

Curing Powder Coating on Aluminum with Model 4554 High Density Pyropanels

Application

A manufacturer curing powder coating on aluminum brake rotors.

Problem

New Process - The manufacturer was beginning a new process of coating aluminum brake rotors with rust-prohibiting powder coating.

Precise Temperature Requirement - The brake rotors had to be preheated to 225°F (107°C) before the powder coating was applied. After application of the powder coating, the brake rotors had to be heated to 425°F (218°C) to complete the cure.

Batch Runs - The curing system had to effectively provide heat for batch runs.

Solution

Heat - Model 4554-A-16-06 High Density Pyropanels were used to heat the aluminum brake rotors to the appropriate temperatures. Two heaters were used in the preheat station and three in the cure station.

Power Control - A Model 664F Phase Angle SCR Power Controller controlled the power to the heaters.

Instant On/Off - The quartz lamps in the High Density Pyropanels heated up and cooled down instantly in response to power changes.

Benefits

Precise Temperatures - The High Density Pyropanels, combined with the Phase Angle SCR Power Controller, provided the precise temperatures the manufacturer needed to preheat the brake rotors and cure the powder coating.

Responsive Heat Source - The instant on/off capability of the heaters enabled the manufacturer to apply power only when a batch of brake rotors was being manufactured.