

Patterned Dichroic Filters

Multiple Spectral Filters on a Single Component

Various optical filter coatings are arranged on a common substrate by a sophisticated photolithography technique, or by using vapor shadow masks. The monolithic filter-arrays are produced with no expense for mounting or assembling. Plasma-assisted deposition guarantees high performance and long-term stable filter characteristics.



Benefits

- Monolithic component with various filters
- No assembly of filter components required
- Low thickness
- Flexible, high-performance spectral characteristics
- Low cross talk by black chromium mask
- Extreme environmental stability (heat, humidity, radiation)
- Space qualified

Applications

- Multi-spectral Imaging
- Multi-color optical sensors
- Order sorting filter arrays
- Color Stripe Projection
- Lighting

Technical Data

Wavelength range

250 – 2000 nm

Quantity of filter types per array

1 – 10

Passband transmittance

> 90%

Blocking

OD2 – OD4

Maximum filter dimension

200 mm

Minimum filter dimension

20 µm

Transition range between filters

< 20 µm

Position accuracy

< 2 µm

Surface Imperfections

< 100 µm

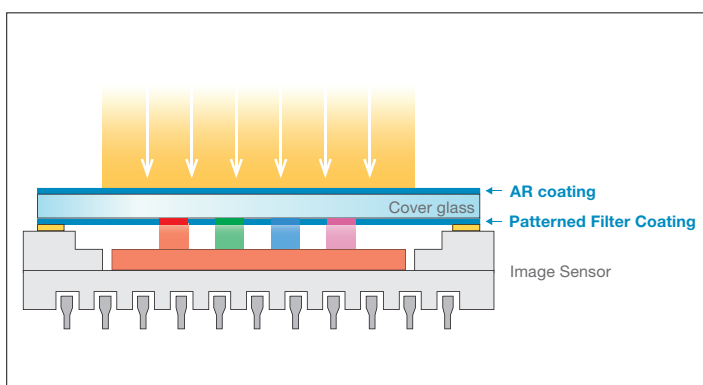
Temperature range

– 50 ... 150°C

Humidity range

0 – 99%

Schematic view of window with bandpass filter array



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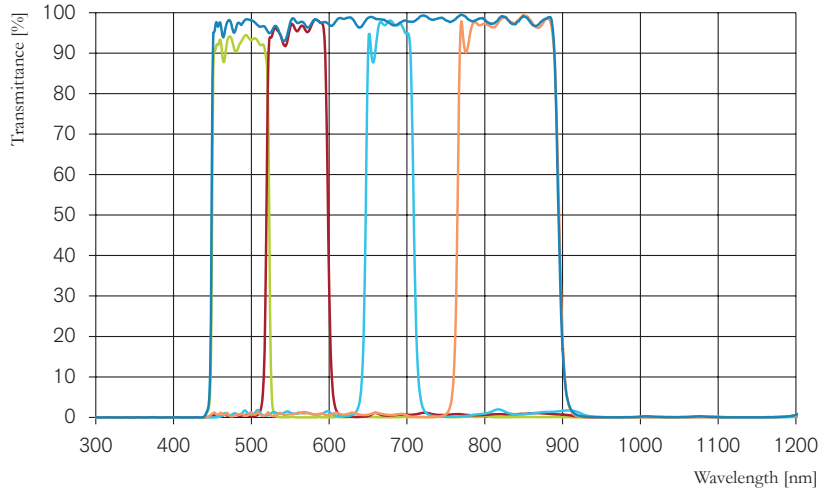
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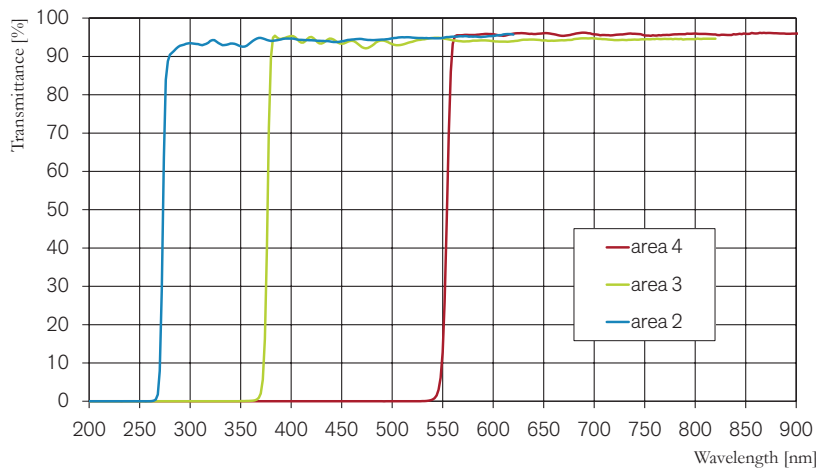
MATERION

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Transmittance of filter array for multi-spectral imaging



Transmittance of order sorting filter array for miniature spectrome-



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