

Press release

Kleinostheim, March 2016

Coatings Dried 50% More Efficiently with New Gas Catalytic Infrared Emitter from Heraeus

Coating operations require the right combination of coating system, product and process. Product and coating system are diverse and new developments arise every day. Fine, if the heating process can keep pace. Heraeus offers coating drying with electrical infrared emitters and, now also, gas catalytic infrared systems, which have been shown to provide up to 50% energy savings in user trials. These innovative systems will be on show at the Paint Expo exhibition in Karlsruhe in April.

Depending on the coating and the surface to be coated, infrared heat or UV light, or a combination of the two can offer the best solution. Heraeus offers both infrared and UV systems, which can be matched precisely to a customer's product and process in terms of wavelength, voltage and power output.

Summary of the benefits of Infrared Systems

Infrared radiation is energy-efficient and accelerates paint curing. In addition, the wavelength of the IR has a significant influence on the process. Medium wave radiation heats better at the surface. Short wave radiation is used when the process is continuous and fast or when the radiation must penetrate deeply into the material.

- **Gas Catalytic Infrared Systems** deliver medium to long wave radiation. They are particularly efficient in continuous operations for powder coating curing or where widely distributed heat is required.
- **Electrical Infrared Systems** emit radiation from the extreme short wave region to medium wave lengths. They find particular application where a lot of heat is needed quickly. They are also used in short cycle applications, for water-based paint systems and where sensitive substrates need a controllable heat source.

Background: Infrared Radiation Provides Efficient Paint Curing

Many types of coatings need heat. Water and water-based paints are dried, adhesives are activated and powder coating are often used to coat metal components, as well as plastic and wood. A powder coating is deposited as a powder, melted by heat and finally cured. Infrared ovens have a smaller footprint than warm air ovens and react much more quickly to control commands. This reduces operating costs and allows IR ovens to handle much smaller batch sizes. In addition, the equipment is safer, as it can be switched off much more quickly in the event of unanticipated conveyor belt

stoppage. Moreover, infrared radiation generates heat in the product without contact, which makes for better quality.

Heraeus, the technology group headquartered in Hanau, Germany, is a leading international family-owned company formed in 1851. With expertise, a focus on innovations, operational excellence and an entrepreneurial leadership, we strive to continuously improve our business performance.

We create high-quality solutions for our clients and strengthen their competitiveness in the long term by combining material expertise with technological know-how. Our ideas are focused on themes such as the environment, energy, health, mobility and industrial applications. Our portfolio ranges from components to coordinated material systems which are used in a wide variety of industries, including the steel, electronics, chemical, automotive and telecommunications industries.

In the 2014 financial year, Heraeus generated product revenues of €3.4 bn and precious metal revenues of €12.2bn euros. With around 12,600 employees worldwide in more than 100 subsidiaries in 38 countries, Heraeus holds a leading position in its global markets.

Heraeus Noblelight GmbH with its headquarters in Hanau and with subsidiaries in the USA, Great Britain, France, China and Australia, is one of the technology- and market-leaders in the production of specialist light sources and systems. In 2014, Heraeus Noblelight had an annual turnover of 137.3 Million € and employed 884 people worldwide. The organization 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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Gas catalytic infrared systems cure powder coatings efficiently.

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