



Powder Application Case Study – Fence

Aluminum Products, St. Augustine, FL



Fast Color Change and Increased Reclaim Make Nordson the Ideal System for Florida-Based Fence and Gate Manufacturer

Just two months after installing a new powder coating system, Ideal Aluminum Products sees dramatic improvement in efficiency and cost savings



When your products are used outdoors in all 50 states, Canada, Central America and the Caribbean, it's important that they be powder-coated tough – able to withstand a wide range of harsh environments and weather conditions, and look good doing it.

Ideal Aluminum Products of St. Augustine, FL, is a privately owned company that manufactures powder-coated fences, gates, railings, guardrails, arbors, louvers and privacy panels. Their products provide aesthetically pleasing safety and security for commercial properties including resorts, hotels, country clubs, apartments and stadiums; industrial properties; schools; parks; and residential properties, to name just a few.

Established in 1998, Ideal was purchased by partners Doug Brady and Michael Siegel in 2010. In four short years, the new owners have turned it into one of the fastest growing companies in the fencing, gates and railing industry.

Known for its breadth of product line and custom capabilities, the company operates under the

principle that continuous process improvement and investment in new equipment and technologies creates value for its customers.

Relocation facilitates powder coating system upgrade

Recently, Ideal Aluminum Products moved its manufacturing north – from Deland, FL to St. Augustine, FL. “We also decided that the time was right to replace

our 10-year-old powder coating booth with a state-of-the-art powder coating system,” says Siegel. “We’ve always produced quality products, but powder coating technology has evolved and improved dramatically over the past decade. We knew that we could really benefit from faster color changes, higher powder reclaim rates and more efficient powder application.”

Self-described spreadsheet and efficiency enthusiasts, Siegel and Brady began planning for their new powder system more than two years ago, meeting for a full day with their powder and chemical suppliers to review two years worth of production data. Afterward, they constructed a model of what they believed would help them achieve maximum efficiency in their powder coating process. Armed with data and a model, Siegel and Brady presented their ideas and requirements to multiple powder booth manufacturers and system integrators at the Powder Coating trade show in October 2013.

“We put everyone on a level playing field by providing them with eight pages of information and detailed requirements” says Brady.



After careful consideration, Ideal chose Pneu-Mech Systems (Statesville, NC) and Nordson Corporation (Amherst, OH). “There was a ton of knowledge transfer about the limitations of our old system and the capabilities we wanted in a new system,” says Siegel. “There were a number of things we really liked about Nordson. They really understood our needs. They worked with us to run cost analyses of reclaim efficiencies and color change times as well as multiple scenarios to calculate system payback.

“In the end, we had a high confidence level in the financial analysis, we knew Nordson’s reputation in the industry, and liked that we could deal directly with them during installation and future service,” says Brady.

In December 2014, Pneu-Mech installed an 800-foot oval, monoplane line including a Washer, Dry-Off Oven, Environmental Room, Infrared Booster, Cure Oven, Nordson ColorMax® 2 powder booth; 14 bar-mounted Nordson Encore® automatic spray guns; two Encore manual spray guns for touch up; an Encore feed center; a Nordson iControl® integrated control system; and an easy-to-clean Nordson® breakaway cyclone. The



engineered ColorMax booth also features a 3 ft. x 9 ft. opening to accommodate Ideal’s fence, pickets, rails, posts and other large products and components.

Powder meets parts...improves productivity

To achieve the product quality and durability required in the fence and gate industry, Ideal uses a five-stage wash cycle prior to powder coating. First, the

aluminum alloy is treated with a phosphate cleaner. Second, it receives a phosphoric acid wash. Step three is a water rinse. Fourth, an acid-based metal cleaner and oxide remover is applied. The fifth cleaning step is a new, reverse-osmosis water rinse. The thoroughly cleaned parts receive their chrome-free, non-phosphate chemical coating and are powder coated with a thickness of 2 to 4 mils, depending on product type.





Ideal uses PPG ARC 2001™ flouropolymer and PPG Newlar flouroethylene vinyl ether (FEVE) powder coatings to deliver hardness and impact resistance, as well as chemical, abrasion and corrosion resistance for their fence, gate and other products.

The company uses four standard colors: black, white, bronze and hunter green, but also offers hundreds of custom color options.

Compared to their previous vertical, cartridge-style power coating system, Ideal Aluminum Products has recorded numerous benefits and advantages with their new Nordson/Pneu-Mech System.

The monoplane line allows denser loading and packing of the powder coating line for better utilization and efficiency. The line moves at 10 ft. per minute.

The ColorMax 2 spray booth allows Ideal to make color changes in 10 minutes or less instead of the 40 minutes required in the past.

“We change colors an average of eight times per week,” says Siegel. “Previously, we had

to be very careful with scheduling our color changes. The fast change capability of our new Nordson system gives us much more flexibility in our production scheduling and the ability to change colors for shorter runs and custom colors when needed.”

The Encore spray guns and iControl system give Ideal more consistent flow of paint to the parts, and therefore, more mileage out of their powder. “The sensing technology also prevents the guns from spraying when there is a gap between parts. So, we put less paint in the booth to get the same mil thickness of coating,” according to Siegel.

Even in the few short months since the installation was completed, the company has recognized significant powder reclaim and labor savings. As a result of the powder coating system’s increased efficiency, the 100-employee company now operates one shift rather than two, producing 50 percent more products at a higher quality. Partners Brady and Siegel expect to eventually realize 3 to 4 times the productivity of their old system.

Best possible outcome

“The quality of the finish on our products was always good,” says Brady, “But now, it’s unbelievable,” says Siegel. “We had pretty tough requirements and high expectations when we entered this project. The Nordson system is even better than we thought it would be. We got the best possible system at the best possible price...the best possible system for our business.”

For more information on powder coating systems from Nordson, visit www.nordson.com/powder or call 800.433.9319.

To learn more about fencing, gates and railings from Ideal Aluminum Products, visit www.ideal-ap.net or call 877.323.6496.

For more information on powder coating technologies from Nordson, call 1.800.433.9319.

For more information, speak with your Nordson representative or contact your Nordson regional office.

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