



**SCHOTT**  
glass made of ideas



**LED SYSTEMS  
FIBER OPTICS**



Lighting



SCHOTT is an international technology group with more than 125 years of experience in the areas of specialty glasses and materials and advanced technologies. With our high-quality products and intelligent solutions, we contribute to our customers' success and make SCHOTT part of everyone's life.

SCHOTT works closely with architects and designers to extend the boundaries of design and create new opportunities for building culture – in terms of design and space, indoors and outdoors, for solar power and fire protection, aesthetics and functionality – sustainable and custom tailored. That's what makes SCHOTT a qualified partner for architecture and design.

**Cover:** Prototype of a lighting solution from MC2  
**Right:** Lighting planners and designers used futuristic fiber optic components and LED systems from SCHOTT for an exhibition at the AIT-ArchitekturSalon in Munich (Germany).

LEDs and fiber optics represent the most innovative and versatile technologies for lighting solutions used in architecture. SCHOTT offers a wide range of finely-tuned system components for both LED and fiber optics lighting. We work together with our customers to develop tailor-made solutions for interior and exterior lighting concepts that meet the requirements of the space and its intended use.



## LED – The light of today

### Bright, durable and low on consumption

With its high yield of light, low power consumption and unbeatable service life, LEDs are the ideal contemporary light source. SCHOTT LED products deliver extremely bright, consistent and pure white light, highlighting the natural colors of the objects they illuminate.

#### Efficient and reliable

LEDs score points in two different ways with respect to their maintenance and service life. Compared to other types of traditional light bulbs, they keep power consumption at a minimum low while delivering the same amount of light.

Due to their energy efficiency, they also emit less heat. This lowers overhead expenses while also reducing the cost of air conditioning inside of the building. What is more: rather than burn out suddenly, the LEDs gradually grow dimmer, making it rare that this type of lighting will experience a complete failure.

#### Flexible

As plug-and-play solutions, LED systems from SCHOTT are easy to install and flexible. Furthermore, the small size of these enables them to be perfectly compatible with display fixtures. SCHOTT offers a wide range of LED components with this basic idea in mind. The portfolio includes everything from almost invisible, installable LED spotlights to elegant swiveling spots that can be installed either individually or as a rail (in customer-specific lengths that include the desired number of spotlights), or even installation profiles in which the diodes line up to form a slender strip of lights.

#### Superior performance

LED products from SCHOTT are of the highest quality. Narrow tolerance limits with respect to the color temperatures produce the desired uniform lighting effect. In addition, the extremely high color rendition index (CRI) of specially selected LEDs ensures that window displays, jewelry and other types of exhibits are portrayed as naturally as possible. The service package SCHOTT offers on its LED products also includes the ability to adjust the brightness of the light and how it is distributed in a given space.

#### LED systems

- > Built-in spotlights
- > Swiveling spots
- > Light strips

**Left:** SCHOTT Spectra® LED Lightbars present jewelry in the right light in the Perfumeria Ultra in Mexico.

**Right:** More than 1,100 fiber optic LightPoints bathe the reliefs and sculptures in the Cathedral of Reims in soft light while impressively high-lighting every detail.







## Fiber optics – directing light

### Multifaceted, creative and made-to-order

Fiber optic systems direct bundled light from the source to one or more outlet points. This means that the points of illumination are separated from the location of the light source, a concept that offers many advantages.

#### Reliable and gentle

Fiber optic lighting systems – are especially well-suited to unventilated showcases, because the light from the source generates very little heat. The spatial separation of the light source and the outlet point keeps the level of infrared radiation to a minimum. Glass lighting guides also have the added benefit of filtering out the harmful UV radiation protecting valuable exhibits and display items from bleaching or other damage.

#### Present products effectively

The main areas of use for fiber optics include lighting for museum exhibitions and highlighting products on display in retail showcases. The primary focus in these cases is always on foreground the exhibit properly without using an unsightly visible light source. Fiber optic systems illuminate the exhibited objects with extremely small light points that do not obstruct or are non-distracting and the view of the displayed item.

#### Low on maintenance and economical

A single, primary light source is all you need to supply a large number of light points. These light sources can be placed in easy-to-reach areas, meaning very little installation work is required to maintain them. Buildings with rough and uneven façades (such as the Gothic Reims Cathedral) are most effectively illuminated with fiber optic systems, because the fiber optic light guides are extremely flexible. Fiber optic lighting systems are durable and inexpensive to operate.



#### Fiber optic systems

- > Light sources
- > Light guides
- > Optical heads

**Left:** Fiber optic components light the exhibits displayed in showcases glazed with AMIRAN® anti-reflective glass at the AGO Art Gallery of Ontario (Canada). Photo provided by Click Netherfield.

**Right:** Elegant illumination of exhibits using SCHOTT Spectra® fiber rod fittings at the Imperial War Museum in London.

## Effective advantages

### LED and fiber optic systems combinations

Our special solutions combine LEDs low power consumption and durability with fiber optic systems' ability to separate the light points from the source. This results in extremely high-quality lighting systems that are durable, highly flexible, and economical to maintain.

#### Meeting the highest demands

SCHOTT has developed its own high-quality, LED-based light sources for use in fiber optic systems that complement its halogen and discharge lamps. They provide a high quality of light with perfect color rendition and extremely low UV values. Small and flexible, they are also easy to install. They also emit almost no heat and have a very low noise level.

#### Unbeatably economical

LED light sources are very popular because they consume less energy than traditional light sources. Besides the cost reduction benefit, they also contribute to environmental preservation and sustainability. Because LED light sources have a long service life, consumers also save the expense of frequent light bulb changes. All in all, the combination of LED light sources and fiber optic lighting systems results in reduced maintenance and significant cost savings over the entire lifetime of the light source.

#### Almost invisible once installed

Combined LED fiber optic solutions offer new options for integrating innovative lighting solutions into showcases, shelving and many other types of displays. The SCHOTT Spectra® fiber optic rod developed in combination with a newly developed LED light source is just one example. This low-profile "lighting strip" is installed inside a showcase in such a way that only the small shoulder and fiber optic rod can be seen.

#### Combined solutions

- > 100W LED light source
- > Fiber optic rod with a 3-W LED light source

**Left:** Lord Ashcroft Gallery in London: Thanks to their slender design, the SCHOTT Spectra® LED Lightbars installed here illuminate the exhibits.  
**Right:** Swarovski Shop in Rockefeller Center in New York: SCHOTT Spectra® LED Light Sources make the crystals sparkle. In fact, the entire center glows in the brilliance of the SCHOTT installations.







Lighting installations inside the Depot at the German Pavilion at the EXPO in Shanghai. Nearly the entire SCHOTT Lighting product line was put to use here.

## SCHOTT Lighting

### Experts in lighting

SCHOTT fiber optic and LED systems are the result of many years of experience and development work. Matching components offer architects and designers a well thought-out box of building blocks that has proven itself in actual practice for use in planning lighting. SCHOTT can provide advice as to use and installation, and even can develop building-specific enhancements and special solutions upon request. The countless projects that the development team at SCHOTT has completed for various industries – from contour and reading lights for use in aviation and vehicle construction to applications in the area of medical technology – clearly document our rich expertise in lighting.

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