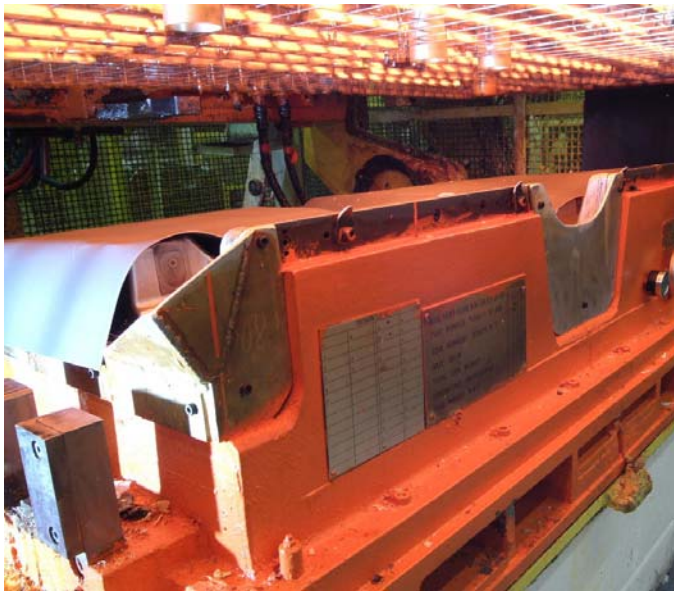
Infrared Heat for Automotive Interior Parts

By installing a carbon infra-red system to pre-heat acoustic soundproofing sheets prior to moulding, Faurecia has significantly reduced production cycle times and virtually eliminated maintenance costs and machine down-time on one of its major moulding machines.
An essential part of the moulding process is the pre-heating of the PE-EVA (polyethylene ethylene vinyl acetate) sheet. This heat was previously delivered by medium wave infra-red foil heaters, which were proving expensive to maintain. Moreover, the slowness of the heating operation, which also involved pre-heating the blanks with large hot water radiators, was starting to create a production bottleneck.
Initial on-site trials immediately established that carbon infra-red emitters could eliminate the need for pre-heating, as they provided a 16% increase in heat-up rates. Consequently, it was possible to dispense with the hot water radiators and associated stands and create valuable new floor space. It also proved possible to retrofit the new carbon infra-red system using many of the existing electrical supply connections of the old system, as well as the existing control panel and pyrometer.
In operation, the blank sheets are now heated in the mould, without any pre-heat. The emitters are switched on when the sheet is dropped into the mould and switched off by the pyrometer, on achieving a pre-set temperature. Switch on/switch off times are less than one second. Since installation, it has been found that cycle times have been reduced by 20 seconds and there are energy savings of 9kW/hour because of the elimination of the pre-heating alone. Furthermore, maintenance costs and duties have been cut dramatically, as the twin tube emitters are proving much more durable than the original foil heaters and any infrequent change-over involves minimum downtime.



Features

- Carbon emitters heat up with high power
- Increase of heat-up rate by 16%
- Reduction of cycle time by 20 s
- No need for pre-heating
- Energy saving of 9 kW per hour

Technical Data

- medium wave Carbon Twin
- 104kW cassette with 26 emitters, 4kW each
- 13 zones
- Control by pyrometer

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