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Growing the Powder Market Together

**USING POWDER
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- Phosphorous-Free Pretreatment
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- Batch Powder Coating/Batch Ovens

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Growth Demands Powder Coating Line Productivity Improvements

Read how the installation of a gas-fired batch oven and new powder application equipment improved product quality for this Wisconsin finisher.

Professional Powder Coating (PPC), a powder coating facility in Sparta, Wis., was established in 1999 after partners John Mashak and Ed Quinn realized there was a need in the Sparta area for more powder coating solutions. The company experienced rapid growth and now has 24 employees. PPC powder coats a range of products, including pipes that carry drinking water, grills, furnace panels, fences and children's archery bows. The company currently is located in two buildings, and in the process of adding a third.

Selecting Coating Equipment

The growth of its business necessitated PPC to purchase additional powder coating equipment. After careful consideration, Mashak and Quinn selected the OptiFlex™ system from ITW Gema. This system allows PPC the ability to coat its parts right on the first pass, along with the technology to store application settings for easy recall in any coating scenario.

PPC had been struggling with a job that consisted of several semi-loads of parts coated in Europe with the wrong color. The part had to be recoated and the finish was less than optimal. With their new application



PPC's Dustin Walters uses a new manual powder coating gun to coat a panel for a laminating machine.

equipment, Mike Olsen, shop manager at PPC, said, "It was effortless to recoat these parts, like coating a completely bare part."

A Cure for the Cure

PPC ran into trouble, though, when they needed to cure products that were longer than their oven. So, they placed two older 10' long batch ovens back-to-back to create a 20' long oven, the length

required for some of the products they were curing.

Unfortunately, this setup of the back-to-back batch ovens was not providing sufficient temperature uniformity to effectively cure the powder coating. Temperatures throughout the ovens fluctuated drastically, resulting in areas of parts being over-baked or under-baked. Often, the paint on the final product would crack or peel off. Due to the lack of uniformity, the



As a result of temperature uniformity throughout the entire oven chamber, PPC is able to load its 20' long gas-fired enhanced duty walk-in oven to capacity, processing three times the amount of parts in one load than before.

Photo courtesy Wisconsin Oven

ovens could not be fully loaded, and therefore, were inefficient in regard to time and energy.

PPC concluded that it needed an oven with uniform temperature throughout the entire work chamber in order to maximize work loads and provide consistent quality in the end product.

The finisher turned to Wisconsin Oven to install a 20' long gas-fired enhanced duty walk-in oven, which

The growth of its business necessitated the company to purchase more finishing equipment.

has doors at both ends. This line of equipment has side-mounted supply ducts on each wall, which provides air from both sides of the work chamber.

Another standard feature that the oven utilizes is a ceiling-mounted return duct, which collects the air and returns it to the heating plenum.

Both the supply and return ducts extend the full length of the chamber, providing even airflow throughout the length of the oven. Tongue-and-groove panels with punched rails and 4 inches of 6# density insulation help reduce heat loss, which reduces energy costs and improves chamber uniformity.

PPC required a temperature uniformity of ± 15 at 375°F. The actual uniformity in the oven after performing a standard nine-point test was $+7/-5$ at 375°F. The new oven provides the temperature uniformity necessary to effectively cure the powder coating to the product. As a

result of this temperature uniformity throughout the entire oven chamber, PPC is able to load the oven to capacity, processing three times the amount of parts in one load than before.

PPC reports that all the employees are extremely satisfied with their new oven with user-friendly controls.

The oven is more energy efficient than the previous units, too. Although the new oven operates for longer periods of time, PPC reports that it has seen substantial cost savings in utility bills.

"Our new oven has vastly changed our rate of production and quality," says Ed Quinn. "The temperature is precisely accurate and uniform every time. There is no gambling, no checking the temperature gauge, we get the same result every time."

With its new powder coating equipment and oven, PPC says it has experienced improved quality of the end product and an increased rate of production; PPC has increased their overall business. They are planning on expanding in the near future by adding an automated line to keep up with their growing business.

To contact PPC, call 608-269-1107. For information about ITW Gema, visit www.itwgema.com. For information about Wisconsin Oven, visit www.wisoven.com.



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WISCONSIN OVEN CORPORATION

phone (262) 642-3938 • fax (262) 363-4018 • 2675 Main Street P.O. Box 873 East Troy, WI 53120 USA
www.oven-epack.com/pct • sales@wisoven.com

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