



Infrared Heat for the Gelling and Curing of Powder Coating on Alloy Wheels

A global supplier for aluminum rims for the automotive industry uses infrared heat for powder coating on alloy wheels for cars. At the company the gelling and curing process of the powder coating was done conventionally by convection ovens. Due to their program of innovating the production, they looked for improvement. Today powder coating is done by tailor made CIR[®] Carbon infrared systems of Heraeus Noblelight.

Compared to convection system that was used before, the new system offers more possibilities.

Convection ovens transfer heat through the medium of air, which itself first needs to be heated. To control the oven temperature, the temperature of all the air in the oven needs to be changed.

Compared with convection ovens, infrared emitters transfer heat without a contact medium, as the heat is generated in the product itself.

Infrared heat is transferred rapidly and at high power and so production rates can be increased. Infrared emitters have very short response times, of one to three seconds. This means that heat is controllable and, in conjunction with temperature controllers, helps to prevent over-heating of materials. With their capability to switch over to different firing temperatures, infrared ovens allow rapid product change-overs and they also save energy as the heating source is switched on only when it is required.

With the new Infrared system the quality of the coating of alloy wheels improved a lot, as the gelling of the powder is done very quick, resulting in a smooth surface after curing. The line speed could be increased and production space saved. With the new system significant amounts of energy are saved and as well Carbon dioxide gas emission.



Features

- Infrared emitters dry coating on alloy wheels
- Energy saving compared to convection
- Saving of Carbon dioxide gas emission
- Improving quality
- Increase of line speed
- Saving of space

Technical Data

- Carbon infrared emitters and medium wave emitters
- Medium wave length
- High power
- Short response times of 1-2 seconds

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