UV Optical Filters and Coatings
UltraViolet (UV) Optical Filters and Coatings

Materion offers Ultraviolet (UV) optical filters and coatings used in a wide variety of existing and emerging UV-based applications. Whether the requirement is for small, prototype UV filter quantity, a “one-of-a-kind” coated optic, or for large-scale volume manufacturing associated with an OEM application, Materion is equipped to meet the need. With Materion’s approach to filter design and manufacture, our filter design engineers work closely with our customers’ optical system designers throughout the filter development process. The optical filters and coatings that result from this collaborative process often serve to optimize the performance characteristics of our customers’ instruments and applications. When it comes to filter design and manufacture in the UV spectral range, Materion has developed an extensive library of manufacturing plans for UV filters and coatings which can be deployed or tailored to produce optical filters, that best match customer requirements.

Material Options Include:

- Metal-Dielectric Bandpass Filters, fully blocked from the UV to IR
- UVA, UVB Filters - fully blocked
- UV Filter Arrays, Discrete and Patterned
- UV Bandpass Filters with high transmission – made with Environmentally-Durable Oxide Films
- Mercury-line Isolation Filters such as i-line and g-line Filters
- AR-Coatings for UV Spectral Range
- UV Laser Bandpass Filters
- Solderable-metalized coatings
- Wide UV Passband Filters (such as filters in UVC) blocked for use with SiC or GaN Detectors
- Solar Blind UV Passband Filters
- Ultra-narrow UV Bandpass Filters
- UV Reflectors, UV Hot Mirrors, UV Cold Mirrors
- UV Beamsplitters
- UV Steep Edge Filters/UV laser Rejection Filters
- Longpass, Shortpass
- Neutral Density
- Band Rejection Filters
Materion Barr Precision Optics & Thin Film Coatings is a leading manufacturer and supplier of precision optical filters, hybrid circuits, flexible thin films and custom thin film coating services. We offer coating solutions for manufacturers in the defense, commercial, space, science, astronomy and thermal imaging markets.

Representative Applications for UV Filters and Coatings:
- Filter element inside UV Detector package
- Filter Array for use with UV Detector
- UV Optical Filter Coatings on Detector elements
- UV Light Source Filters in Lithographic-based systems
- UV Curing of Polymers
- UV Source/Lamp Monitoring
- Clinical and Analytical Instrumentation
- Laser Applications - Edge-type Rejection Filters, Bandpass, Dichroic Filters
- Defense & Security - Threat Warning UV Source Filter
- Fluorescence Spectroscopy
- Raman Spectroscopy
- UV Spectroscopy
- Applications which require R/T separation of UV radiation from Visible and IR
- Solar Measurements
- UV Imaging applications
- Metrology
- UV Radiometry
- Lidar
- Astronomy

Ultra Violet Spectrum

<table>
<thead>
<tr>
<th>Definition</th>
<th>UVC</th>
<th>UVB</th>
<th>UVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIE</td>
<td>100nm - 280nm</td>
<td>280nm - 315nm</td>
<td>315nm - 400nm</td>
</tr>
<tr>
<td>Traditional Versions</td>
<td>200nm - 290nm</td>
<td>290nm - 320nm</td>
<td>320nm - 400nm</td>
</tr>
<tr>
<td></td>
<td>&lt;280nm</td>
<td>280nm - 320nm</td>
<td>320nm - 400nm</td>
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Materion is a global advanced materials company, dedicated to providing solutions that enable our customers’ technologies and drive their growth. Our products include precious and non-precious specialty metals, precision optical filters, inorganic chemicals and powders, specialty coatings, specialty-engineered beryllium alloys, beryllium and beryllium composites, and engineered clad and plated metal systems. Materion business is structure to enhance our ability to provide customers with innovative, best total-cost solutions.