DELTA-THERM

HEAT SOURCE

Adjustable Control Panel Heats Up Production

The adjustable control panel engineered by Delta-Therm for Fiberod's sucker rod assembly line helps increase production output for the product line.

CLIENT: The biggest oil producers, including ExxonMobil and ConocoPhillips, and smaller independent companies, count on Fiberod. Fiberod, located in Big Spring, Texas, supplies oil producers with specialized, non-corrosive sucker rods for use in their wells. The end result, as anyone can guess, is gasoline for our automobiles.

CHALLENGE: How To Adjust The Control on a Bank of Infrared Heaters?

Fiberod needed to improve how their assembly line heats and cures the epoxy on sections of their sucker rods. The new system uses a large of bank infrared heaters and Fiberod needed to adjust the heat output depending upon the size of the sucker rod. To do this they required a customized 80,000 watt adjustable control panel.

Delta-Therm's national sales manager, Mike Cienkus was meeting with a distributor in western Texas to discuss Delta-Therm's standard heat tracing products. "We also talked about our ability to design UL Listed custom panels," said Cienkus. "We hadn't left the area yet and within three hours, Fiberod called us about their production line."

SOLUTION: Use a Customized Adjustable Control Panel

Delta-Therm engineer Ed Witte designed a custom panel for Fiberod's assembly line plant using a 42" x 36" x 12" enclosure that controls 480 VAC three-phase power to the 80 kW infrared heater load.

The voltage level to the load can be set using a rotating dial on the enclosure door. Duration of the heat is also adjustable, and a digital voltmeter provides visual indication of the output voltage. Once voltage and duration are set, plant employees press a button on the panel door to start the heaters.

"They can specify what voltage they need to do the process," said Witte. "They can dial up the optimum parameters to keep the process at the most cost-effective level." Witte describes the panel as a "giant dimmer switch."

"Instead of dimming lights, you're dimming giant heaters," he said. "It's capable of 80,000 watts, but they can preset at any wattage level."

For Fiberod's specific needs, the custom panel provides three functions:

a) slowly warms up the heaters, ramping up to the selected voltage in 60 seconds thus preventing thermal shock;

b) maintains the wattage level for a certain length of time;

c) shuts down and cools the system using an internal fan for a preset length of time.

The best news for any client is that Delta-Therm's turnaround time is phenomenal.

"We can design and build these custom panels within six to eight weeks," said Witte.

RESULT:
When it comes to manufacturing, the measure of success is often found in numbers. In this case, it is how many rods can be produced per hour.

"Actually what it does in the role that it plays is speed up our production processes," said Floyd Brownsfield, vice president of manufacturing for Fiberod.

The time and the temperature are variable which is important to Fiberod because different sizes of materials - including 3/4", 7/8", 1" and 1-1/4" fiberglass sucker rods - are heated.

The Big Spring, Texas plant's custom panel worked out so well that Fiberod decided to purchase a second unit for its assembly line plant near Presidio, Texas.

"It was well engineered to do what we needed to do with it," said Brownsfield.

The bottom line, he stated simply, is "it works."■

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