



Infrared Heat activates Adhesives on Decorative Trims

An infrared system from Heraeus Noblelight is helping R-Tek Ltd to achieve perfect adhesion of decorative trims on the inside of motor vehicle door panels. The plastic decorative trims are normally fixed to the panels on a production line by spraying the inside of the panel with an adhesive and then applying the trim. However, when R-Tek started to experience problems with the adhesion, it was soon established that the prime cause of the problem was the fact that the adhesive often tended to part-cure between the spraying of the panels and the application of the trims. To solve this, they used a purpose-built adhesive, which requires the addition of reactivation heat after it has been applied, to ensure optimum adhesion.

After discounting hot air blowers as a means of providing the reactivation heat, because of their high power consumption and lack of controllability, it was decided to investigate the potential of infrared heating systems for this particular application.

Trials proved so successful that a complete IR system, using carbon emitter technology, was eventually installed at R-Tek. This consists of two 8kW carbon medium wave cassettes, which combine the heating efficiency of medium wave infrared for this type of application with the controllability allowed by low thermal mass carbon fibre emitters, which have an extremely fast response time of around one second.

In operation, the cassettes are arranged in two stations directly above the production line, where they apply the necessary heat to the panels, which have been previously sprayed with the adhesive. They are automatically switched on only when necessary and the power is applied for a timed period. The surface temperature of the adhesive is monitored by a pyrometer and an alarm is sounded if this does not reach a set value, at which point the timer is overridden and the IR system is operated until the pre-set temperature is achieved.

Since installation, R-Tek has found that the highly controllable and energy efficient IR system has continued to optimise the performance of the adhesive to ensure a consistent and repeatable bond between the door panels and the trims.



Features

- medium wave Carbon heater, matching to product
- fast response times allow control
- contact free and efficient heating

Technical Data

- Infrared system with Carbon Infrared emitters, two cassettes with 8kW each
- Control of surface temperature by pyrometers

Germany
Heraeus Noblelight GmbH
 Infrared Process Technology
 Reinhard-Heraeus-Ring 7
 63801 Kleinostheim
 Phone +49 6181 35-8545
 Fax +49 6181 35 16-8410
 hng-infrared@heraeus.com
 www.heraeus-noblelight.com/infrared

USA
Heraeus Noblelight America LLC
 1520C Broadmoor Blvd.
 Buford, GA 30518
 Phone +1 678 835-5764
 Fax: +1 678 835-5765
 info.hna.ip@heraeus.com
 www.heraeus-thermal-solutions.com

Great Britain
Heraeus Noblelight Ltd.
 Clayhill Industrial Estate
 Neston, Cheshire
 CH64 3UZ
 Phone +44 151 353-2710
 Fax +44 151 353-2719
 ian.bartley@heraeus.com
 www.heraeus-infraredsolutions.co.uk

China
Heraeus Noblelight (Shenyang) LTD
 2F, 5th Building 5
 No. 406, Guilin Rd, Xuhui District
 200233 Shanghai
 Phone +8621 3357-5555
 Fax +8621 3357-5333
 info.hns@heraeus.com
 www.heraeus-noblelight.cn