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New Spotlight Infra-Red Emitter From Heraeus Noblelight

Allows Deburring, Clenching and Welding of Plastic Component Surfaces Which Are Difficult To Access

The new Spotlight infra-red emitter from Heraeus Noblelight precisely targets a concentrated beam of infra-red energy onto surfaces of plastic components which offer difficult access to allow deburring, clenching or welding. As such, it is ideally suited for automotive industry and for all industrial sectors where plastic components need to be further processed after moulding. The innovative emitter will be shown for the first time at the Fakuma exhibition which takes place in October in Friedrichshafen, Germany.

The heat source of Spotlight consists of a shortwave, infra-red emitter with a QRC coating (Quartz Reflective Coating), which is connected to a quartz tube of just 5mm diameter. This tube functions as the guide for the infra-red energy, which can then be focused precisely to the point where it is required. In contrast to conventional emitters, there is no need for lenses or complicated reflector systems or for the elaborate safety precautions required for lasers. Energy is supplied at a power intensity of up to 500 kW/m² and the precise nature of the heating means that there is no thermal damage to the surrounding area, sensitive electronics or other nearby coated surfaces. Spotlight's fast response to on-off commands also fits it ideally to robot-controlled plastics welding and finishing processes.

Spotlight is the latest addition to Heraeus' range of contour-matched QRC emitters.

These can be precisely shaped to the contours of a product, so that the heat is guided directly to edges, burrs or corners, making them ideal for deburring or welding of three-dimensional plastic products. Infra-red heat is applied precisely where required, in step with the process, so minimizing rejects, saving energy and costs and improving quality.

This Heraeus technology is already used throughout the industrial spectrum and, especially, in the automotive sector. Housing parts, covers, suction pipes or caps are often manufactured in plastic by injection moulding. During this manufacture, it is not always possible to prevent sharp edged burrs, especially in the tool parting plane. Especially with complex geometry parts, the removal of such burrs before subsequent processing or coating can be a real challenge.

Infra-red emitters of quartz glass can be fashioned to match the edge or burr so that they exactly melt away the burr without damaging the actual workpiece itself. As such they are far superior to many conventional techniques, such as special blades or using gas flames, which often do not produce repeatable results and take time.

Using contact-free infra-red heating, plastic parts can be joined together without the need for adhesives or other means. In a very short time, the infra-red radiation melts a thin surface layer of the individual plastic component. By simple compression this can then be joined with, say, containers for

screen wash or brake fluid. In contrast to contact welding using hot plates, no plastic material adheres to the heat source and the heating stage is carried out at one second intervals and the result is repeatable every time.

Heraeus Noblelight offers the complete palette of infra-red from near infra-red (NIR) to medium wave carbon technology (CIR). Heraeus Noblelight also carries out tests with specific materials and advises on the choice of the emitter best suited to a specific process.

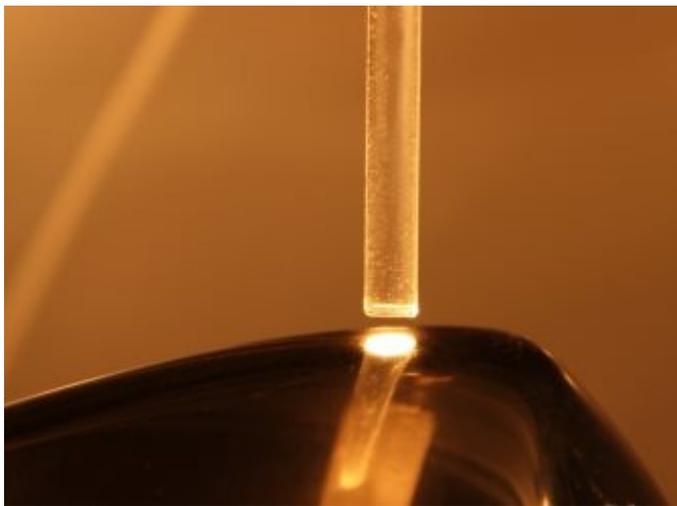
Heraeus

The technology group **Heraeus** headquartered in Hanau, Germany, is a family-owned, world-leading, diverse organization. Founded in 1851, its roots go back to a pharmacy started by the family in 1680. Today, Heraeus brings together a number of businesses in the fields of the environment, energy, electronics, health, mobility and industrial applications.

In the 2017 financial year, Heraeus had a total turnover of € 21.8 Mrd. Listed in the Global Fortune 500, it employs around 13,000 people in 40 countries and enjoys a leading position in its global sales markets. Heraeus is one of the top 10 family concerns in Germany.

With technical competence and excellence, a focus on innovation and an entrepreneurial management philosophy, we strive for continuous improvement. For our customers we develop high value solutions to strengthen and sustain their competitive edge, as we combine material competence with technology leadership.

Heraeus Noblelight GmbH with its headquarters in Hanau and with subsidiaries in the USA, Great Britain, France and China, is one of the technology- and market-leaders in the production of specialist light sources and systems. In 2017, Heraeus Noblelight employed 762 people worldwide. The organisation develops, manufactures and markets infrared and ultraviolet emitters, systems and solutions for applications in industrial manufacture, environmental protection, medicine and cosmetics, research, development and analytical measurement techniques.



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