



# Powder Application Case Study – Wheel Industry

**Areway Acquisition (Brooklyn, OH)**



## Areway Keeps Rolling Along With Powder Coated Wheels for Cars and Trucks

*Areway Acquisition is a single source supplier of finished forged and cast aluminum wheels with complete in house machining, automated polishing and buffing, powder and liquid painting, and an ISO certified quality control system capable of ASTM, SAE, and OEM specification testing.*

The company was founded by Sidor Hadgis in 1967 in Brooklyn, Ohio – a suburb of Cleveland – as a family operated polishing and buffing shop. Throughout the years, Areway has added both capability and capacity while maintaining the highest quality standards and environmentally friendly processes and products. Sidor's son, John Hadgis, is the owner of the business and oversees its daily operations.

In the early days, Areway was polishing, buffing, and plating metal parts for various industries that included the automotive, truck and motorcycle industries to everyday home items such as pots, pans, appliance trim, light, and bathroom fixtures. Their commitment to quality eventually led them to polishing and buffing forged aluminum wheels for Alcoa. This turned out to be a good relationship for Areway as more and more vehicles around the world are being fitted with forged aluminum wheels. From Ford F150 pickup trucks, and new Z28 Camaro, to Chrysler, GM and Ferrari – Areway finishes forged and cast aluminum wheels for many of the cars and trucks that you see on the road today.

Depending on a particular wheel's finishing requirements, the process steps can differ slightly. Areway's high capacity proprietary buffing and polishing center can handle up to 30" diameter wheels. A typical aluminum wheel finishing process starts with automated buffing and polishing of the wheel. The wheel is sent through a custom designed 13 zone pretreatment line using environmentally friendly cleaning solution formulas supplied by Henkel. Pretreatment is an important step in the process, as it promotes coating adhesion as well

top coat or a matte polyester powder coating. Areway's powder and liquid paint finishing processes are extremely flexible, depending on the customer's specific desired finish for the wheel.

Most of the powder coating is done in a single Nordson Horizon® 400 down-draft booth with one oscillator equipped with six oscillating Versa Spray® II IPS (Integral Power Supply) guns, and a single Versa Spray manual gun. The manual gun is capable of coating from either side of the booth depending on the finish requirements of the wheel. The

Nordson Horizon 400 by far is the workhorse of the coating operation and is dedicated to the application of the acrylic clear powder for both primer and topcoat layers.

The Versa Spray II IPS guns are controlled by an iControl® Integrated Control System with closed-loop digital flow control. Closed-loop digital flow control measures fluctuations in incoming air flow and compensates with a proportional valve to ensure uniform air flow to the pump. This results in optimum repeatability

and uniformity of powder on the part. The iControl system is also capable of handling up to 250 presets. Presets are pre-programmed recipes that control all application requirements for flowrate, atomizing, kV, AFC (current control), and triggering. Presets can be customized for each wheel and/or powder. A typical wheel primer coat ranges from 1.5 to 2.0 mils while a typical top coat ranges from 2.0 to 3.5 mils. Furthermore, presets can be named with a pop-up keyboard on the 12" icon-based color touch screen making it easy for operators to select and switch between presets.

Until 1995, Areway had little if any experience with powder coating. When Areway chose Nordson as their powder system and equipment supplier, it was an easy decision for them. According



**AREWAY, INC.**

<b>A</b> chieve	our customers' needs and expectations
<b>R</b> ecognize	our employees' efforts
<b>E</b> xceed	our production goals
<b>W</b> ork	to continuously improve
<b>A</b> ttain	the highest quality possible
<b>Y</b> ield	the best service in the industry

as protecting against corrosion. After pretreatment, the wheel then enters the dry-off stage of the oven before powder coating.

After dry-off, a wheel could go straight to powder top coat and then cure. For other wheels with different finishes, more process steps are required. Many wheels are first coated with either an acrylic or a polyester powder primer supplied by Akzo Nobel. The color coat, if required, is often applied with a waterborne liquid paint. Sometimes a machining process is required in Areway's state-of-the-art automated machining center to further enhance what becomes a two-tone color and silver finish, which is currently very popular. Or, the wheel can go straight to either a high gloss clear acrylic powder



The Nordson Horizon 400 downdraft booth ensures optimized air flow and application efficiency

to Jeffrey Rabant, project manager for Areway's finishing operations, "Nordson was chosen because of their reputation as both a local supplier and worldwide leader of reliable and technologically advanced powder coating systems. We've been extremely happy with Nordson's powder coating system and the reliable and repeatable performance that it delivers on a daily basis". Areway's demanding production schedule is testimony to Nordson's reputation as a worldwide leader in the powder coating industry.

Areway's highest production rate for coated wheels alone was 1.7 million wheels in one year. Currently, they run

two shifts for the machining, buffing and polishing operations, and one shift for the coating and finishing operations. Before the trend toward larger wheel diameters, Areway was utilizing 825 overhead conveyor hooks capable of producing 700 wheels per hour. Now with bigger wheels and a multitude of wheel designs, they have had to increase the spacing between hooks and are utilizing 617 hooks capable of 480 wheels per hour if double hung, and 240 wheels per hour for even larger diameter single hung wheels. A typical customer order size can consist of 25 to 2,000 wheels delivered the same week. Since Areway purchased their Nordson Horizon 400 system, they have since

added a Nordson COE (Chain-On-Edge) booth to spray tinted acrylic powder coatings, grey primers and polyester powder matte finishes onto the wheels. The purchase of this second system illustrates Areway's wheel finishing flexibility and its commitment to continuously expand their capabilities to better service their customers.

So, next time you're out driving and you see a sleek new Z28 Camaro in all of its muscle car glory, or any other vehicle with aluminum wheels rolling down the road – anywhere around the world – it is quite possible that it was finished at Areway Acquisition in Brooklyn, Ohio, with Nordson powder coating equipment.



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

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