

# Drying Water-Based Adhesive on Paper with Model 4185 Infrared Strip Heaters

## Application

A printer of multi-part forms drying water-based adhesive along a thin strip to bind the parts of forms together.

## Problem

**Environmental Concerns** - The solvent-based adhesive originally used to bind the forms contained CFC's which were emitted into the atmosphere when heat was applied to dry it.

**Excessive Cost** - The solvent-based adhesive was becoming cost prohibitive as its availability decreased.

**New Adhesive** - Due to the environmental and cost concerns associated with the solvent-based adhesive, the printer began using a new water-based adhesive.

**Slow Line Speed** - Using the existing heat lamp drying system with the water-based adhesive decreased line speed from 1000 to 200 feet (305 to 61 meters) per minute.

**Variable Adhesive Location** - The system used to dry the adhesive had to adjust to both vertical and horizontal application of the adhesive.

## Solution

**Heat** - Four Model 4185-10 Infrared Strip Heaters with 2000 watt lamps applied heat to dry the water-based adhesive.

**Power Control** - A Model 664F Phase Angle SCR Power Controller with a manual adjustment potentiometer controlled the power to four heaters.

**System Integration** - The Infrared Strip Heaters were mounted on moveable brackets so their orientation could be changed to match either vertical or horizontal application of the adhesive. The SCR Power Controller was interlocked with the press start/stop controls.

## Benefits

**Faster Line Speed** - The Model 4185-10 Infrared Strip Heaters increased the line speed to 1000 feet (305 meters) per minute.

**Better Environment** - By successfully using the new water-based adhesive, the printer was able to eliminate the emission of CFC's from the bonding process.

**Cost-Effective** - The printer experienced a cost savings as a result of switching to the water-based adhesive. In addition, by interlocking the SCR Power Controller to the press start/stop controls, the printer was able to operate the heaters only when the press was running.

**System Flexibility** - The integration of the Infrared Strip Heaters with the movable brackets provided the orientation flexibility required by the printer. The heaters could be positioned in less than one minute to dry either vertically or horizontally applied adhesive.