



Gas catalytic IR batch oven reduces cure time and improves corrosion resistance



The Challenge

As part of a continuous improvement philosophy, Lippert Components decided to improve the physical performance of their paint finish of frames for recreational vehicles under harsh operating environments. After exhaustive testing of paints and paint cure options, they decided to change to a Direct To Metal (DTM) 2-component urethane paint. Having made the decision to change paint system, an added challenge was to find a way to cure the 2-component urethane paint within a 10 minutes cycle time. At this point Heraeus Noblelight suggested a Gas Catalytic IR Batch Oven solution.

The new solution

After testing at Heraeus, it was determined that a full cure could be obtained in as little as 8 minutes with a Gas Catalytic IR, batch style oven. A custom design with a zig-zag pattern of heaters ensured the IR reached all faces of the chassis, which were stacked vertically in the new oven. The PLC controls provided a time sequenced zone heating control pattern, to ramp the surface temperature to an initial high level, and then to a lower, holding temperature to complete a 10 minutes cycle time. Further testing also proved that the Gas Catalytic IR system would also work for powder coated products too.

Improvements

- Greatly reduced cure & cycle time
- Improved resistance to corrosion
- Suitable for powder and liquid finishes
- Smoother visual finish with improved gloss
- Hard to cure areas achieve full cure
- Big decrease in energy consumption

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