

In-House Powder Coating Brings “Rapid” Results

Bringing powder coating in-house saves this versatile job shop more than 30 percent on coating costs annually and allows better inventory control.

RAPID Manufacturing (Powhatan, VA) is used to doing things differently. One of the few job shops in the United States that offers precision machining services, fabrication services and powder coating, RAPID Manufacturing prides itself on being able to meet any customer need with speed and efficiency.

“We do a little bit of everything,” says Ron Oliver, the company’s president. “We have customers in industries that range from aerospace and the military to canine kennels and fire extinguisher cabinets. The ability to be versatile is the key around here.”

That’s why in 2010, Oliver decided to take RAPID’s powder coating needs into his own hands. At the time, RAPID Manufacturing outsourced all its powder coating, which Oliver says caused issues with quality and turnaround. *“With the volume we were doing, it was crazy not to bring the powder in-house,”* he explains. *“We were tired of relying on someone else – we wanted to get it when we needed it. Period.”*

For that, Oliver relied on his own savvy and some help from Nordson Corporation. In true RAPID Manufacturing style, Oliver took to designing and building his own powder spray booth, which he then equipped with a Nordson Vantage® FCM cartridge collector module and two Encore® manual powder spray systems. His goal was to create a



customized booth canopy with unique features that would suit his company’s needs for smaller runs and a lot of color changes.

“Having Nordson on my team was a great advantage – I didn’t know you could find people that kind and responsive anymore,” Oliver says. *“This was our first stab at powder, so there was a huge learning curve. Nordson helped me a lot. Their engineers tested the booth for me and helped me perfect it. From a technical expertise standpoint, they truly have the edge.”*

The booth easily allows for the changing requirements of smaller batch runs that are common at RAPID Manufacturing and are the key to providing their customers with more choices. The booth is designed for spray-to-waste coating, since typical production runs at RAPID spray only small volumes of each color. The company uses 80-pound hoppers for the main color runs, but they typically change colors four to five times per shift.

“I’m so happy with the booth – it came out beautifully,” notes Oliver. *“It has a ton of neat options like fast color change and balanced air flow design. Plus, it’s completely sealed off with doors and all.”*



Becoming powder proficient

Oliver admits that although he had the determination to build his own powder booth, he had little knowledge about how to make it all work. For that, Oliver turned to Nordson and Powder Systems Specialist Marty Vicens after the two connected at a industry trade show.

"I never pretended to be a powder coating genius, but thankfully Nordson is," explains Oliver. *"They got me going on the right foot from the get-go. Marty was here along with our Sherwin-Williams rep, and they worked together so well to make sure we had everything we needed."*

Inside the booth, operators use the Encore manual powder spray system to coat various parts. The system is designed to combine excellent operator control, coating capability and ease of use – offering system features that include on-gun controls and display for easy adjustments on-the-fly, all-digital gun controller interface and a high efficiency pump. The gun itself is lightweight and well-balanced, making the painter's job easier. It also provides great reach into part cavities, and improves maneuverability around and between densely racked parts.

"The Encore guns are so easy to use. Almost anyone can pick it up and just start coating," says Oliver. *"The coating quality has been great from day one. And we didn't start with a small job either – it was one of the biggest runs we had all year. Everything came out great."*

The Encore gun also incorporates Nordson's exclusive PowerPurge feature, which cleans the powder path from the base of the handle through the entire gun, preventing powder build-up for optimum spray performance. What's more, quick-disconnects on the delivery hose and nozzle retainer enable fast, easy replacement for routine cleaning and color change.

In addition to the Encore system, Oliver's booth incorporates the collector module from Nordson's popular Vantage FCM powder spray booth. The Vantage booth has a flexible design that easily accommodates batch or conveyorized operations and offers exceptionally quiet operation. The FCM collectors were ideal for Oliver since these single filter modules also help reduce initial investment and operating costs.

From start to finish, the system – including finalizing Oliver's booth design – took about a year to get up and running. *"Everything was smooth from the beginning,"* Oliver says. *"Nordson provided all the customer service and technical support we could ask for. And they did it with a smile."*

"Rapid" results

On a typical day, RAPID Manufacturing produces several truck loads of finished product. Nearly everything goes through the new powder booth, with operators using two Encore manual spray guns to coat the parts.

It didn't take the company long to realize the benefits of bringing its powder coating operations in-house. Almost immediately, RAPID Manufacturing was able to cut its delivery time to customers by half – all while improving coating quality, says Oliver. In addition, in-house coating now saves them nearly 30 percent annually in coating costs.



"I have nothing but good things to say about this system," says Oliver. *"We've improved our delivery time to our customers, we provide a better quality product and passed along the cost savings to them as well. As you can imagine, our customers are very happy...and so are we."*

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