



SMC Metal Fabricators, Inc. **– Oshkosh, WI, USA** case study

A switch to High Density, Low Velocity powder pumps enabled this metal fabricator to realize significant cost savings with a new powder coating system.

Performance by design



Significant Cost Savings & Fast Return On Investment

Nordson is one of the world's largest and most experienced leaders in powder coating application technology. Offering an expansive product line – from relatively simple manual systems to sophisticated, programmable, automated systems, Nordson provide expertise and ongoing support that is unmatched in the industry.

The Challenge

SMC Metal Fabricators, Inc. is a custom contract fabricator of sheet metal, light plate component parts, and assembled products. With over 60 years of experience in the market, SMC has earned their reputation of providing expert customer solutions, and are expected to deliver quality products with each and every output.

In 2014, SMC started to experience some issues with their old powder coating system. Gregg Popp, Technical Supervisor at SMC, was tasked with the mission to find a new solution.

“With some regulatory and cost issues we needed a new powder system ASAP. In 2014, I attended the annual Powder Coating show in Indianapolis to check out the equipment providers. I was already familiar with Nordson, since we were already using their coating guns, so I wanted to see what new options they had for me and my team” stated Gregg.

The team at Nordson met with Gregg to truly understand his needs and challenges. Local Sales Representative, Loren Smeester, took the lead.

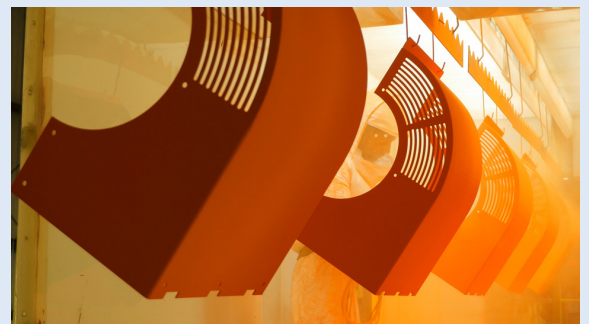
“Gregg had some challenges to overcome with his old powder system. He wanted a new system that could deliver the following benefits”:

- Increased production throughput
- Reduced coating process costs
- Reduced maintenance costs
- A booth design that could safely accommodate multiple painters and adhere to safety regulation standards

“We were determined to find Gregg and his team the right solution” stated Loren.



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SMC Metal enjoy the benefits from Nordson's Lean Cell Fast Color Change Powder Coating System.

The Solution

Gregg and his team at SMC Metal spent the next year reviewing their options from multiple system suppliers. Nordson visited their plant in Oshkosh, WI, USA and came up with an efficient solution to suit their needs.

The solution was Nordson's Lean Cell® Fast Color Change powder coating system, paired with HDLV® (high density, low velocity) powder pumps. Once he saw a demonstration of the powder application and flawless ultra-fast color change from Nordson's technology, Gregg was sold.

Nordson's Lean Cell Fast Color Change booth sets the standard in lean powder coating, with unsurpassed coating performance and efficiency, and color change in 20 seconds or less.

- Innovative open-face canopy allows for maximum operator access to parts being coated
- Flexibility of movement based on part size and shape for highest-possible transfer efficiency
- Easy-to-use operator interface
- Higher CFM capacity than conventional booths
- Each operator can select up to 28 different colors on-demand

Pairing the Lean Cell booth with the HDLV pumps also enabled Gregg and his team to switch out from older venturi powder pump technology. Nordson's patented High Density Low Velocity (HDLV) pumps deliver powder to the spray guns with a high density of powder and an absolute minimum of air, providing significant improvements over traditional venturi-style pump designs. HDLV allows operators to independently control how much powder and how much air to use to consistently achieve perfect application results. Additionally, the pumps are self-cleaning for ultra-fast color change without any disassembly, and have no wear parts that affect the powder output, which enables thousands of hours of consistently applied coating thickness and powder savings.

"We were a bit nervous to switch to an entirely new technology, but seeing the testing results, and with the assurance of Loren and his team, we were quite excited for what was to come" declared Gregg.

The Benefits

In early 2016, SMC Metal overtook the installation of their entire new powder system, along with the help of local Nordson representatives Loren Smeester and Bob Hassert.

Once the new Lean Cell system with HDLV technology was up and running, Gregg and his team started to see immediate benefits:

- Reduction in rework costs by an astounding **75%**
- Empty line time due to color change decreased by **75%**
- SMC saw a return on their investment in **1 year**
- With full production, the new system went **30 months** before requiring any spare parts.



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Each operator can select up to 28 different colors, on-demand



Nordson HDLV powder pump (2016 version, as installed at SMC - 2019 design now available).

After a year operating their new system, an important customer called SMC at 4:30pm, with an emergency project request. The customer needed a batch of parts by noon the next day. SMC was apprehensive that they would be able to get this done, but Gregg was confident that with their new fast color change HDLV technology, they could get all the parts coated before noon the next day.

"We got the parts powder coated and in the customers hands by noon, and they were back on their plane by 1pm. We would have never been able produce product with this lead time with our old system. This is now a regular service we are able to provide to our customers, because of the Nordson technology and the teamwork we see here everyday" states Gregg.

"I was amazed by the results we were seeing right away. About 18 months in, I called Loren asking him if we were doing something wrong, when will something need to be replaced? Another year went by before we had to replace any spare parts" commented Gregg.

The Bottom Line

Gregg Popp's coating department has now become the poster child for their division at SMC. The investment in new technology helped a lot, but Gregg thinks there is also something a little more special that helps them be so successful:

"The machinery and equipment are great, but you also need teamwork and an investment in process and strategy to truly make the dream work. We wouldn't have the success we have today without each and every one of the members on my team"

So with a new HD system and a team willing to work hard together, Gregg and SMC Metal Fabricators are reaping the benefits of a precision powder coating process.

Now that's *Performance by design*.

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Performance by design



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Gregg and the hard-working powder team at SMC Metal, Inc.

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