



Glass Rods for Mass Production

SCHOTT supplies fire-polished glass rods that are only millimeters in thickness and up to 1000 mm long for efficient manufacturing of small lenses

Mainz/Munich (Germany), June 10, 2009 — By offering low Tg glasses and optical materials in new shapes, SCHOTT supports miniaturization in optical applications. The fire-polished rods made of specialized glass that the international technology group will be presenting for the first time ever in Europe at “Laser – World of Photonics” can be less than 1 mm in thickness and up to 1000 mm long.

**SCHOTT AG
Laser – World of
Photonics
Munich, Germany
June 15 - 18, 2009
Booth B2.320**

Smaller and smaller, ever more precise – these are the demands that are being placed on high-quality lenses for use in digital cameras, cell phone and video cameras and mini projectors, for instance. There is also a rising demand for spherical lenses, aspheres and discs with diameters of less than a millimeter in fields like endoscopy, microscopy and telecommunications.

Effective immediately, SCHOTT will be offering glass rods with diameters of less than 1 mm and up to 1000 mm in length, in addition to its existing shapes, in order to further support the miniaturization of optical applications. In addition developments aimed at being able to provide conical rods, prisms, tubes and right angle designs, as well as standardized round rods, are already underway.

Efficient manufacturing of small optical components

The products that are now being offered include rods made of optical glasses, like LASF 35, for instance, which has an extremely high index of refraction ($n_d = 2.02204$; $v_d = 29.06$), as well as low Tg glasses that are well suited for precision molding processes. Other types of glasses are available upon request.



The length of the rods enables considerably higher yields, while the smaller diameter results in less loss of material during manufacturing of smaller components. In fact, the fire-polished surface of the rods is already suitable for a variety of applications. After all, the new dimensions of the rod ensure easy processing and considerably reduce the processing time.

Expansion of the low Tg glass product line

Besides the new shapes, SCHOTT has also expanded its portfolio of so-called low Tg glasses that have low transformation temperatures. These can be precisely shaped at temperatures of below 550°C and thus enable mass production of extremely small optical components in an efficient manner.

In addition to the already well-established P and N glasses, the following glass types now successfully qualify for use in precision molding: N-KZFS2, N-KZFS4, N-KZFS5, N-KZFS8, N-LAF33, N-LASF46B and SF57. The glass type N-LASF46A has also been further developed. Effective immediately, the N-LASF46B type ($n_d = 1.90366$; $v_d = 31.32$) is available with considerably improved transmission inside the blue spectral range.

“True Color”: Low Tg glasses for the field of life sciences

The listed glass types N-KZFS4, N-KZFS5, N-KZFS8 belong to the special short flint glasses that SCHOTT offers that are mainly characterized by a profound deviation of the partial dispersion from the normal line. They feature particularly high transmission within the blue-violet spectral range combined with a remarkable low fluorescence at an excitation wavelength of 365 nm.

The glasses that SCHOTT also refers to as “True Color” glasses are being used more and more frequently in the fluorescence microscopy because they are ideally suited for realizing correction apochromatic designs. Calcium fluoride is yet another material that SCHOTT Advanced Optics offers that is traditionally used for color correction.



All of these materials will be on exhibit at the SCHOTT booth B2.320.

SCHOTT is an international technology group that sees its core purpose as the lasting improvement of living and working conditions. To this end, the company has been developing special materials, components and systems for 125 years. The main areas of focus are the household appliances industry, pharmaceuticals, solar energy, electronics, optics and the automotive industry. The SCHOTT Group is present in close proximity to its customers with production and sales companies in all its major markets. The Group's approximately 17,300 employees generated worldwide sales of approximately 2.2 billion Euros in the fiscal year 2007/2008. The company's technological and economic expertise is closely linked with its social and ecological responsibility. The SCHOTT AG is an affiliate of the Carl-Zeiss-Stiftung (Foundation).

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Download link to a ZIP file that contains the photograph in print quality:

<http://tinyurl.com/longrods>



Photo caption no. 222781: Long rods made of optical glass: With diameters of < 1 mm and lengths of up to 1000 mm, the long rods made of specialized optical glasses from SCHOTT (low Tg glasses, LASF35, etc.) that feature a fire-polished surface are used for manufacturing miniaturized optical components.





Photo caption no. 183346: Spherical lenses: Spherical lenses are used for coupling or collimation of optical light in the writing and reading heads of DVD/DVR appliances, in micro technology or in fiber optics. With diameters of 0.040 to 10 mm, SCHOTT in Mainz manufactures spherical lenses from various optical glasses and enables coupling efficiencies of 75%. Depending on the application, optical glasses, such as N-BK7, but also extremely high refractive glasses, like LASF35, which has a unique refractive index of $n_d = 2.02$, are used.



Photo caption no. 226276: Precision molded aspheres: SCHOTT low Tg glasses for precision molding allow for efficient manufacturing of even the smallest optical components, such as aspheres.

More press photographs are available for downloading under:
www.schott-pictures.net

Contact:

SCHOTT AG
Christine Fuhr
PR Manager
Corporate Public Relations
Phone: +49 (0)6131/66-4550
Fax: +49 (0)6131/66-4041
E-Mail: christine.fuhr@schott.com
Internet: www.schott.com

Agency Contact:

oha communication
Oliver Hahr
PR Consultant
Phone: +49 (0)711/5088 6582-1
Fax: +49 (0)711/5088 6582-9
E-Mail: oliver.hahr@oha-communication.com
Internet: www.oha-communication.com