



Infrared Heating System Helps in The Manufacture of Auto Glass

A fast response medium wave (FRMW) Infrared heating system from Heraeus Noblelight is helping Dura Automotive Systems of Castle Bromwich to ensure the reliable and precise adhesion of molded thermoplastic sealings to custom-designed, automotive glass windows. The system is located in a robotic cell and integrates exactly with the robot cycle. Dura Automotive Systems is a global operation, employing over 12,000 people, with its headquarters in the USA. It is the world's leading independent designer and manufacturer of driver control systems, seating control systems, safety hardware, structural body systems, exterior trim and integrated glass systems. The company's products feature on more than 300 models worldwide and it supplies automotive products to every original equipment manufacturer.

Its factory at Castle Bromwich specialises in automotive structures, glass and trim solutions. When it was awarded an important contract by a major British car maker to produce quarter lights featuring a molded sealing around the edges, Dura contacted Bauomat (UK) Ltd., a recognised leader in robot manufacturing cells. Consequently, a cell featuring two Kuka robots was installed to carry out the delicate operation of applying a prime adhesive coating to the quarter glass to allow a molded seal to be affixed in a subsequent operation. However, to ensure ideal adhesion of the molded seal to the prime coating it was necessary to heat the coating to a specified temperature to achieve the required cure and "tackiness" before the glass is precisely over-molded in a further operation. Infrared was considered to provide the best solution to this problem. Unlike a warm air oven, an Infrared system takes up very little space, can be precisely controlled to synchronise with the robot operations and is very energy-efficient. Tests were carried out at Heraeus Noblelight's Applications Centre, and these proved so successful that a 24 kW FRMW system was installed in the robot manufacturing cell. This is designed to heat one large item of glass or two smaller ones, according to production requirements and is Pyrometer controlled to maintain a set coating surface temperature. According to Oli Lebrun, the project engineer at Dura, "The Infrared system fits perfectly into the cell manufacturing cycle and we have an additional energy-saving bonus, as the fast response of the emitters means that heat is applied only when required."



Features

- reliable and precise adhesion of molded thermoplastic sealings
- produce quarter lights featuring a molded sealing around the edges
- can be precisely controlled to synchronise with the robot operations
- very energy-efficient

Technical Data

- fast response medium wave emitter
- response time 1-2 seconds
- system power 24W

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