experience developing optical filter solutions, our MKS Newport brand is a world leader in the development of both optical components and integrated optical subsystems. We've invested heavily in our team, metrology, and production capacity to further deliver breakthroughs in our optical filter expertise, enabling us to offer our customers the broadest range of filters delivered to their most demanding requirements.

Industry-Leading Thin Film Expertise

- Industry-leading spectral performance
- Enabling high signal to noise system performance
- Optimized designs for your most complex fluorescence assays
- Tailored wavelengths in high ultraviolet, visible and near infrared bands
- Proprietary dynamic optical monitoring
- Custom metrology to verify OD8 blocking and steep spectral transitions
- Packaged to streamline your manufacturing processes
- High volume production capabilities
- ISO 9001:2015 certified 60,000 ft² manufacturing facility

Newport designs and manufactures a full range of high-performance optical filters:

Bandpass	Notch
Longpass	Dichroic Beamsplitters
Shortpass	Neutral Density

Suited for a range of applications such as:

High Throughput Screening	Molecular Diagnostics
Medical Instrumentation	Raman Imaging
Fluorescence Imaging	Flow Cytometry
PCR Detection	Blood Analysis
Spectroscopy	Laser Systems

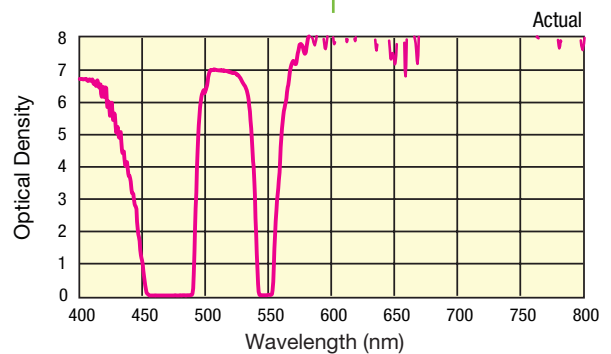
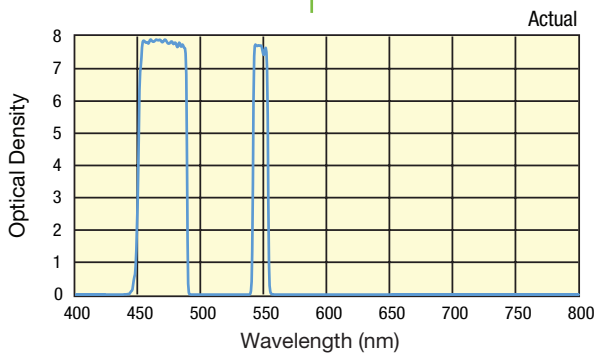
Customized Coatings and Engineering Support

Newport pushes the boundaries with our customers through each step of the process to optimize individual filter as well as full system performance. Our expert engineering team is involved at the first stage of design to ensure that we meet your requirements and continues through the entire process of prototype and production deliveries. Prototype and production manufacturing uses the same platform and processes to ensure a smooth transition from development to instrument release.

ODiate Optical Coating Solutions and Product Examples

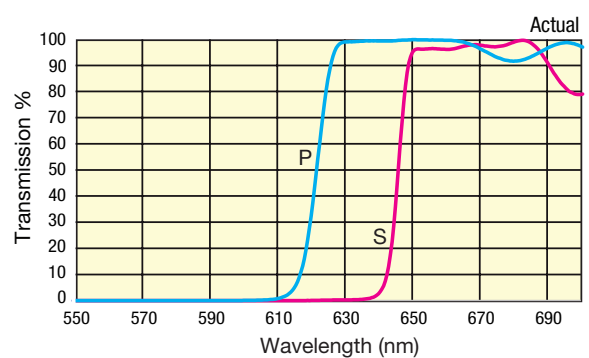
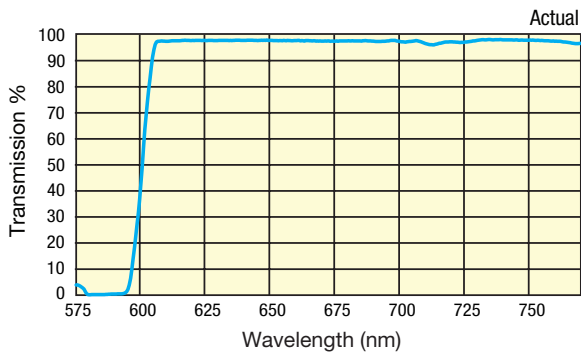
Newport continues to innovate and develop coatings to meet key parameters for systems and instruments. The ODiate platform provides exceptional performance through stable deposition control, real-time monitoring, and consistent coating processes to ensure repeatable filter performance over multiple coating runs and over the life of your instruments. Below are example spectral results showcasing the range of optical filters which can be manufactured to your exacting specifications.

Dual Band Excitation Filter



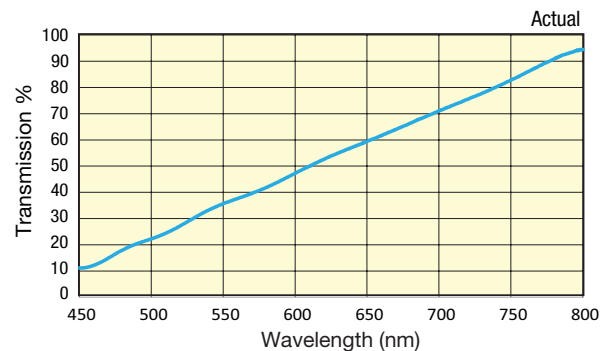
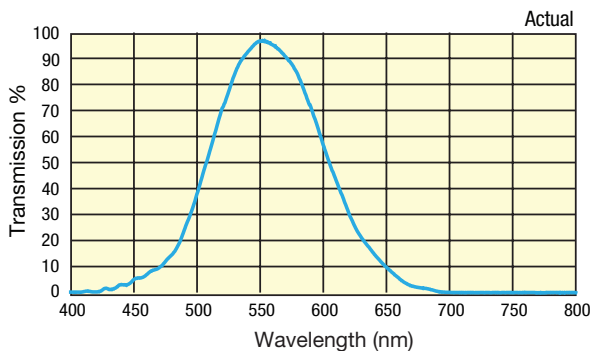
600 nm Dichroic Beamsplitter

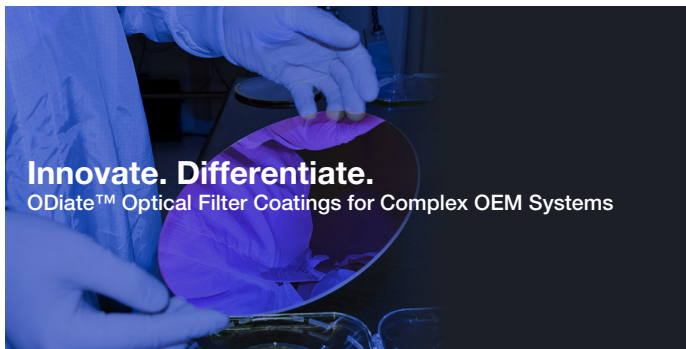
633 nm Polarizing Beamsplitter



Photopic Filter

Linear Shaping Filter





Advanced Metrology and Quality Control Processes

Our coatings are measured utilizing a series of available spectrophotometers from the UV to NIR. Accurately measuring the spectral characteristics of high-performance filters can typically go beyond the capability of commercially available spectrophotometers. To address this, Newport has developed a custom in-house spectrophotometer to ensure that we provide a higher level of accuracy to resolve coating performance for peak transmission accuracy, edge-steepness resolution, and deep blocking to optical density 8.

Volume Manufacturing

Newport designs and fabricates custom optical filters to meet your exacting requirements from prototype to high-volume

production. We pride ourselves in shipping millions of filters per year to support key applications like PCR detection, DNA/RNA sample measurement, and biomedical research.

Environmental Stability and Physical Durability

ODiate deposition coating systems use a dense sputtering process to provide robust environmental reliability to meet the highest demands for thin-film coatings. The resulting highly durable coatings meet or exceed testing procedures including humidity, thermal shock, adhesion, chemical resistance, and moderate abrasion per U.S. Military and international standards.

ODiate Optical Coating Specifications and Capabilities

Attributes	ODiate™
Wavelength Range	360 to 1800 nm
Transmission over λ range/ T_{Peak}	$\geq 93\%$ / $>98\%$
Wavelength Accuracy (of CWL & Edges)	As low as $\pm 0.25\%$
Wideband Blocking	Verifiable to OD6 between 200 to 2500 nm Verifiable to OD8 between 350 to 850 nm
Scatter & Absorption	$<1\%$
Edge Transitions 50%T to OD6 (relative to edge wavelength)	$\geq \approx 0.5\%$ verifiable (steeper by design)
Substrate Materials	Borofloat, Fused Silica, nBK-7, Silicon, and others
Filter Size and Shape	2 to 200 mm, ≤ 6 mm thick
Scratch-Dig	60-40 typical
Environmental Humidity	MIL-STD-810E, Method 507.3, Procedure III

A Single Source for Your Component and Sub-Assembly Needs

Unlike most other optical filter manufacturers, MKS offers a value-added product development service to our OEM customers alongside our expansive Newport component catalog. From initial design through to metrology and testing, we work closely with our partners to develop and deliver innovative and effective optical subsystem solutions, modules and sub-assemblies.

Experience the MKS-Newport Advantage



A Proven Track Record of Quality

We attribute our long-running success to a continual emphasis on innovation, investments in people and technology, and the formation of strong, long-lasting relationships with our customers. Over the years, we have continually expanded our capabilities to incorporate a wide range of specialties in technical design, modeling, manufacturing and metrology. Today, our breadth of experience enables us to offer a wider range of solutions to every Newport customer.

Our ODiate thin film coating platform adds a new capability to the Newport optical component portfolio, positioning us at the forefront of optical technology. We are now better equipped than ever to meet our customer's requirements for demanding optical applications.

To find out more about our Newport ODiate optical filter technology and what MKS can do for you, get in touch with a member of our team today.



Scan QR code for more information or visit www.newport.com/ODiate or call **508-528-4411** to speak directly to a Technical Sales Engineer or email filters.sales@newport.com



**Cover Image: Multimodal images of adipose tissue and fascia from excised pig skin collected using the InSight® X3™ and the Newport SF-TRU. Images were collected via CARS (red), 2PF (green), and SHG (blue). Courtesy of Kyle Quinn, University of Arkansas.*

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Newport is a brand within the MKS Instruments Photonics Solutions Division. The Newport product portfolio consists of a full range of solutions including precision motion control, optical tables and vibration isolation systems, photonic instruments, optics and opto-mechanical components. Our innovative Newport solutions leverage core expertise in vibration isolation and sub-micron positioning systems and opto-mechanical and photonics subsystems, to enhance our customers' capabilities and productivity in the semiconductor, industrial technologies, life and health sciences, research and defense markets.

For further information please visit www.newport.com