Infrared Applied

BGK

How do I get a two-coat process into my one-coat system?

Product Specifications

Product	Miscellaneous Weldments
Product Material	Steel
Conveyor Type	Overhead
Coating	Powder

The Old Way

- The 2-coat powder primer/topcoat added significant corrosion resistance and durability; the problem was the 2-coat process needed to be added to an existing 1-coat layout.

- The customer first added a powder primer booth to the line.

- Parts then needed to pass from the primer booth through the convection oven all the way back to the topcoat booth and back through the convection oven.

Problems and Goals

- The two-pass requirement resulted in a bottleneck at the paint line and loss of overall production and an increase in manpower costs.

- Then the product mix began to include more 2-coat process parts.

- The decision to add an intermediate oven between primer and topcoats was obvious.

The New Way

- The updated process begins when parts are manually loaded onto hangers supported from the overhead conveyor.

- The hangers travel through a pretreatment system, a dry-off oven and open-air cooling before entering the primer powder booth.

- Once primed, parts enter the infrared cure oven to partially cure the coating.

- Parts then immediately enter a cooling chamber and on through the topcoat powder booth.

- After the topcoat the conveyor serpentines through a long convection oven for final full cure, then through another cooling chamber and back to the load/unload area.

Benefits

- By adding the electric infrared, partial cure oven, the customer was able to transform an existing single pass, 1-coat powder finishing line into a single pass 2-coat system without conveyor modifications.

- As a result, the customer is able provide their customers with a premium corrosion resistant, powder-coated product with minimal conversion costs.

- The customer also realized significant energy savings, operating and maintenance costs.

- Most importantly they eliminated the requirement for a second shift.