

# Heating Thermoplastic Composite Tape with a Model 4085 Infrared Spot Heater or Model 5194 Infrared Line Heaters

## Application

A manufacturer heating thermoplastic composite for filament winding.

## Problem

**Focused Heat** - The energy from the heat source had to be localized to maintain the accuracy of melt-zone size.

**Winding Speeds** - High heat flux densities were required to achieve acceptable winding speeds.

## Solution

**Heat** - For tape widths of 6 mm or less, a Model 4085 Infrared Spot Heater supplied the heat to the thermoplastic composite tape. For tape widths exceeding 6 mm, Model 5194-02 Infrared Line Heaters supplied the heat to the thermoplastic composite tape.

**Power Control** - Model 664F Phase Angle SCR Power Controllers controlled the power to the Infrared Spot Heater and Infrared Line Heaters.

## Benefits

**Focused Heat** - Both heater types were able to focus the heat to maintain the accuracy of melt-zone size.

**Winding Speeds** - By providing heat flux densities as high as 650 watts per square inch (100 watts per square cm), the heaters enabled the manufacturer to achieve acceptable winding speeds.