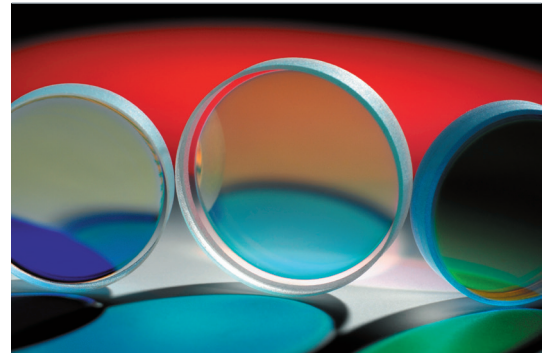




Fluorescence Filter Sets

Fluorescence Filter Sets for Highly Sensitive Detection of Fluorophores

Materion Balzers Optics fluorescence filter sets include excitation and emission filters (bandpass, shortpass or longpass) as well as a dichroic beamsplitter. Cut-on and cut-off wavelengths of the filters are optimized for the excitation light source and for the fluorescent dye. The filter performance is realized by all-dielectric hard coatings deposited onto a single substrate. Because absorbing glasses and filter mounts are not needed, there is a high flexibility for the filter dimensions in compact optical set-ups.



Benefits

- High transmittance > 95%
- Deep blocking >OD5
- Steep filter edges for sharp imaging
- Long-term shift-free spectral performance
- High environmental stability
- High flexibility in filter size

Applications

- Fluorescence detection of fluorophores, e.g. CY5, CY3, FITC, TRITC

Technical Data

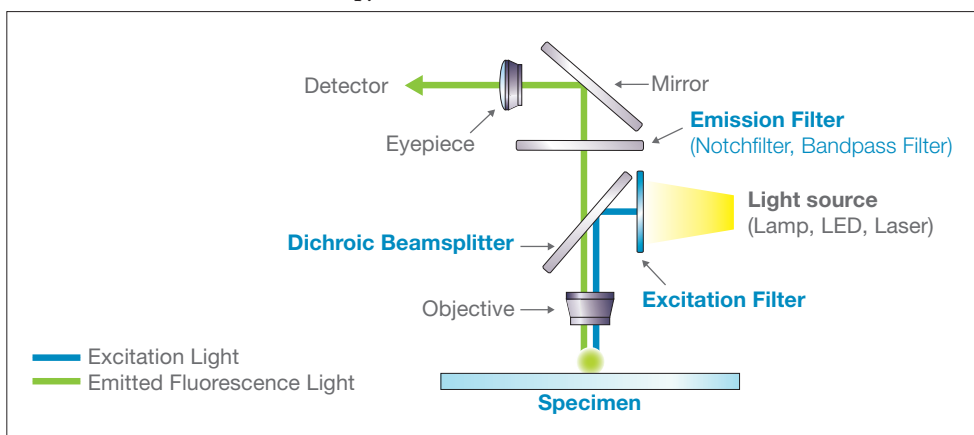
Excitation and emission filters

Transmittance	Tave > 95%
Blocking	OD5 / OD6
Angle of incidence	AOI=0°
Dimensions	standard size Ø 25 mm, thickness 3 mm (other dimensions on request)

Dichroic Beamsplitter

Transmittance	90% – 97%
Reflectance	90% – 99%
Angle of incidence	AOI=45°, (different AOI on request)
Dimensions	standard size 36mm x 26mm x 1mm, (other dimensions on request)
Substrate	fused silica, BK7 or float glas
Parallelism	< 3 arcmin
Surface Defects	5 / 3 x 0.1
Environmental Stability	Temperature -40 ... + 150 °C Humidity up to 99%

Schematic of Fluorescence Microscopy



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Filter set for fluorescence detection of CY5 (measurement)

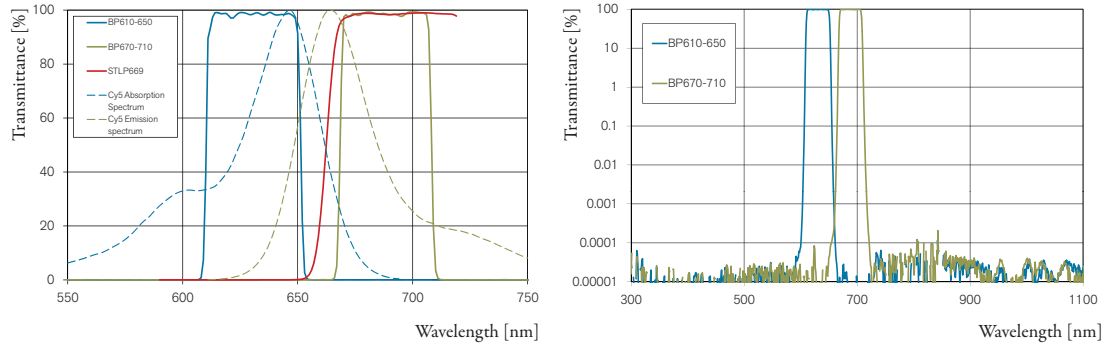


Fig. 1: Measured spectral transmittance in passband (left) and in blockband (right) range.

Filter set for fluorescence detection, e.g. CY3, TRITC (measurement)

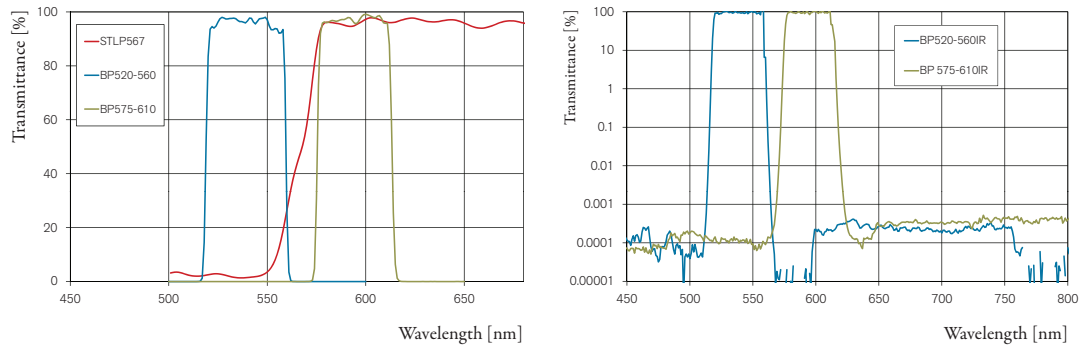


Fig.2: Measured spectral transmittance in passband (left) and in blockband (right) range.