MATERION
// BALZERS OPTICS

Shaping the Century of the Photon

Upcoming Events

VISION, Stuttgart, Germany – Oct 5-7, 2021
Experience the latest products, technologies and trend themes of machine vision such as embedded vision, hyperspectral imaging and deep learning! Come visit our new Materion Balzers Optics booth and discover the unique solutions and the wide variety of applications that optical components allow. Learn more.

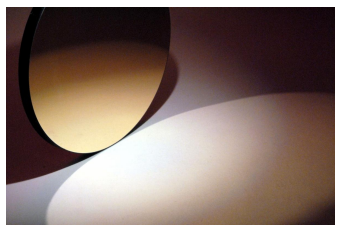
BIOS/Photonics West – Jan 22-27, 2022
Find the best solutions, components, instruments, and system providers from around the world. Meet top suppliers, gain industry insights, and discover new possibilities. Learn more.

Precision Optical Filters for Broad Wavelengths From UV to Far Infra-Red

Capability Spotlight

Micro Electro-Mechanical Systems (MEMS)

Micro Electro-Mechanical Systems (MEMS) and Micro Optical Electro-Mechanical Systems (MOEMS) continue to expand into a wide variety of commercial applications. MEMS and MOEMS are incorporated into a wide variety of sensors including sensors of motion, pressure, temperature, radiation, and gas composition.



Materion Balzers Optics has an assortment of coating techniques for MEMS and MOEMS wafers. Our 200mm wafer fabrication can provide many of the operations required for MEMS fabrication on glass or silicon wafers. We can deposit a wide range of UV, optical and visible coatings that are patterned by photolithography or by laser ablation.

Materion is one of the few 200mm fabs that can perform lithography on wafers with topography (features etched on the wafer 0.2 mm deep). We can also deposit NanoGetters™ thin film coatings to promote vacuum in sealed cavities, and metallization to support wafer bonding. In addition to metallic coatings, Materion can deposit a wide range of dielectric coatings and ITO.

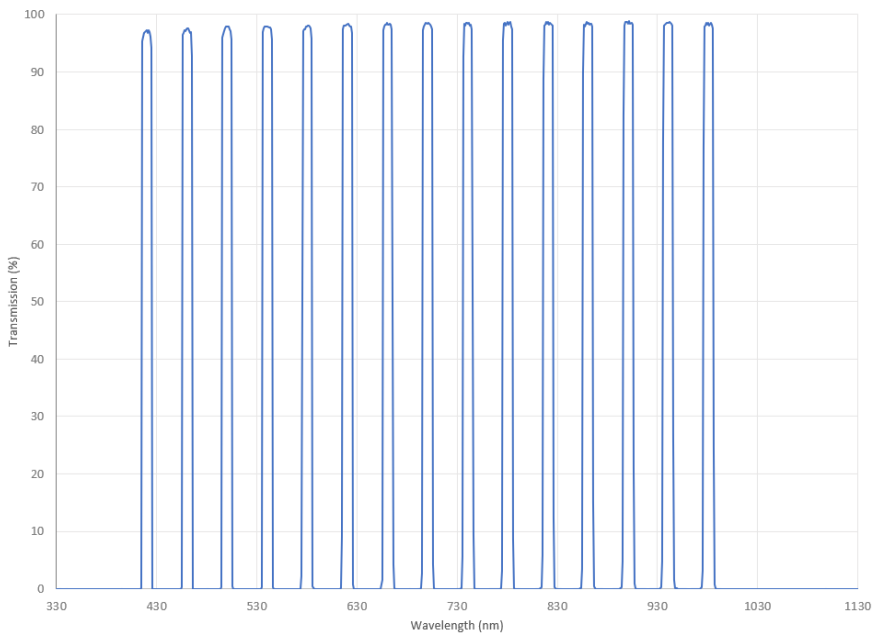
Product News

15-Channel Multi-band Pass Filter

Flexible optical systems for measuring multiple parameters usually require many optical filters. A financially and often technically beneficial alternative is the use of complex multi-bandpass filters. In contrast to classical filters, these have not only one optical passband but several, whereby their spectral position can be individually adjusted.

When more passbands are needed in a given spectral range, it becomes more challenging to ensure the optical separation of the individual channels. To avoid crosstalk, a steep transition between the passband and the block region is essential. The block areas themselves should have optical densities of OD6 and above to reduce background signals and enable an optimal signal-to-noise ratio.

We offer custom multi-bandpass filters for a wide variety of markets. While 2 or 3 channels are usually sufficient for biophotonic applications such as fluorescence analysis, filters with up to 15 different passbands are manufactured for metrology and the semiconductor conductor industry. Learn more about our filters.



Theory curve of a multi-bandpass w/15 transmission channels; individual channels are separated from each other by OD6 block bands. Measurement curves of concrete customer projects are subject to confidentiality.

Sales and Business Development News

SPACE

In space applications highest spectral performance in combination with outstanding stability requirements are frequently needed. Optical components are designed specifically to meet these demanding requirements, using state-of-the-art coating technologies such as IAD, IBS and advanced magnetron sputtering. For these demanding applications Materion Balzers Optics develops and manufactures a wide variety of product groups according to customer specifications, such as multiband filters and AR windows, precision optics and laser components with high laser damage threshold, as well as display windows.

Thanks to its exceptional eyesight, the eagle can search the ground for objects from a great distance. Just like our solutions for remote detection and space technology

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