IR Booster Before Gas Catalytic Oven Allows Increase In Powder-Coating Line Speed

By installing an infra-red booster in the vestibule of an existing gas catalytic oven, Smart Architectural Aluminium of Yatton, near Bristol have been able to increase the conveyor speed of their powder coating line by 20% and improve the quality of their high value aluminium extrusions.

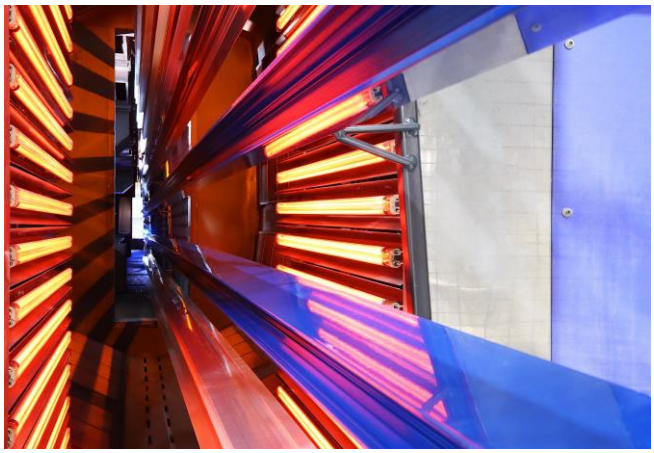
Smart is the UK's largest producer and supplier of architectural aluminium extrusions, ranging from windows, entrance doors, sliding and slide folding doors to curtain walling, ground floor treatment and conservatory roofing systems. The company's success is very much based on its investment in innovative design and manufacture and its total commitment to quality. It makes use of the latest CAD technology and all of its products are finished to the highest standards.

At its Yatton factory, aluminium extrusions are powder coated in one of three powder-coating lines, two vertical and one horizontal. Here, the products are first powder coated and then conveyed through infrared gas catalytic (GC) ovens to gel the powder, before passing through convection ovens for final curing. The gas catalytic panels for the horizontal line were fitted some ten years ago and had recently become less efficient because of contamination by free powder migrating from the oven vestibule. This was also causing quality concerns so Smart contacted Heraeus to arrange for new panels to be fitted.

However, Heraeus suggested that, to increase the longevity of the new panels, an infrared (IR) booster system could be fitted in the vestibule. This would heat the applied powder to a gel state, eliminating any powder contamination of the panels in the gas catalytic oven, where a complete gelling would be achieved before the coated parts passed to the convection oven for final cure.

Consequently, 48, 2.2kW medium wave emitters, individually mounted in stainless steel reflectors within an aluminium framework were easily secured to the existing steelwork within the gas catalytic oven vestibule.

Since installation, the system has been eminently successful. As Michael Coles, the production manager at Smart, comments, "The IR booster, which was retrofitted easily in existing space in the vestibule, has provided us with a simple but elegant solution to a possible contamination problem, increasing panel working life and improving product quality."



Features

- Gas catalytic oven
- electrical infrared booster
- powder coating of aluminium extrusions

Technical Data

- 48 2,2 kW medium wave emitters
- aluminium frame with stainless steel reflectors
- gelling of powder-coated products
- curing by convection oven

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