



Flexible Beam Shaper

Fused fibers from SCHOTT bundle the power of lasers

Mainz / Munich (Germany), May 10, 2011 – SCHOTT has developed a solution for forming “square” laser diode light into a homogeneous beam of light of any desired shape. The beam shaper is made of flexible glass fibers and can be coupled directly with the laser diodes. Collimation lenses are no longer necessary.

Today, laser diodes are used in many applications, including the pumping of solid-state lasers. They are compact and efficient, yet emit light asymmetrically. In order to compensate for this limiting factor, difficult to adjust Fast Axis Collimation (FAC) lenses are usually needed. SCHOTT has developed a solution that is much easier to use.

The beam shaper consists of multi-component glass fibers that have been fused into a rectangular shaped input profile. At present, sizes of up to 15.0 mm x 1.0 mm are available. Coupling the laser diodes without FAC lenses improves the overall performance and flexibility of these devices.

The light emitted by the laser diodes can be converted into various shapes, for instance a circular shape with a small diameter, and thus exhibits high laser beam quality. The existing fibers cover a numerical aperture range from 0.4 to 0.8. Furthermore, transmission of 80% is possible for common light guide lengths of up to 2,000 mm.

Beam shapers are capable of withstanding temperatures of approximately 150 °C. However, depending on the power density, the connectors might need to be cooled off. Due to their robust design and easy handling, these light guides make existing applications of laser diodes much easier and improve their performance. This, in turn, opens the door for new applications in industrial fields, for instance.

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SCHOTT is an international technology group that has been developing and producing specialty materials, components, and systems for over 125 years. The company's core markets are the household appliance industry, solar power, pharmaceuticals, electronics, optics, the automotive industry and architecture. SCHOTT seeks to contribute to its customers' success and become a part of everyone's life with its high-quality products and intelligent solutions. SCHOTT Group maintains close proximity to its customers with manufacturing and sales companies in all major markets. Its workforce of around 17,500 employees generated worldwide sales of approximately 2.9 billion euros for the 2009/2010 fiscal year. The company's technological and economic expertise is closely linked with its social and ecological responsibility. At the same time, SCHOTT strongly supports the principles of sustainability. SCHOTT AG is owned by the Carl Zeiss Foundation.

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Download link to a ZIP file that contains the photograph in printable quality: <http://www.schott-pictures.net/presskit/109448.beam-shaper>



Picture caption no. 13573: Flexible beam shaper: Simple and efficient: The beam shaper forms "square" diode laser light into a homogeneous beam of light of any desired shape. Source: SCHOTT

More press photographs can be downloaded from <http://www.schott-pictures.net>

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