

Functional coatings need infrared heat

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Water drips off shower walls, roof tiles repel dirt, facades stay glossy, frequently, all this is the work of coatings with functional properties. For building facades or roofs a dirt-repellant coating is very practical, in healthcare it helps to keep rooms cleaner and perfectly hygienic. With ships and aircraft, the repellent effect can save energy and can even be of vital importance. Algae or shellfish which cling to ships, significantly affect propulsion and ice crystals on aircraft are a safety risk.

Coatings with functional properties, many of which are nano coatings, are also used on machine and engine parts such as linkage shafts of ships' propulsion systems, which are exposed to salt water or other unfavorable weather influences.

However, all protective coatings must be applied and dried very homogeneously so that their functional property is effective evenly and reliably over the complete component.

This means that the coating must be sprayed on in very thin layers, which are then dried quickly without destroying the special properties of the coating. Infrared emitters transfer heat efficiently without contact, with the aid of electromagnetic waves, which generate the heat primarily in the material. As a result, the adhesion of disruptive particles in the sensitive coating during drying is minimized.

Infrared emitters offer very fast reaction times. Shortwave and Carbon emitters from Heraeus react within one to three seconds. This ensures that heating is controllable and, combined with temperature control, helps to eliminate overheating of materials.

Rapid change-over of different types of coating having different burn-in temperatures are possible. And it also saves energy when the heat source needs to be switched on only when it is needed.

Heraeus Noblelight offers the spectrum of infrared heat from near infrared (NIR) to medium wave carbon infrared CIR, carries out tests with the materials in question and advises on the selection of the optimum emitters for the specific process.

Heraeus has more than 40 years experience with infrared emitters, both for end-users and for large OEMs and carries out practical tests with customer own materials in its own application centres to establish optimum process solutions

Heraeus Noblelight GmbH with its headquarters in Hanau and with subsidiaries in the USA, Great Britain, France, China, Australia and Puerto Rico, is one of the technology and market leaders in the production of speciality light sources. In 2008, Heraeus Noblelight had an annual turnover of 92.5 Million € and employed 735 people worldwide. The organisation develops, manufactures and markets infrared and ultraviolet emitters for applications in industrial manufacture, environmental protection, medicine and cosmetics, research, development and analytical laboratories.

Heraeus, the precious metals and technology group headquartered in Hanau, Germany, is a global, private company with over 155 years of tradition. Our businesses include precious metals, sensors, dental and medical products, quartz glass, and specialty lighting sources. With product revenues approaching € 3 billion and precious metal trading revenues of € 13 billion, as well as over 13,000 employees in more than 110 companies worldwide, Heraeus holds a leading position in its global markets.

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