

## Hartung Hits New Targets in Efficiency and Performance with Automation, TriSeal

In the world of commercial glass production, ticking all the boxes is necessary for success. Quality. Aesthetics. Performance. None can be compromised.

That's part of the reason why Hartung Glass Industries, a leading glass fabricator that does business throughout the U.S. and Canada, recently invested in a new, state-of-the-art commercial IG facility in Washington state. Completed in February, the new plant includes inline inventory, cutting, tempering, insulating, crating and shipping, specifically for its large and oversized IG units.

The heart of the new facility is a fully automated IG line utilizing Super Spacer® TriSeal™ warm-edge spacer technology from Quanex. The line is one of the largest in North America in terms of size and capabilities, and according to Hartung vice president Tim Kroha, is enabling Hartung to offer its customers the highest-quality products possible with some of the fastest lead times in the Pacific Northwest.

"The impact that this new plant had on our overall business was immediate," said Kroha. "Not only does the technology allow us greater quality, consistency and aesthetics, but we've been able to significantly reduce our lead times, and that's an important competitive edge for Hartung."

### The importance of spacer application

The IG spacer is perhaps the most important component when it comes to the unit's total performance, and that means spacer application is critical in the fabrication of IG units. Throughout a manual application process, where many hands come into contact with the unit, there are several opportunities for human error. Even the smallest defect can mean a compromised seal.



It's part of why automated technology has gained so much traction for IG fabricators in recent years. With no manual manipulation necessary, the number of human touch points is drastically reduced. Robotic technology ensures accuracy along with fast and efficient material flow.

"We knew when we were making the investment in this new plant, fully automated spacer application would be one of the most important parts," said Kroha. "And we knew that choosing the right spacer product would be just as important as the automated line itself."

### A high-performance spacer for a high-performance unit

Hartung turned to Quanex and its TriSeal warm-edge spacer system for the benefits it can bring any commercial IG application. TriSeal's robust structural silicone provides proven structural strength and compensates for common glazing stresses, including wind loads, snow loads, driving rain and fluctuating temperatures.

"Our units are used in some of the most demanding applications across North America," said Kroha. "Structural strength,

durability, performance and, of course, aesthetics are must-haves. TriSeal delivers on those imperatives, and through the efficiencies it builds into our fabrication process, allows us to offer competitively priced, clean and fast IG units that stand up to the toughest conditions and demands."

Kroha also notes that in addition to a high-quality product, Quanex offers services and support that help Hartung make the most of TriSeal.

*"Our Quanex representatives have always been extremely helpful, and they were at our beck and call when we first brought the new IG system online," Kroha adds.*

*"Their expertise in the product and their willingness to go the extra mile for us have helped ensure our success, with product support, marketing support and more. Quanex is a tremendous resource, and we're happy to work with them."*

For more information on Hartung Industries visit [www.hartung-glass.com](http://www.hartung-glass.com).



## Industry 4.0 – The Evolution of Automation

### The Evolution of Automation



There are several historical moments that can be pointed to as examples of great change in the world of manufacturing. Electricity and assembly lines revolutionized how businesses handled mass production in the 1900s. In the 1970s, manufacturers tapped into computer enhancements and automated processes got their start.

Many industry watchers now believe we have entered a period of another industrial revolution—Industry 4.0., an era in which manufacturers efficiently produce materials utilizing both physical automation and robotic technology and intelligent, fully integrated software that enables machines to achieve maximized production and workflow.

You've heard of the Smart TV, the Smart Home. Now think the Smart Factory.

Consider an example: A breakdown of equipment in any plant can leave operations at a standstill, costing significant profit loss for every hour you're not up and running. Now imagine predictive maintenance software that can alert plant operators before a breakdown leaves you

stranded. It's the kind of problem that the Smart Factory seeks to eliminate in the not-too-distant future.

#### Industry 4.0 and Fenestration

Does any of this sound familiar? The fenestration industry has seen automated technology bring new benefits to our manufacturing processes over the past several years now, and the momentum shows no signs of letting up.

Forward-thinking glass fabricators are bringing new technologies online to tackle critical challenges. High speed automation for insulating glass (IG), for instance, can help us work through significant skilled labor shortages that have affected not just our industry, but many others. Automation can further help us achieve new rates of quality consistency all while producing more units per hour than ever before.

Industry 4.0, as it's been defined, further incorporates smart software and artificial intelligence to make these processes even more efficient. And now that automated processes have enabled many in the fenestration landscape to seize higher quality control and throughput, those looking to stay ahead must begin looking for additional ways to outperform the competition.

At this year's Glass Processing Automation Days (GPAD), automation and the implications it has for the future of fenestration revolved around this next step in automated technology. The "Internet of Things" has been a buzz-worthy term for a few years, but not without good reason. Connectivity is not a sci-fi fantasy, and it has begun to make a significant impact on industries.

Fenestration professionals have begun to dabble—and early adopters can experience what can happen when their equipment communicates to benefit their business.

#### Total Transformation

But it's not about simply forcing automation into the way fenestration professionals have always done business. It's about taking stock of what is possible on your plant floor and using new technologies to make true change for the benefit of your business.

Are you optimizing the high-value parts of your business? Are you allocating your labor the most effective way possible? Is the layout of your plant floor the most efficient for what your new automated systems have made possible? Are you able to source the right raw materials to keep up with production? Can your shipping operations handle new, higher volumes of product?

These are all questions that must be asked by companies taking the implications of Industry 4.0 seriously, and for those organizations that want to seize market leadership in a changing manufacturing landscape.

*Of course, seizing all of these new opportunities at once is impossible—the fully automated, fully connected plant does not happen overnight. But taking the right steps—no matter how big or small—forward today can help better equip any organization for the future.*

For more on automation visit [www.quanex.com/high-speed-full-automation](http://www.quanex.com/high-speed-full-automation).

## Product Spotlight: A New Way to Eliminate Errant Water

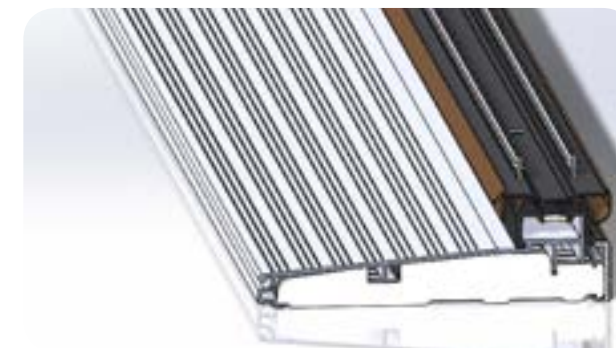
Combining simplicity with effective design, Quanex Building Products introduces its Top-Drain Sill, a unique new entryway door component that eliminates errant water with two layers of protection.

As door manufacturers face increasingly stringent codes and requirements, the Top-Drain Sill delivers peace of mind. First, a primary seal stops more than 99 percent of water, before a secondary channeling system drains any water that may have passed. Where most door sills incorporate a high dam at the system's exterior, the Top-Drain Sill's internally incorporated seal creates two elements of protection. It's why some doors leak—and why this one won't.

With the Top-Drain Sill, Quanex offers door manufacturers an effective means of heightening performance without

fundamentally altering door design. No adjustments necessary, as the Top-Drain Sill is easily incorporated into the rail assembly.

*"We're excited to introduce this new product into the marketplace, and we're confident that it will better enable door manufacturers to satisfy their customers with a product that enhances a home's overall comfort," said Jeffery Smith, vice president of business development for Quanex Building Products. "Door manufacturers can differentiate themselves with the confidence the Top-Drain Sill can deliver."*



The Top-Drain Sill is patent pending and is made possible by the engineers at Quanex's Homeshield Engineered Components division.

For more information about the Top-Drain Sill, visit [www.quanex.com/TopDrainSill](http://www.quanex.com/TopDrainSill).

## Product Spotlight: An Innovative High-Heat Glazing Bead

Quanex Building Products introduces its High-Heat Glazing Bead, an innovative PVC clad bead with metallic stabilizer design that prevents shrinking and deformation caused by solar-intense and high-heat environments.

For years, manufacturers and end users have struggled with shrinking and distorting issues around the performance of glazing beads in extremely hot environments. When developing this product, Quanex had a goal to provide customers with a lasting solution for these ongoing issues.

With the ability to replace SuperCapSR™ and MonoColor beads in high-heat environments where distortion can occur, the High-Heat Glazing Bead has been tested up to 220 degrees Fahrenheit with no shrinkage or deformation observed in both internal and third-party lab tests. It also exceeds the ASTM



Standard E2264 (Method B).

*"The development of this product is a great example of engineering efforts from multiple divisions within Quanex," said Grant Muller, product sales specialist for Quanex. "Thanks to those efforts, we now have an innovative*

*and lasting solution for high-heat glazing issues."*

For more information on the High-Heat Glazing Bead, visit [www.quanex.com](http://www.quanex.com).

Keep up on the latest at [www.Quanex.com/InFocus](http://www.Quanex.com/InFocus).



## Builders First Source Finds the Color of Success with Mikron SuperCapSR™

Builders First Source (BFS) in Dallas has built its name on providing quality products to homebuilders throughout Texas. Its unique business model—selling direct to builders with an emphasis on great customer service—has enabled the company to offer a variety of quality products at quality prices, including standard residential windows.

And by taking advantage of Mikron SuperCapSR™, a co-extruded exterior color technology from Quanex Building Products, BFS has strengthened its offerings. Available in a range of colors, including the in-demand Architectural Bronze, SuperCapSR technology delivers numerous benefits, including enhanced durability and heat-reflective technology to reduce distortion. And it means all residential building and construction professionals should be paying attention to how increasing connectivity could be impacting their business.

Darin Plummer, Sales Manager for BFS, says that the key to its success in the window space has been its commitment to simplicity.

“When it comes to windows, we offer 100% vinyl units at standard sizes,” Plummer said. “We concentrate on one product so we can focus on manufacturing, servicing and selling that product very well. We used to sell aluminum windows, but when we began to sense a decline in that market, we switched to exclusively vinyl.

### Fulfilling Demand

BFS does the bulk of its window sales in new home construction throughout the state, mostly concentrated around the Houston, San Antonio and Dallas/Fort Worth metro areas. And in those markets, darker window treatments reign supreme, Plummer said.

“There is a lot of new home construction



using different brick and stone treatments, and many builders, designers and homeowners want a darker color window option that complements that design,” he said. “The problem was, we never had the right product to fill that need. There was a trend happening and we couldn’t capitalize on it—until we began utilizing SuperCapSR.” It might be some time before everyone has fully connected, responsive, automatically adjusting windows and doors. But it might also be sooner than we think, and it’s those manufacturers who have stayed up on trends, technologies and changing consumer preferences who will reap the benefits.

BFS previously offered a painted product to compete, but the quality was not up to scratch, with scratching and other imperfections often occurring during transport and installation. SuperCapSR technology, by contrast, is a co-extruded acrylic colorant that becomes molecularly fused to the window profile itself. It offers 12 times more scratch resistance than paint, and a lifetime of vibrancy without losing pigment through exposure to the elements.

That durability means that BFS is better able to hold up its commitment of quality and service to customers. With previous painted window options, BFS had to react

to damage complaints, often sending repair crews into the field to touch up windows that had been nicked or scratched on the job site.

“It really has been a home run for us,” said Plummer. “It has allowed us to work with new builders in our target markets whom we’ve not been able to get our foot in the door with previously, and it’s allowed us to bring those customers a higher-quality product “kind of service.”

### Backed by Service

Plummer notes that Quanex has been a dependable resource throughout their relationship, citing excellent continued communication. Quanex has also assisted BFS in developing a range of new marketing materials to help get the word out about the company’s new offering.

*“Our commitment to exceeding customer expectations with our service and support is the most important part of our business,” Plummer said. “It’s great to have a product like SuperCapSR help us better deliver on that promise, and to have a supplier like Quanex who recognizes the value of that.”*

For more information on Builders First Source visit [www.bldr.com](http://www.bldr.com).

To receive Fenestration Focus electronically, please visit [www.Quanex.com/register](http://www.Quanex.com/register).