

T A C - Brief

Technology Applications Center News Update

Infrared booster doubles line speed . . .

When a manufacturer of metal outdoor furniture needed to expand their painting operations to meet demand, they asked the TAC for assistance.

Problem Statement: This manufacturer of upscale outdoor patio furniture was seeing a double digit yearly increase in their sales. On the production floor, meeting the fabrication demand was manageable, just hire more folks. However, when it came to painting all this extra production, the painting supervisor said they would have to add an additional shift.

*With the bottleneck identified...*The teams' first evaluation task was to look at the existing convection oven. The additional Btus (energy) needed to handle the increased production was simply not there. Optimizing the performance of the existing oven had already been done. The next step was to look at adding more convection oven. This was certainly an option, but the floor space to do so was not there. However, there was some space in front of the oven that could be utilized.

*With only 32 feet to work with...*This limitation steered the project team to evaluate a booster oven application. A booster oven is generally defined as adding additional heat to the front end of an existing convection oven. The most common heat source used is radiant heat, more commonly called infrared heating. For this customer to double their existing line speed, the booster oven was going to have to delivery a lot of heat in a very short time.

*The options are evaluated...*The TACs offer our customer the opportunity to product test a variety of infrared ovens. For this team, all the infrared wavelength were tested and evaluated.



Infrared booster has benefit of flowing powder in first minute.

*Mission accomplished...*The project team completed their evaluation with a recommendation to increase the line speed to 42 ft/min, adjust the chemicals in the multi-stage wash system to handle the additional loading, and increase the length of the off loading area to accommodate the placement of additional product being off loaded.

Benefits realized:

- Single shift painting operations
- Gel takes place in booster
- Cost to install was less of all options considered.
- Floor space savings

About the TAC: Southern Company operates two Technology Applications Centers, one located in Atlanta, GA, operated by Georgia Power. And, the other located south of Birmingham, AL operated by Alabama Power. Both facilities are designed to assist Southern Company industrial customers with solutions related to heating processes. The use of both facilities is currently free to our customers.

TAC – West
Alabama Power Company
Calera, AL

Southern Company
Technology Applications Center

TAC - East
Georgia Power Company
Atlanta, GA