# New Powder Coating System Extrudes Big Savings for Window Manufacturer

*Upgrading to the latest technologies from Nordson, Manko Windows saves nearly $320,000 annually in powder material costs.*


When Manko Windows wanted to significantly decrease its production costs, this manufacturer immediately turned to its finishing line. As a leading producer of custom aluminum extrusions for commercial grade window systems, Manko invests more than $20 per pound on powder coating material due to extreme durability requirements.

*"Our product goes into exterior applications, many of them in coastal conditions,"* explains Kevin Dix, vice president of Manko Windows. *"So, the paint we apply costs far more than most others because it is fluoropolymer-based, providing 20-year durability and imperviousness to UV light."*

According to Dix, Manko wanted to dramatically improve the powder reclaim and color-change capabilities on its powder coating line. Having a relationship with Nordson Corporation and Contrast Equipment Company for more than 10 years, Manko turned once again to Nordson's proven application technologies.

Contrast Equipment Company, located in Kansas City, MO, has sold Nordson equipment for nearly 20 years and is one of the company's largest distributors.

## New system brings fast color change and efficiency

Each year, Manko coats about 2 million pounds of aluminum. Many of their orders are custom-made, and require very short runs that might use less than 10 or 20 pounds of powder. "Normally, someone might spray to waste on a run like that and not worry," explains Dix. "But, remember, our paint costs $20 per pound. So, if we only get 30 percent first-pass transfer efficiency out of $400 worth of coating, we're throwing away $280 by not reclaiming powder."

In addition, Manko changes colors – on average – about five or six times per shift. The company uses approximately 23 standard colors, all of which can be reclaimed. However, on days when they ran more short runs that used less than 50 pounds of powder, none was reclaimed. Plus, each color change took two people about an hour to convert.

To help run more efficiently, Manko installed a Nordson ColorMax® powder coating booth and outfitted it with the Nordson Prodigy® HDLV and Sure Coat® spray guns that they were already using.

The company had used Sure Coat guns for several years, and then upgraded most of them to the Prodigy gun when it was introduced in 2004.

The Prodigy guns brought higher levels of transfer efficiency to Manko's finishing line. The HDLV system includes a dense-phase pump and Prodigy manual spray guns, which are ideal for reinforcement in Faraday Cage areas. Nordson HDLV technology moves more powder with less air and higher transfer efficiency than conventional venturi-style pumps. This results in a softer spray, larger fan pattern, even pattern distribution, and less powder consumption.

*"We went from about 45 percent transfer efficiency to about 70 percent FPTE when we went from Sure Coat to Prodigy. That is a big deal at $20 per pound,"* says Dix. *"Then we thought if we could reclaim half of what was left, we could actually get about 80 percent of the powder. That's why we went with ColorMax, and we figured it wouldn't take long to pay for itself."*

## Better booth, higher reclaim.

At the heart of Manko's finishing line is a ColorMax engineered powder coating and recovery system from Nordson. This booth is designed for maximum powder usage to meet lean manufacturing requirement, delivering quick 10 to 15 minute color changes, minimized powder-in-process and easy booth cleaning. As a result, Manko is better able to manage small batches and more colors – all while reclaiming its very expensive powder material.

*"With the new ColorMax booth in place, we went from reclaiming 20 percent of our jobs to 80 percent. And we're on track to save about $320,000 annually on $800,000 worth of powder,"* says Dix. *"That doesn't even include labor because the time to change colors has gone down to less than 15 minutes."*

Fully integrated, the ColorMax powder coating system substantially reduces labor cost, downtime and material waste in multiple-color applications. Other system features include:

- **Non-conductive booth and canopy** minimize powder retention inside system
- **Hinged cyclone sections** for easy access to inspect and clean
- **AeroDeck™ air distribution system** uses high air velocities over 0.7 m/sec (140 ft/min) to improve powder containment in air stream
- **AeroWash™ air knives** reduce powder-in-process for maximum powder use with minimal color-change time
- **No inlet ductwork e**nsures easy visual inspection in areas of the system that could cause contamination between colors
- **Proprietary Nordson Apogee® canopy material** speeds color changes, eliminating cross-contamination of colors, for quick, easy routine booth maintenance

***"We're running much more efficiently now and have achieved all our goals," concludes Dix. "Our operations are faster, produce higher quality product, and we're saving incredible amounts on powder material. It really affected positive change in our operations."***

**Kevin Dix,**
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