# Infrared Applied

## *Double production without increasing manpower or floor space...HOW?*

## Product Specifications

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|---|---|
| Product | Case Goods |
| Product Material | Steel |
| Conveyor Type | Overhead |
| Coating | Powder |

## The Old Way

- Parts were hung from an overhead conveyor system and conveyed through a powder booth then into the hot air oven.
- As the parts conveyed through the oven, the power and free conveyor would stack the parts for 30 minutes before they exited the oven.

## Problems and Goals

Problems
- Parts of similar colors had to be run in batches to eliminate contamination.
- Increase in demand could not be met with the existing labor force.

Goals
- Increase production output
- Process different colors without delays or contamination issues
- Reduce time in hot air oven
- Maintain high quality finish
- No increase in labor cost

## The New Way

- Utilize the power and free conveyor along with a high intensity electric infrared booster oven.
- Installation of a 12' section of opposing heaters in the existing oven vestibule.
- The parts convey in, as before, at 45 FPM, then stop for 12.4 seconds in the infrared booster section then continued on at 45 FPM.
- Total infrared exposure time is 28.4 seconds and the product temperature was raised to 250°F.

The booster section yielded the following results:
- Powder melted and flowed in the section of the oven without a lot of air flow.
- Low air flow eliminated powder from becoming airborne in the oven and contaminating other parts of different colors.
- The 250°F rise in the product temperature reduced the hot air oven time from 30 minutes to 15 minutes.

## Benefits

Increased Production
- Production rate was doubled (without an increase in manpower or oven size).
- Fewer delays (colors no longer run in batches)

Space Savings
- No added floor space since the infrared booster was able to be installed inside the existing hot air oven.

Goals Were Met
- All 6 goals set for this project were realized.
- The customer invested minimal time, money, and man power to achieve these goals.
- High quality product output more efficiently

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