

Bonding Wire with a Model E4 Radiant Heating Chamber

Application

A wire assembly manufacturer bonding small-gauge wire together for special wire color combinations.

Problem

Product Variety - The manufacturer produced wire assemblies in a wide variety of color combinations.

Lack of Control - The manufacturer did not have adequate control of the bonding process which was performed by a subcontractor, or of the subcontractor's delivery times.

New Process - To bond the wire together in house, the manufacturer had to implement a new production process.

Solution

Heat - A Model E4-10 Radiant Heating Chamber applied heat to the small-gauge wire to bond it together.

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

Power Adjustment - The SCR Power Controller was equipped with a potentiometer used to adjust the power to the Radiant Heating Chamber.

Benefits

Precise Heat - The combination of the Model E4 Radiant Heating Chamber and Model 664F Phase Angle SCR Power controller provided the precise heat output required for the wide variety of color combinations of the bonded wire.

Quality Bonding - The Radiant Heating Chamber gave the manufacturer the capability to produce quality bonds between as many as six small gauge wires of different colors.

Repeatable Process - By performing test runs and recording the correct potentiometer setting for each combination of wires, the manufacturer was able to set the potentiometer to apply the correct amount of heat for each combination each time it was produced.

Just In Time Production - Being able to bond the wires together in house allowed the manufacturer to implement just in time production procedures for the wire assemblies.

Reduced Costs - Producing the bonded wires in house reduced the manufacturer's costs by 70%.