

News from "Your Partner for Excellence in Optics"

SCHOTT
glass made of ideas

Advanced Optics – Newsletter 01/2015

TRADE FAIRS

Join us at Photonics West for a discussion, donate to "Project Night Night" and celebrate the "International Year of Light"!

SCHOTT Advanced Optics cordially invites all of our customers to join us at the Moscone Center in San Francisco at booth #1314.



The SCHOTT Advanced Optics team is preparing for an exciting few days at Photonics West 2015. In addition to our standard technical papers and new product launches, this year we are doing things a little differently.

Photonics West remains one of SCHOTT's best opportunities to reconnect with

our customers, discuss opportunities and solutions and meet new people in the Optics and Photonics industry. In order to facilitate these discussions, we are proud to introduce our new Photonics West Communications Booth. In lieu of traditional showcases, we are setting the scene with discussion corners where we can sit down

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together and talk about solving problems. We also feature an enclosed conference area, so if you would like to have a more private discussion, we are happy to reserve this room for you.

The UN proclaimed this year as the International Year of Light and SCHOTT Advanced Optics is asking for your help to celebrate! We have prepared a special limited edition shot glass to celebrate the IYL 2015 which we will be offering for a "suggested donation"



of \$1.00 to Project Night Night, a local San Francisco children's charity. Project Night Night donates over 25,000 Night Night Packages each year, free of charge, to homeless children who need our childhood essentials to feel secure, cozy, ready to learn, and significant. Each Night Night Package contains a new security blanket, an age-appropriate children's book, and a stuffed animal – all nestled inside of a new canvas tote bag.



Project Night Night is a tax exempt charitable organization under Section 501(c)(3) of the Internal Revenue Service code.

SCHOTT Advanced Optics will even match the donations received to Project Night Night throughout the event! Celebrate the International Year of Light with SCHOTT and Project Night Night.

In addition SCHOTT will showcase its IR glass portfolio, the extremely-low expansion glass ceramic, ZERODUR®, laser glasses, specialty filter glasses and other optical glasses and materials at its booth #1314 throughout the conference. Please also join us at one of our technical presentations scheduled throughout the exhibition.

The schedule for Photonics West is as follows:

February 9th, 2015

4:10 pm – Technical Paper Presentation: "Bending strength measurements at different materials used for IR-cut filters in mobile camera devices" from Dr. Ralf Jedamzik

February 10th, 2015

8:40 am – Technical Paper Presentation: "Glass development for an exawatt laser architecture" from Dr. Simi George

February 11th, 2015

1:30 pm – Product Demonstration: "SCHOTT XLD glasses with excellent processability and tightest tolerances for color correction in optical systems" from Dr. Ralf Jedamzik

If you would like to learn more about any of these presentations or if you'd like to schedule a private consultation with one of our representatives during the show, please contact David Schimmel at david.schimmel@us.schott.com. We look forward to seeing everyone there!

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PRODUCTS

Advanced Optics to offer its multifunctional DARO coating for touch displays on CONTURAN® glass

Extremely resistant, dirt-repellent, anti-reflective coating for professional public displays

Advanced Optics has expanded its coating expertise in the area of specialty glass and introduced one of the first permanently anti-reflective and oleophobic (DARO) coating to the market for use on SCHOTT's proven glass CONTURAN®. This is

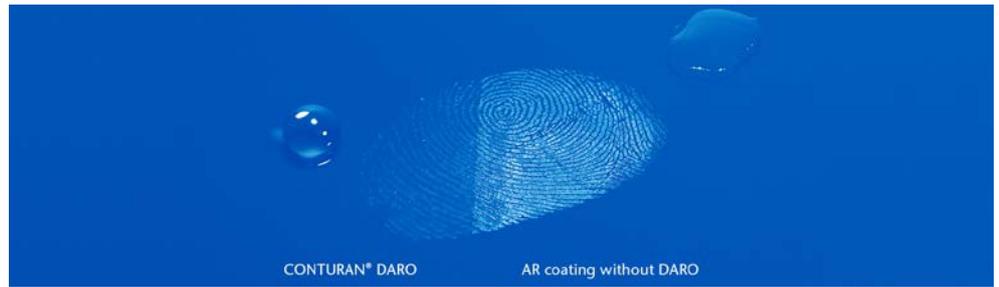
one of the first coating that allows for anti-reflective cover glasses for professional touch displays that are protected against fingerprints and other soiling. The multifunctional DARO coating is particularly well suited for use in interactive kiosk sys-

tems in public places, casino game consoles, for equipping devices that are used in marine and medical technology or for other technical displays.

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Today, anti-reflective coatings offer the best way to increase the contrast of displays in bright environments. Nevertheless, when used on touch screens, when they are touched fingerprints are left behind and this makes for an unattractive appearance. By combining its coating technologies, SCHOTT now offers a permanent anti-reflective coating that strengthens touch screens made of glass. There are currently very few other products available on the market for manufacturers that feature coatings that are capable of resisting the burden of being touched many times and the chemical stresses fingerprints cause without attacking the surface or making it difficult to clean.

“It is important to us to offer a solution that meets or exceeds the increasing demands of product designers, yet enhances user friendliness,” explains Stefan Lasch, Vice President Strategic Business Field Processed Glass at SCHOTT Advanced Optics. SCHOTT has introduced this coating on the basis of its anti-reflective glass CONTURAN® that many customers all over the world already use for their displays. With its high-performance multifunctional DARO coating on CONTURAN® glass, the company is extending the areas of application for



anti-reflective products all the way to the high-end area of professional touch displays. SCHOTT is currently introducing this product to potential customers in Europe, Asia, and North America.

SCHOTT uses the so-called sol-gel coating technology for its CONTURAN® DARO glass which provides the foundation for applying an oleophobic nanolayer in a chemically strong manner and therefore offers extreme long-term resistance. This can be seen in the mechanical resistance tests in which the DARO coating has stood up to more than 450,000 cycles, for example. “This equates to a lifespan of more than 25 years, even if the coating was to be cleaned 20 times a day,” Lasch explains.

“By performing long-term stress tests, we want to demonstrate the high quality of this material to our customers and show them the great benefits that our new DARO coating

offers, especially in professional display applications,” he adds.

The main performance features of the DARO coating from SCHOTT:

- A coating with a combination of anti-reflective and permanent dirt-repellent properties
- Reduces visual reflections by more than 90 percent
- Creates an extremely strong surface on touch displays
- Resists more than 450,000 cases of exposure to mechanical friction
- Tested resistance against salt spray fog for more than 100 days
- Chemically inert
- Allows for displays with high contrast even in extremely light environments

More information is available here: www.us.schott.com/daro

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GENERAL INFORMATION

Glass from SCHOTT delivers brilliant extraterrestrial images of Comet Tschuri

Radiation-resistant optical glass from SCHOTT contributes to the success of the Rosetta mission.

SCHOTT Advanced Optics is involved in the Rosetta mission on exploring Comet Tschuri (67P/Tschurjumow-Gerasimenko). The company supplied specialty glass that delivers spectacular images of the comet inside the panorama camera. Four out of five lenses

installed in each of the seven objective lenses used in the CIVA camera system of the Philae lander were manufactured from two different types of radiation-resistant optical glasses from SCHOTT in Duryea.

“Thanks to our radiation-resistant optical glass, which we produced in Duryea, ten years of exposure to cosmic radiation have not impaired the performance of our lenses. Our special lenses ensure that the image

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quality is still excellent even following the long flight into space. It is an honor for us that our high-performance glass is being used in this mission," said Dave Alunni, Production Manager at Advanced Optics of SCHOTT North America Inc. The lenses used in the panorama camera were designed and built by FISBA OPTIK from St. Gallen, Switzerland.

This isn't the first time that SCHOTT glass has landed on another celestial body. Optical glass from Mainz was already on board the first manned lunar landing back in 1969. The television camera used on the moon contained a fourfold lens system that was manufactured using optical glass from SCHOTT.

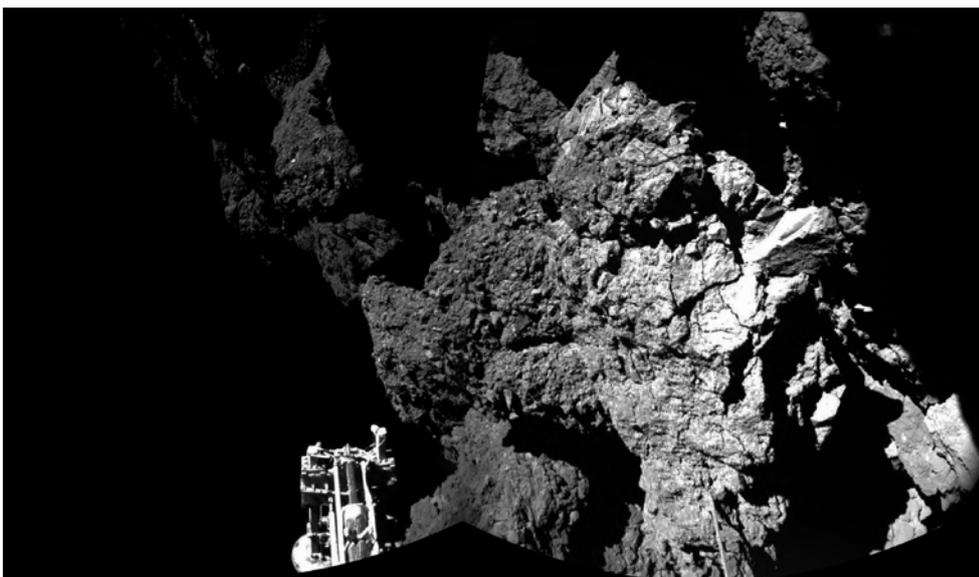


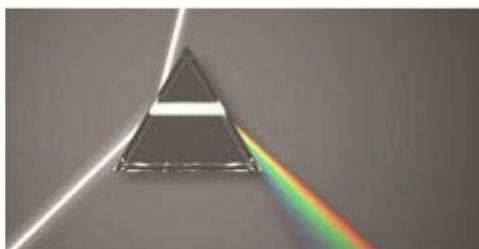
Photo: © ESA/Rosetta/Philae/CIVA.

Link:

http://www.esa.int/spaceinimages/Images/2014/11/Welcome_to_a_comet

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N-FK58 XLD: Temperature coefficients of refraction now available



SCHOTT Advanced Optics offers an updated datasheet for the optical glass N-FK58 XLD, a high quality optical glass with extremely low Dispersion (XLD = extremely low dispersion) and excellent processing properties. The datasheet for N-FK58 XLD now also includes the temperature coefficients of refraction. This new data makes it possible to exactly determine the temperature dependence of the refractive index, allowing for minimal effects of temperature changes in the optical design and final performance of the application.

You will find the data here: [Interactive Abbe Diagram](#)

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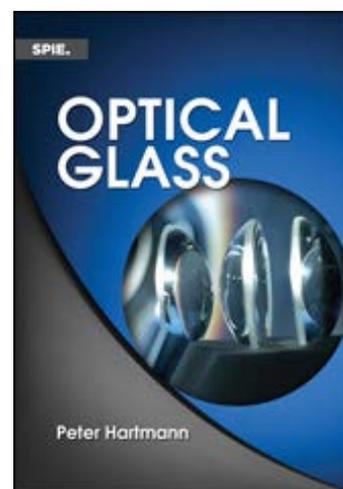
New book “Optical Glass” from Dr. Peter Hartmann, SCHOTT Advanced Optics – published by SPIE

Book Description

For more than 400 years, optical glass has provided mankind with a window into both the hidden microcosm and vast outer cosmos of the known universe, transforming philosophy, science, and engineering through its visage and, thus, shaping modern civilization. Its high transmittance, homogeneity, and precisely defined light refraction properties are the preconditions for highly resolved true-color imaging, making it an intrinsic component of technology in general. From consumer products, such as cameras and binoculars, to microscopes and telescopes – the most essential tools of research in many fields – the role of optical glass is integral to the very foundations of modern science and industry.

In contrast to its fundamental importance, there is often a lack of knowledge regarding the properties of optical glass by engineers and designers, causing misunderstandings in purchas-

ing and fabrication, and ultimately limiting the potential and application of this dynamic material. This book will serve as an invaluable resource of technical information, including the index of refraction and its dependence on wavelength (dispersion), optical homogeneity and transmittance (presented together with restrictions imposed by the manufacturing processes and chemical resistance), as well as mechanical, thermal, and environmental properties. Measurement methods with their achievable accuracy are given, along with a wide scope of overview diagrams illustrating properties and main uses, as well as diagrams ranking optical glass types with respect to their properties. The wide scope and lucid organization of this volume will prove to be highly valuable across a wide range of design, engineering, and purchasing applications within the many fields dependent on this incredible material.



Book Details

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Visit www.spie.org/books and use search word PM249

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EVENTS

Trade fairs and events

Here we are listing the events where “Advanced Optics” proactively attends as an exhibitor, speaker or has an active part such as “chair of technical conferences,” etc.

Feb.
07

Location: The Moscone Center
Country: San Francisco, California, USA
Booth: South Hall, 1314
Date: February 07th – 12th 2015



March
03

Location: David Intercontinental Hotel
Country: Tel Aviv, Israel
Date: March 03rd – 04th 2015



March
11

Location: Parc des Expositions Toulouse
Country: France
Booth: E33
Date: March 11th – 12th 2015



March
16

Location: Moscow
Country: Russia
Date: March 16th – 19th 2015



April
22

Location: Pacifico Yokohama
Country: Japan
Date: April 22nd – 24th 2015



June
16

Country: Taipeh, Taiwan
Date: June 16th – 18th 2015



June
22

Location: Messe München
Country: Munich, Germany
Booth: B1.310
Date: June 22nd – 25th 2015



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