

Annealing PVC Molding with Model 5306 Infrared Strip Heaters

Application

A manufacturer of plastic extrusions annealing PVC auto molding.

Problem

Temperature Requirement - The PVC molding had to be heated to 180°F (82°C) to complete the annealing process.

Slow Line Speed - The existing heating method could achieve the required product temperatures at a line speed of 23 feet (7 meters) per minute.

Limited Production Output - The existing line speed was not fast enough to meet production output requirements.

Solution

Heat - Four Model 5306-25 Infrared Strip Heaters provided heat to anneal the PVC auto molding.

Power Control - Two Model 664F Phase Angle SCR Power Controllers controlled the power to the Infrared Strip Heaters.

System Integration - The Infrared Strip Heaters and SCR Power Controllers were installed with a laser thermometer and a PLC.

Instant On/Off - The Infrared Strip Heaters responded instantly to changes in line speed.

Benefits

Faster Line Speed - The Infrared Strip Heaters allowed the manufacturer to increase line speed to 32 feet (9.8 meters) per minute while achieving the required product temperatures.

Increased Production Output - The increased line speed enabled the manufacturer to increase production output by 39%.

Closed-Loop Control - By integrating the Infrared Strip Heaters and SCR Power Controllers with a laser thermometer and a PLC, the manufacturer was able to monitor product temperature and tightly control the annealing process.

Improved Quality - The quality of the PVC auto molding improved as a result of the new, tightly-controlled heating system.

Responsive Heat Source - The instant on/off capabilities of the Infrared Strip Heaters enabled the manufacturer to begin production without warming up the heating system, and to immediately stop running the heating system when the production line stopped.

Reduced Energy Consumption - By running the heating system only when the production line was operating, the manufacturer reduced the amount of energy needed to complete the annealing process.

Ability to Upgrade - The modular design of the Infrared Strip Heaters positioned the manufacturer to add more heaters as needed for future production requirements.