

Media Release

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Doris Brülisauer
Marketing & Communications

T direct +423 388 9211
media@opticsbalzers.com

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Patterning Solutions from Optics Balzers

Balzers, May 4, 2011 - Optics Balzers, the preferred partner for innovative optical coatings, offers a unique portfolio of patterning solutions for producing high-grade optical components. Depending on the specific customer application, patterning techniques such as photolithography, laser ablation, or masked coatings are available in order to satisfy a wide range of requirements in terms of patterning size and shape.

Beside the core business of coating optical thin film components, Optics Balzers also offers additional processing steps such as patterning of optical components. "For our customers, the additional competencies we offer such as patterning are true added value. Obtaining everything from a single source is crucial especially in the current times," explains Guglielmo Cappellari, Head of Product Management. Depending on the customer's requirements, techniques such as photolithography, laser ablation, or masked coatings will be applied. Most patterning solutions are used in conjunction with the unique sputter technology developed by Optics Balzers. This combination allows optimal solutions to be found for every application.

Photolithography

Photolithography capabilities such as wet etching, reactive ion etching, and lift-off techniques allow the manufacture of high-precision patterned coatings and gratings in the submicron range. Photolithographic techniques are specifically applied in the production of lids for MEMS elements and CCD/CMOS image sensors. This method enables pattern sizes smaller than 10 microns to be produced.

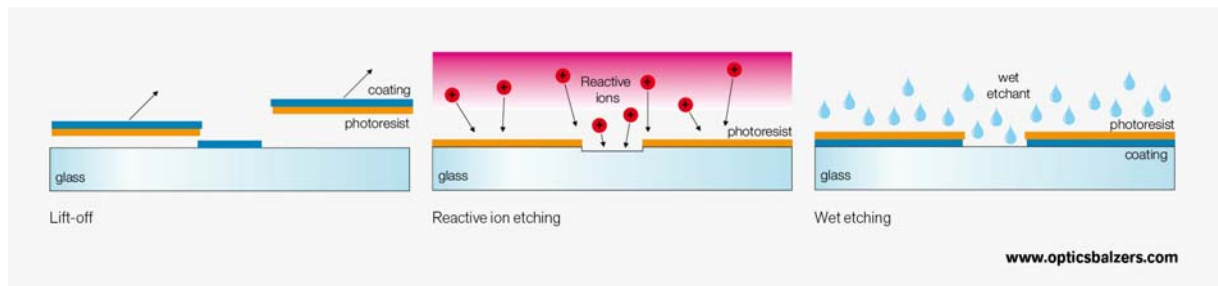
Laser ablation

Laser ablation offers novel options for patterning optical filter coatings. Through the application of customized processes high-precision patterns can be generated on the coated components. Laser ablation provides outstanding flexibility in producing customized shapes and patterns as well as very short processing times. It is possible to manufacture patterned filters down to a minimum pattern size of 100 microns by means of this technology.

Masked coatings

Metal masks fixed to the substrates generate patterns during the coating process. The achievable pattern size and shape that this technology allows is limited, with the minimum size being around 200 microns. But the advantage of the masked coating technique is that patterning can be applied with almost any coating process and material, including processes requiring high temperatures.

Optics Balzers will be present at the Laser World of Photonics in Munich, Germany, from May 23 – 26, 2011.



Caption: Photolithography capabilities from Optics Balzers allow the production of high-precision patterned coatings and gratings in the submicron range.

For 65 years, Optics Balzers has been the preferred partner for providing innovative optical solutions. Together with its subsidiary in Jena, Optics Balzers is a global leader in the supply of optical coatings and components. The Liechtenstein-based high-tech company focuses on selected markets such as Sensors & Imaging, Biophotonics, Space & Defence, Lighting & Projection, and Industrial Applications. The products and services offered range from optical coatings and glass processing, patterning and bonding technologies to the manufacture of complete optical subassemblies and are acknowledged as being unique worldwide. Optics Balzers has a total payroll of about 170.

More information: www.opticsbalzers.com