



# Liquid Application Case Study – Mold Release Industry

## Nordson Liquid Iso-Flo® Spray System Helps Relieve a Sticky Situation

*Electrostatic spraying of mold release agent delivers system payback in less than six months for a global automotive glass manufacturer.*



Automotive and specialized transportation manufacturers around the globe require quality glass for their cars, trucks, busses, agricultural equipment, off-road and recreational vehicles. Glass suppliers are held to the highest standards to meet the increasing needs in the demanding automotive industry.

Northwest Ohio is home to one of the world's leading manufacturers of automotive glass, supplying brand name manufacturers like Kenworth, Peterbilt and DAF. When you supply glass to these renowned names, your finished product must be clearly flawless – like the glass itself. So, when it came time to improve the glass manufacturing process, this glass manufacturer turned to Nordson Corporation, a leader in the production of application equipment for liquid painting.”

### Making Room For Improvement

This glass manufacturer's process involves placing laminated glass in an injection molding station, where a rubber seal is created around the glass perimeter.

Prior to the laminated glass being placed into the mold, a liquid release agent is sprayed onto the mold to facilitate clean, easy removal of the finished product. Once the glass is secured in place, a proprietary Reaction Injection Molding (RIM) process is used, injecting two separate chemical solutions into the mold. The solutions react with one another and cure in approximately five seconds, producing a rubber seal that completely surrounds

the glass. The glass is then removed from the mold and placed in pallets, with high-density foam between each glass product, and shipped to the customer.

While the process sounds simple, the customer was looking for ways to make improvements. The company was using a standard, non-electrostatic atomized spraying system to spray the mold release agent. This system resulted in significant material waste as well as numerous product rejects due to rubber sticking in the mold.

According to the customer's process engineer, the non-electrostatic spraying system also required significant operator training to assure that the operators sprayed the mold release agent accurately, evenly and consistently. The mold contains many angles, so if the release agent does not penetrate thoroughly, the rubber seal attached to the glass will stick upon removal. The number one priority is a perfect finish. If the finish looks poor, it is rejected. It cannot be reworked and must be scrapped.

### The Electrostatic Spraying Solution

When the company sought a new process solution for its injection molding operation, they turned to Nordson.

“The customer originally contacted us to discuss upgrading a hot melt adhesive system used in another area of their plant,” said Brad Syrowski, global marketing manager for Nordson Liquid Systems. “During the conversation, we talked about our other capabilities and



the electrostatic spraying system, and how it could be used to solve their glass mold-release, sticking problem.”

The Nordson team demonstrated how an Iso-Flo® manual electrostatic hand gun system could provide a precision spraying solution that would improve efficiency for the customer. Nordson conducted initial testing, then left them with a demo system to continue testing in their actual production environment.

The Iso-Flo unit is a voltage block system that offers an easier, safer and cost-effective way to spray electrostatically charged waterborne coatings. The system supplies charged coating to the spray devices, while preventing the charge from conducting back through the paint-supply system.

For single-gun manual operations, the Iso-Flo system includes a single paint reservoir. The reservoir fills from the grounded paint supply when the gun is triggered off between parts. When the gun is triggered on, the reservoir immediately disconnects from the grounded paint supply and connects to the spray gun. The electrostatic charge is applied within the Iso-Flo HD unit, between the paint reservoir and the spray gun.

Throughout the filling and spraying cycles, an air gap is maintained within the system to prevent the electrostatic charge from conducting back through the paint-supply system. Due to the speed of the shuttle, the operation of the Iso-Flo unit is virtually invisible to the operator.

In tandem with the Iso-Flo unit, the company uses a Trilogy™ electrostatic spray gun to optimize spraying capability. Trilogy guns provide superior transfer efficiency and paint wrap.

## A Clear Winner

The customer quickly realized the benefits of using electrostatic spraying to apply the mold release agent. They now use the Nordson system three shifts per day, accommodating production to meet all its customer demands and providing many additional benefits.

“The Nordson electrostatic spraying system is much more lenient and forgiving than the customer’s previous non-electrostatic spray system,” says Syrowski. “The mold release agent (supplied by Franklynn USA, Glenview,



Illinois) is applied very accurately. Our customer has essentially eliminated overspray and material waste. In addition, by minimizing the sticking issues, product reject rate is now very low.”

As a result, the system resulted in a fast return on investment. “The customer now sees 40 percent less mold release agent than with the old system,” explains Syrowski. “Material savings alone would have given a system payback in 12 to 14 months. When adding in the savings from fewer product rejects, the customer saw a system payback in less than six months.”

Nordson offers a complete line of liquid spraying systems for mold release applications. This includes electrostatic and non-electrostatic systems for solvent-based mold releases agents. For more information on Nordson systems, visit [www.nordson.com/liquid](http://www.nordson.com/liquid) or call **1.800.433.9319**.

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

**United States**

Amherst, Ohio  
+1.800.433-9319 **Phone**  
+1.888.229.4580 **Fax**

**Canada**

Markham, Ontario  
+1.905.475.6730 **Phone**  
+1.800.463.3200 **Phone**  
+1.905.475.8821 **Fax**

**Europe**

Erkrath, Germany  
+49.211.9205.141 **Phone**  
+49.211.9252.148 **Fax**

**Japan**

Tokyo, Japan  
+81.3.5762.2700 **Phone**  
+81.3.5762.2701 **Fax**

**Asia/Australia/  
Latin America**

Amherst, Ohio  
+1.440.985.4000 **Phone**

**24-hour message service:**  
+1.440.985.4797

© 2016 Nordson Corporation  
All Rights Reserved

LQR-16-5809  
Issued 12/16