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"Uniform annealing in this new furnace is giving the customer a faster heat up cycle as far as production is concerned."

Nutec Bickley recently installed an annealing oven custom design for processing real mounted compact aluminum cable. What makes this custom design oven so unique?
Following our customized furnace business concept, we follow our customer input of their needs. They needed a fast and very uniform temperature control, plus some additional production features that made the process very simple, which was different from previous furnaces that they had.

How does the oven perform this uniform annealing?
Uniform annealing in this new furnace is giving the customer a faster heat-up cycle, keeping their temperature uniformity requirements. Our air recirculation system with its custom-design baffles system allows us to gain this benefit.

Did that increase the time and make it less efficient?
Yes, the time to process the product was longer, and they needed additional personnel to operate it, especially in the loading and unloading process.

Why is uniform annealing important?
For this furnace, it was mainly for mechanical properties of the cables they were processing so they can bend and unbend when they install them. We understand there are also some electrical conductivity benefits.

The first benefit of uniformity in the annealing process requirement is to get better mechanical properties with the cable. They use it to install it through some pipes so it flexes better.

This cable is for conducting electricity. We understand with this process you'll be able to perform better as far as the conductivity, but mainly the request for the customer was to help with mechanical properties.

How does the oven's advanced insulation system maximize its thermal efficiency?
We use a ceramic fiber lining, which we have some patents on in our company. The way we install the ceramic fiber compared to others is, we eliminate joints; we eliminate the exposure anchors. The combination of all of this makes a better installation, which, at the end of the day, saves energy.

What makes the oven's HMI system so user-friendly?
Our standard HMI is very friendly in general for setting up heating cycles and interfacing with the operator. But in this particular case, the customer requested that our HMI integrates with the previous process and the next process they have in the factory. It makes for a very flawless production process. That's part of what I earlier mentioned in that it requires less personnel by having in the HMI several sequences and multiple activities set up in one single button.

It's a feature that was to the benefit of the process of loading and unloading the equipment.

Does the HMI system benefit the fact that a generation of workers are aging out of the industry? Will this help bring in newer people with less necessary experience?
Yes, by being very user friendly and adding several additional features compared to the previous furnaces, that allowed the new furnace to have a very flawless activity. You can have one person looking at the HMI, and from there he directs everything, when before you have multiple people going to the furnace itself to activate some valves or sensors — things like that. And now, you do it all on the screen.

In what ways has the new oven improved its owner's production?
They're very happy with it. They've been talking about getting one more unit in the near future. They're happy with its performance. We met their expectations, and now they're talking of a possible future unit.

Is there anything else you'd like to mention that we didn't talk about?
This is the third unit we've delivered to Mexico and in South America. They're happy with what we are doing, and every time we do work for them, we improve it with their feedback. We always take into consideration the feedback from customers. Every job tries to improve something that came before.

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