

Infrared heat saves energy and space curing powder coating

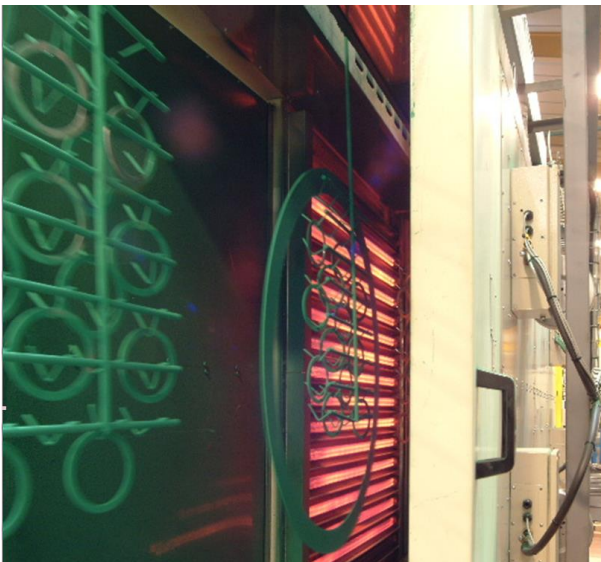
By installing an infrared oven Klinger UK Ltd has been able to achieve significant savings in energy costs in the curing of powder coatings on a range of sealing gaskets at its Bradford manufacturing plant. In addition, the infrared system occupies less than half the space required by the previous gas-fired convection oven and has also allowed component throughput to be considerably increased.

Klinger UK Ltd is one of the world's leading sealing manufacturers. The Bradford factory specialises in the manufacture of seals and sealing systems for the oil and gas and petrochemical industries.

An important stage in the manufacture of metal sealing gaskets is the application and curing of an epoxy powder coating which provides in-service corrosion protection. Previously, the coatings had been cured in a gas-fired hot air oven but this had developed a number of disadvantages, the main one being the excessive energy consumption. This was primarily caused by the fact that the oven needed to be fired up at least two hours before the start of production and then had to be run continuously throughout the shift, regardless of whether product was being cured or not.

Tests with infrared heat proved so successful that a full scale, monorail medium wave infrared oven was installed at the Bradford factory. The oven is split into three zones, the first zone is used to pre-heat the component and is followed by two holding zones, where the powder is heated further and allowed to flow fully.

Because the oven is now switched on only when needed, there has been a significant reduction in energy costs. In addition, curing is now much faster and output has been increased as there is now no need to wait for the oven to reach temperature before components are passed through. Moreover, the new infrared oven requires less than half the space of the convection oven.



Features

- no preheating
- reduction in energy costs
- Saving of time and space

Technical Data

- monorail medium wave infrared oven
- total length of 5.6m and an internal heated height of 1.3m
- gaskets up to 1.2m in diameter
- three, consecutive 1m zones
- first zone with 32, 2.75kW infrared emitters
- second and third zone are for holding with 14, 2.75kW emitters each
- controls by thyristor

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