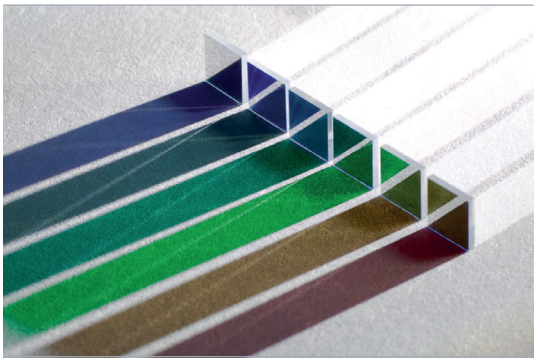
MATERION
// BALZERS OPTICS

Narrow Bandpass Filters

Narrow Bandpass Filters for Biomedical and Industrial Applications

Materion Balzers Optics narrow bandpass filters are characterized by high passband transmittance, accurate center wavelength, steep filter edges between pass- and blockband, and broadband blocking range. With typical passband width between 2 nm and 20 nm, and a blocking depth of OD5 the filters provide an excellent signal-to-noise ratio. In manifold applications, the filters are used to select the appropriate part of the spectrum either from a light source or in front of a photodetector.



Benefits

- Low loss in passbands
- High power stability because of all-dielectric blocking (no absorption in the VIS / NIR)
- Long-term shift-free spectral performance
- High environmental stability by all-dielectric coating
- Customized filter designs available
- Coating on single substrate, no mounting or cementing

Applications

- Laser line filters
- Customized LED emission
- Multispectral and hyperspectral imaging
- Highly-sensitive detection of spectral lines

Technical Data

Wavelength
Center wavelength from 320 to 2000 nm
Peak Transmittance
T_{peak} > 90%
Bandwidth
2 – 20 nm
Blocking
OD5 @ 300 – 1100 nm or OD3 @ 1000 – 2000 nm
Angle of Incidence
0°, enlarged angle range on request
Substrate
Optical glass
Dimensions
Standard size Ø 25 mm, thickness 3 mm, other dimensions on request
Parallelism
< 3 arcmin
Surface Defects
5 / 3 x 0.1
Environmental Stability
Temperature – 40 ... + 150 °C, Humidity up to 99%

Narrow Bandpass Filters VIS

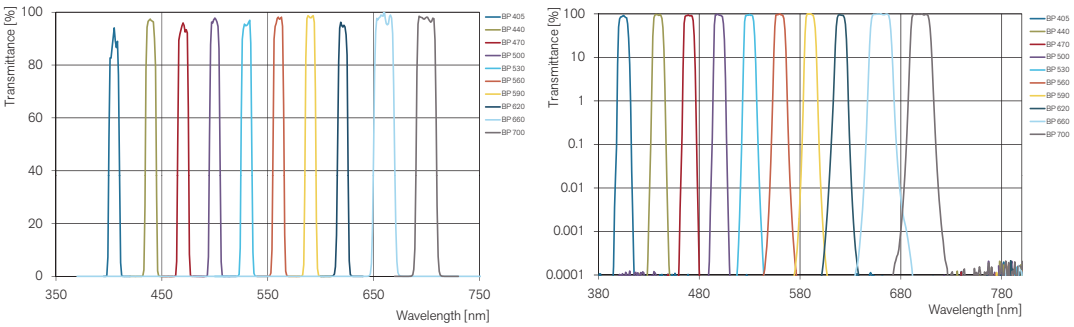


Fig. 1+2: Measured spectral transmittance for a set of narrow bandpass filters in the VIS spectral range.

Narrow Bandpass Filter BP 532

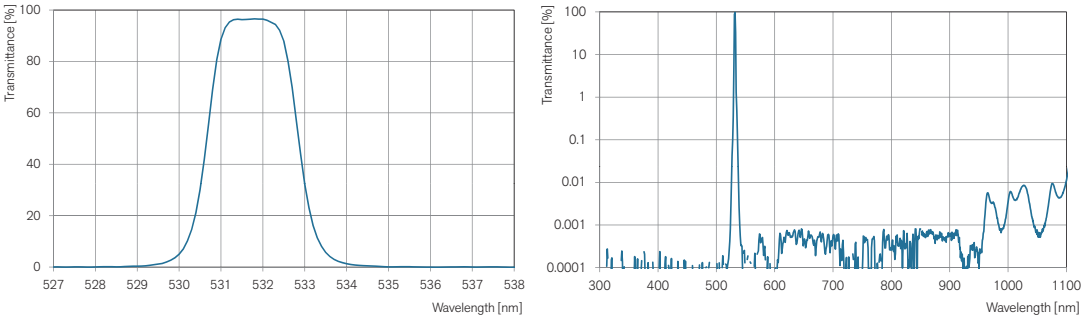


Fig. 3+4: Measured spectral transmittance for a narrow bandpass at 532 nm with 2 nm bandwidth.

Narrow Bandpass Filter BP 1385

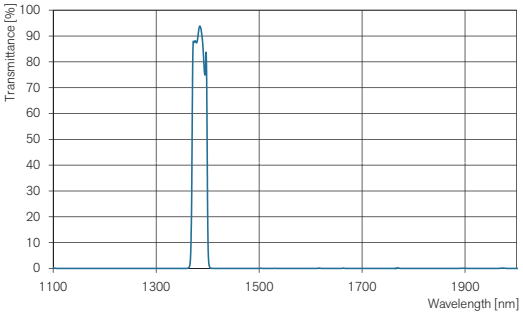


Fig. 5: Measured spectral transmittance for a narrow bandpass at 1385 nm with 30 nm bandwidth.