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1. SCHOTT AG: New glass developments

1.1. New optical glasses N-LASF46A, N-PSK53A, N-SF14 and N-SF11

High refractive index glasses:

SCHOTT AG has expanded the product range of lead and arsenic free high refractive index glass types. N-LASF46A has been adapted to the requirements of digital imaging and projection. It has been tremendously improved with respect to transmission in the blue/violet area compared to N-LASF46.

Further two high refractive index heavy flints have been developed: N-SF14 and N-SF11. Both glass types are established in volume markets. The transmission of both glasses has been optimized in the melting process to achieve higher transmission in the blue/violet area compared to the lead containing SF11 and SF14.

Low dispersion glasses:

N-PSK53A is a new developed glass type where starting from our N-PSK53 the optical position has been adapted to the requirements of volume markets.

Due to this very recent success in development we can currently provide a preliminary data sheet for N-PSK53A upon request.

http://www.schott.com/optics_devices/english/products/flash/abbediagramm_flash.html

1.2. New „Low-Tg-Glasses“ P-PK53, P-SK57 and P-LASF47

SCHOTT AG has expanded its portfolio of “Low Tg glasses” suitable for precision molding of aspherical lenses with the glasses P-PK53, P-SK57 and P-LASF47. For better indication of these new developed Low Tg glass types the letter “P” for “Precision Molding” is now prefixed to the glass names. Data sheets are available at :

http://www.schott.com/optics_devices/english/products/flash/abbediagramm_flash.html

1.3. Precision Gobs as Preforms for Aspherical Lenses

For the first time ever, SCHOTT AG will begin producing so-called “precision gobs”, the appropriate types of preforms for the aspherical lenses used e.g. in digital cameras, digital projectors and camcorders. The glass gobs will be mass-produced at the company’s facilities in Mainz.

The gobs are made of glass and weigh between 0.3 and 20 g each. They are manufactured as a direct product of the continuous glass melting process. The consistency of the weight and quality of the fire polished surface is so precise that no additional post processing before molding is necessary. Additionally, molded lenses from SCHOTT precision gobs do not require centering after molding. For this reason, precision gobs are considered to be by far the most cost-effective alternative for preforms used to manufacture aspherical lenses.

http://www.schott.com/optics_devices/english/download/

1.4. Molded Aspherical Lenses

The current trend that calls for miniaturization of the optical components used in digital and cell phone cameras will continue. Aspherical lenses are taking on greater importance because a single asphere can be used to replace several spherical lenses and, thus, reduce the overall size and weight of the optics. At the same time, aspheres deliver improved image quality and higher resolution.

SCHOTT AG manufactures aspherical lenses using the precision molding process based on a highly sophisticated technology developed at SCHOTT.

http://www.schott.com/optics_devices/english/download/

1.5. SCHOTT AG enters Micro-Lens Market

Ensuring the quality of a laser's beam is absolutely essential to the overall performance of any diode laser. Fast Axis Collimation (FAC) micro-lenses result in a lasting increase in the beam quality of diode lasers.

The direct transformation of electrical energy into optical energy enables a diode laser to achieve the highest level of effectiveness of any laser. Its compact design, convenient power input based on electricity and extremely high level of efficiency are all reasons why this type of laser has become popular in various applications. Nevertheless, diode lasers have one drawback in that the profile of the beam they generate is not very exact. Now, SCHOTT AG has developed a micro-lens that results in a drastic improvement in the quality of the beam.

The aspheric cylindrical lens used to collimate the "Fast Axis" can be manufactured using various optical glasses. It enables a transmission rate that exceeds 98%, as well as collimation of less than 3 mrad. In addition, its numerical aperture exceeds 0.8 and its focal width ranges from 0.6 to 0.9 mm at wavelengths of between 780 and 1000 nm.

http://www.schott.com/optics_devices/english/download/

2. New modern CNC-machines installed

By setting up 4 new CNC-machining centers, SCHOTT AG has enlarged its machining capabilities for highly complex and precise items. The new machines are 5 axis CNC state of the art types, with which SCHOTT AG is able to produce precise prototypes or even series with higher numbers.

The geometrical capacity of the new machines reaches to a square area of 2000 x 2500 mm (depending on the axis chosen) and a height of 1100 mm. The tolerances are within the micron-range.

Having invested in these machines, SCHOTT AG is able to cover new and constantly growing demands from market side.

3. EC-Directive RoHS - Lead and cadmium containing glasses

The EC-Directive RoHS prohibits selling electric and electronic equipment containing lead and cadmium within and to the EC from July 2006 on. In 2003 the optical industry applied for an exemption for optical and colored glasses containing these elements.

Due to procedural reasons the application for exemption had to be treated by the EC commission a second time and to be submitted to the EC parliament. The procedure is settled now, so that the official release is expected soon.

More detailed information can be found in the "SCHOTT Technical Information No 34: RoHS Hazardous Substances in Optical Glass", which can be downloaded from:

http://www.schott.com/optics_devices/english/download/

4. New catalogs for download

Optical Glass Filter:

English: http://www.schott.com/optics_devices/english/download/
German: http://www.schott.com/optics_devices/german/download/

Optical Glass:

Russian: http://www.schott.com/optics_devices/english/download/

Zerodur®

Japanese: <http://www.schott.com/japan/japanese/download/>

5. We invite you to visit us at China International Optoelectronic Exhibition (CIOE) in Shenzhen!

Exhibition: CIOE
Booth No.: A 464/ Hall 1
Date: 06.09.-09.09.2005
Location: Shenzhen, P.R. China

NEWSLETTER

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Greetings from Mainz

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