



## Infrared Helps Spoilers Stick to New Jaguar XJ

A pyrometer-controlled, custom-built infrared oven is helping to ensure perfect adhesion of a rear spoiler fitted to the new Jaguar XJ during production. At the same time, a smaller associated oven is being used to facilitate the fixing of two rear boot badges.

The rear spoilers are supplied to the production line complete with an integral adhesive strip. The adhesive manufacturer recommends that the strip is heated prior to fitting, so that the adhesive can flow. Having already used infrared systems to assist in the fitting of various components on the S-Type, notably in the fitting of aluminium trims, Jaguar engineers decided to ask Heraeus to design a pre-heating system for this particular application.

As a result, a 37.8 kW fast response medium wave oven was installed at the spoiler fitting point on the production line. This is floor-standing unit, which is connected to a gravity-fed roller conveyor. The top of the oven contains the heater cassette with its 12 emitters, which are arranged so that only one emitter leg is used, effectively doubling the emitter lifetime. The spoilers are supplied to the production line in boxes of six and three boxes at a time are located on the inclined roller conveyor. The contents of approximately 2½ boxes are heated by the infrared cassette, which is inclined to match the angle of the conveyor to ensure uniform heating. An optical pyrometer monitors the temperature of the sixth moulding in the first box, to ensure that pre-heated spoilers are always available, even if only one box is loaded. Green and red lights indicate when the mouldings are inside/outside the required temperature range of 30°C ±5°C. When the spoilers are outside the specified temperature limits, a light curtain is activated and if an operator then tries to remove a spoiler, an audible alarm will sound until reset with a control panel key. The smaller, 1 kW badge-heating oven is located on top of the main oven. It can accept two badges at a time and PTFE blocks are included to locate these. It is operated by a simple pushbutton on the associated control panel and a red light indicates when the heating is on. Typically, heat is applied for 4 – 6 seconds, after which a green light indicates that the badges can be removed and fitted to the vehicle on the line.

Since installation, it has been found that the pre-heat system allows perfect adhesion of the spoilers and badges and that the two operations can be easily carried out to meet the speed of the production line.



### Features

- adhesion with a pyrometer-controlled, custom-built infrared oven
- smaller associated oven used to facilitate the fixing of two rear boot badges
- activation of adhesives to required temperature of 30°C ±5°C

### Technical Data

- 37.8 kW fast response medium wave oven
- heater cassette with 12 emitters
- optical pyrometer monitors the temperature

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