



Powder application case study

Sun Windows, Owensboro, Kentucky

Performance by design



Sun Windows Improves Production Output by 30 Percent with Nordson Color Change Technology

Chris Anderson stated, “Thank goodness we brought in Nordson it was a game changer.”

Sun Windows is a family owned window and door manufacturer based out of Owensboro, Kentucky, USA since 1930. Over the past 90 years the family has used innovative technologies to provide an exceptional product for their customers. They pride themselves on quality and actively explore alternative ways to improve their windows. In 2008, their Kentucky manufacturing plant incurred damage from weather conditions created by a hurricane. During the rebuild, they expanded their footprint and opted to bring powder coating finishing in house. Although Sun Windows' was “new to the game” they quickly realized the durability and improved quality that powder coating provided to their windows and doors.

Market demands impacts production

Ten years later the company was faced with a challenge; how could they meet demand as styles changed and the traditional white windows and doors became every color imaginable? What once made up most of their production, now white only makes up 30% of their total sales. While the multiple color options make up the other 70% of their sales. During the powder color change process, Frank Anderson, President of Sun Windows said, “It took nearly 45 minutes to an hour to complete and our reclaiming capabilities were mediocre as we mostly sprayed to waste.” Sun Windows had a manual painting process with up to four operators per line for colored jobs. The time to train operators on slight angularity differences in the spray application was hindering their output and downtime. “We were scrapping a lot of our painted parts. Scrap was up, and quality was down,” noted Chris Anderson, Operations Manager. They realized they needed to explore the market on new ways to quickly change colors and automate their powder coating system.



Automated Powder Application



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Robotic implementation was thought to be the solution

At first, Sun Windows thought a robotic solution was the answer to their production dilemma. “We were looking at a robotic solution with a local firm to come up with a system that could oscillate and change our manual color booth into an automatic system,” Frank mentioned. Sun Windows was primarily focused on their core value, consistent quality, but they soon realized two other factors would have a financial burden on the organization if they continued to overlook them. The powder reclaim process was the first factor, “We were wasting a significant amount of powder and needed a better solution to reclaim instead of spray to waste,” Chris said. The second factor was the speed and efficiency of a color change. As demand began to exceed their capacity, Sun Windows decided to contact Nordson for a powder coating solution.

Sun Windows explores Nordson technology

Sun Windows had been utilizing Nordson powder guns in their current production and knew there might be an opportunity to explore new innovations. Greg Dawson, Senior Sales Manager, and David Schneider, Powder Systems Specialist, did not hesitate to follow up with Frank and Chris Anderson. “Nordson made a powerful presentation and took us to a manufacturing plant in Atlanta to see the equipment in person,” Frank mentioned. Greg and David were able to display the [ColorMax® 2 fast color change spray booth](#). The booth canopy was made of durable Apogee® composite material. This material prevents powder accumulation inside the booth and allows for a higher powder transfer efficiency as well as trustworthy overspray containment. The transfer efficiency from the [Encore® HD automatic spray guns](#) is in excess of 70% and reassured the team the entire part would be consistently coated. Next, the ease of changing colors blew them away. The total color change process took only 6 minutes, compared to the hour it took Sun Windows to complete. The [Encore® Powder Feed Center](#) was also presented to allow for efficient, operator friendly contamination free color changes of the powder. Frank and Chris quickly realized that Nordson was able to solve their three pain points: consistent quality, quick color change process and efficiency reclaiming powder.

Nordson’s Superior customer service exceeds Sun Windows’ expectations

Once the decision was made our team of technicians were eager to install the ColorMax 2 spray booth into the Owensboro, Kentucky manufacturing plant. Frank and Chris were delighted to see the same “family-first” mentality carried throughout the installation process. “Our technician, Tony Chaney, was so passionate about helping us. He would call us as he left his home – we even had his cell phone number. It was really impressive to have someone that cared.” At Nordson we take pride in our customers even after the point of sale. Once you become our customer you become our family. Whether it’s training your staff or helping to find a spare part, we are here for you and your customers.



We visited many powder booth suppliers but something stuck out with Nordson, they took our requests seriously.



Consistent Uniform Coatings

After the seven-day installation process was complete, the team at Sun Windows realized there was an opportunity to have us train their team of managers and operators. Sun Windows had two of their team members travel to Amherst, OH to attend Nordson University. [Nordson University](#) is a two-day hands-on workshop that teaches customers the basics of powder coating, application techniques and ways to improve troubleshooting and maintenance for Nordson equipment. The workshop is composed of lecture style content and hands-on interactive training, both with our booths and spray guns. Sun Windows mentioned how valuable the course was for them and how they learned about our [TrueBlue™ Service Plans](#). TrueBlue is a preventative maintenance service program that allows our customers the opportunity to protect their investment. Whether it's a system health assessment, training or routine maintenance the TrueBlue Service Plans give our customers added confidence and reliability in their equipment. When we asked Sun Windows why they choose to implement a TrueBlue Service Plan their response was effortless, "We wanted to optimize our system capabilities. We did it by training our operators. It was easier and more effective to learn from powder coating experts versus our family."

Sun Windows earns a positive return in year one

The decision to enhance Sun Windows' powder coating application quickly impacted their financial performance. When the COVID-19 pandemic spread in the United States, many manufacturing plants were expected to suffer a decline in orders for the year. "We were anticipating a 30% decline during the pandemic but now are able to sustain a 30% sales increase over last year, in a large part due to new powder coating automatic system," Chris exclaimed. At the beginning of the year Sun Windows did not think they had the technology to meet the high demand of orders. Once they added the ColorMax 2 fast color change booth they were able to increase their line speed 25% to 30 percent. The Encore HD automatic guns integrated booth and application technology paired with the Encore Powder Feed Center also proved that reclaiming 95% of over sprayed powder is anticipated to save Sun Windows \$25,000 in material costs this year alone. The Sun Windows team is delighted about the consistent quality they receive on their powder coating application. "Our scrap is down a large percentage," said Chris, which has helped them make leaps and strides ahead of their competition. The management team at Sun Windows estimates to earn a full payback of their equipment investment in four years, with a total return on investment of 345% by year fifteen. We are proud to help our customers achieve these financial milestones.

Whether you are a current or potential customer, we are here and always ready to help. Chris Anderson stated, "Thank goodness we brought in Nordson it was a game changer."

Now that's *Performance by design.*

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Quality Finished Extrusions



Sun Windows, Inc.

1515 E 18th St
Owensboro, KY 42303
270-684-0691
info@sunwindows.com

Nordson Corporation

100 Nordson Drive
Amherst, Ohio 44001, USA
+1.800.433.9319
nordson.com/powder

Find your local Nordson office:
www.nordson.com/icslocations

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