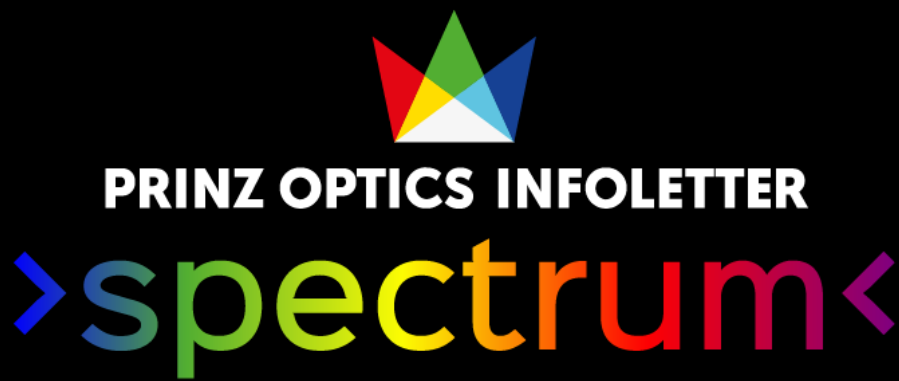




Edition 1 / 2022

The effect of a wafer-thin coating

When clear glass turns incident light into colourful radiance*, the effect of a wafer-thin coating is apparent. Glass therefore no longer needs to be dyed to generate the desired colour. Our colour effect glass is the surprising solution for architects, artists and designers: our profession is to coat clear glass using nanotechnology.

Over the course of almost three decades, we have learned to change not only the surface properties of glass, but also those of substrates such as metal and plastic by applying a translucent coating. We owe this not just to our skills. Close cooperation with our customers has always been and remains crucial for this, as meeting customer wishes and needs has been our philosophy from the very beginning.

*) See > www.prinzoptics.de/en <

Peter Röhlen,
Managing Director
Prinz Optics GmbH

Functional coatings make surfaces effective.

By Dr Karsten Wermbter

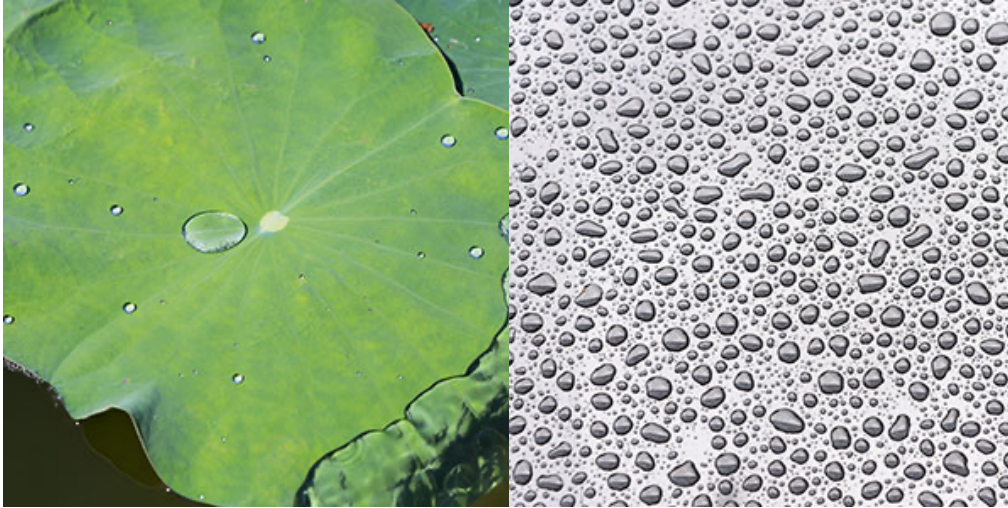
From an aesthetic point of view, surfaces of objects are primarily responsible for the effect they have on their surroundings, and are often just for creating a “beautiful appearance”. From a technical point of view, however, the question of interest is how a surface reacts to its environment, to its many influences and effects. Anyone who wants to change this in a targeted way so that surfaces not only react but can also act and take on special tasks can achieve with a functional coating.

This is nothing new. Surfaces have been given functions for thousands of years: in hot regions, for example, buildings are whitewashed to reflect incident sunlight and keep the interior cool.

Functional coatings – especially on glass – that meet today's needs and possibilities are our profession. With invisible coatings that are only a few nanometres thick, we change the glass surfaces, for example, so that incident light radiation is “transformed” into almost any spectral colour, depending on the location of the light source and the viewer. Our range of coatings also includes anti-reflection coatings, illumination filters, conversion filters and technical filters for applications in industry, science and medical technology.

With our coating expertise and everyday handling of new technologies combined with knowledge of the needs of industry and commerce, we have now expanded our range of coatings:

1. Antibacterial / anti-viral coatings of glass and non-glass substrates with different active ingredients in the form of nanoparticles;
2. Photocatalytic coatings of glass and metal for air purification and the eradication of germs and odours in garments using a photoactive TiO₂ catalyst under the influence of UV radiation;
3. Anti-fog coatings on glass and metal to change the wetting properties:
 - with a hydrophobic effect by increasing the contact angle (lotus leaf effect),
 - with a hydrophilic effect by reducing the contact angle, which causes the water droplets to spread, forming a closed film;



Lotus effect in nature compared to the hydrophobic nanotechnical surface

4. Electrically conductive coatings of glass that are translucent and act, for example, as resistance heaters or to dissipate surface charges.

Every new product success inspires us to continue our innovative development work, which, last but not least, also expands our consulting expertise and facilitates tailor-made solutions to our customers' problems.

Here you can find out more about our advisory services: [Realisation consultation service](#)

Please see our range of optical filters for technical applications here: [Technical filters](#)

Our colour filters also put works of art in the right light.

The credo of light manufacturer ERCO is – in all modesty – “The light is what matters, not the lamp!”. Especially when light is used to emphasise the characteristics of goods and exhibits, it is the lighting product that counts, i.e. its colour mood and the resulting effect.

Because ERCO customers were not satisfied with colour-coated filters made of plastic to cover light sources, the conversation turned to our coated glass filters. Intended as appetite-stimulating coloured light sources for meat, fish and fruit displays as well as for the presentation of textiles, our filter samples impressed customers for these applications too.

In the meantime, ERCO ›Eclipse‹ lamps are putting the treasures of famous museums all over the world in the right light, with great public appeal.



Livrustkammaren, Stockholm (Sweden's oldest museum, the armoury of the Swedish kings)

© ERCO GmbH



Fondazione Palazzo Strozzi, Florenz
© Ela Bialkowska, OKNO Studio

You can find more information on ERCO "Eclipse" luminaires here:
[Eclipse: The art of illuminating](#)

Find out details about conversion filters to create the optimal color mood for objects and food here:
[Prinz Optics filters for lighting of goods](#)

Introducing:

Jesse Magee, sculptor

As a “user” of dichroic glass, the artist born in 1981 in Urbana, IL, USA is associated with us. Ten objects that he designed with “this fascinating material” – as he says – were among the highlights of our exhibition to mark our anniversary event entitled “25 years of PRINZ OPTICS”.

Jesse Magee now lives and works in Höhr-Grenzhausen, Rhineland-Palatinate. From 1999 to 2010, he studied fine arts at Alfred University in New York and at the Institute for Artistic Ceramics and Glass (IKKG) in Höhr-Grenzhausen, Germany, including a semester abroad at the Edinburgh College of Arts. He then taught at the Institute until September of this year. Since then he has been a staff member and PhD candidate at the PXL-MAD School of Arts in Hasselt, Belgium. His works have been presented in numerous exhibitions at home and abroad.



Trap I - V, Jesse Magee, 2021
© Articus & Röttgen Fotografie

With his artistic works, he wants to confront his audience with the “what if” question. He explores the themes of temptation, allurement, seduction and danger. Influenced by the object artist Andreas Slominski, he wants to set “traps” for the viewer: you let yourself be tempted, you are tempted to fall into the trap and at the same time you are aware of the danger.

The material from which the various “traps” are made is glass. For glass, in all its contradictions, is both attractive and appealing but at the same time dangerous; it is supple but also hard and sharp.

The seductiveness of the glass appears even more “extreme” for Magee through the play of colours in the dichroic glass. The various colour effects seem downright “kitschy” to him, but the effect is also fascinating and irresistible. The artist counters this with “moments of disturbance”, barbs, as it were, to refer to human fallibility.



www.jessemagee.net

Would you like to learn more about the fascinating effects and possible uses of colour effect glass? Here you can see the effects animated: [Prinz Optics Colour effect glass](#)

Our company

Specialises in ultra-thin coatings for glass, metals and plastics. We use them to manufacture dichroic filters, illumination filters, conversion filters and technical filters for industry, science and medical technology.

Peter Röhlen, a graduate physicist, has been Managing Director of PRINZ OPTICS GmbH and Glas-Plus Beschichtungs GmbH & Co.KG for 25 years and is an expert in coating glass surfaces with the sol-gel process.

Dr Karsten Wermbter, a graduate mineralogist, is Head of "Development" and responsible for optimising and expanding the range of product-specific coatings and the corresponding processes.

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