

## Finding Success at GlassBuild 2019

GlassBuild America comes to Atlanta this year, September 17-19. It's the biggest North American industry show of the year, and as always, there will be plenty to discover for fenestration professionals looking to drive their businesses to new heights.

The Quanex Building Products team will be on hand at **Booth 2571** to help customers solve the toughest challenges in fenestration today, with proven products that meet the most stringent performance demands, unmatched expertise and a personalized touch for every customer we serve. We can't wait to see you at GlassBuild.

Here's what to expect at this year's show:

### Super Spacer® and Mikron®—Celebrating Decades of Excellence.

2019 marks special anniversaries for two of Quanex's flagship brands: Super Spacer® warm-edge spacer systems and Mikron® vinyl window and door profiles.



GlassBuild America brings the best of the fenestration industry together in Atlanta this year. As always, Quanex will be there, highlighting new solutions to help customers find continued success.

Super Spacer debuted in 1989, offering insulating glass (IG) professionals the world's first, no-metal flexible spacer option that truly revolutionized the warm-edge market. Since its inception, Quanex has sold more than 4 billion feet of Super Spacer products. Celebrating 30 years of excellence in 2019, Super Spacer is sold in over 100 countries and remains the top choice for energy-efficient window designs in residential and commercial applications all over the world. As architectural applications grow bolder, only Super Spacer has the established track record of proven performance that stakeholders can trust with its inherent flexibility and superior performance.

In its 30th anniversary year, Super Spacer's future is brighter than ever. Regulations for energy-efficient construction remain on the rise globally, while ambitious builders and investors are also placing sustainability, with all its facets for new buildings, at the top of their list of priorities. Just ask Edgetech Europe GmbH, Quanex's German subsidiary: An annual demand of more than 300 million feet of warm-edge spacer is anticipated in Germany alone by 2024.

And in 2019, Mikron® vinyl window profiles celebrate 50 years of providing the marketplace with unmatched performance for a range of applications. As a pioneering brand of vinyl technology, Mikron® has led the industry with groundbreaking innovations for more than five decades.

Most recently, Mikron® has been increasingly utilized in commercial applications, driving outstanding new efficiency with thermal performance that can't be matched by traditional metallic framing. And as new building code requirements continue to grow more stringent, that kind of performance is more important than ever before.



See Super Spacer warm-edge spacer systems and Mikron® vinyl window and door profiles in person at GlassBuild 2019.



### Continued Optimization of the Plant Floor.

Robotic automation enables fenestration manufacturers to reimagine what's possible in the plant, and organizations everywhere are making the investment. But are you maximizing the value of your product line? Utilizing floor space properly? Leveraging software to make better business decisions?

Automation isn't a solution in itself—it takes dedicated expertise and supportive vendors to help make the biggest impact on your operations. Quanex technology, including Dura and Super Spacer systems for insulating glass manufacturing, is uniquely compatible with automated solutions from a variety of the industry's top vendors, saving you significant costs while driving up quality and end-unit performance. Our teams have helped customers successfully implement automated solutions to deliver efficient, effective and consistent production of high-quality insulating glass units.

Continued on next page ...

## Finding Success at GlassBuild 2019 (continued)

Further boost plant efficiency with Quanex Screens, a full-service solution for your screens production that lets you focus on your core product while freeing up floor space and reducing labor.

We have the resources, technology, capabilities and expertise to unite a range of changing industry dynamics into an actionable, winning strategy for customers—and we're always identifying new ways to help.

### A Full Range of Technological Leadership.

At the Quanex booth, you can expect to discover innovative product technology for both residential and commercial applications.

**Mikron® C3-11300™ AW-Rated Window Systems**, the first and only operable nonmetallic window and door system to meet all requirements for AW ratings per the North American Fenestration Standard (NAFS).

**Super Spacer and Duralite®**, Quanex's range of warm-edge spacer solutions that complement high-speed automation technology for IG manufacturers, including Super Spacer TriSeal™ and T-Spacer™ for high-performance commercial applications.

**Mikron® SuperCapSR™**, co-extruded color technology that becomes part of the profile to deliver unmatched scratch resistance and durability in a variety of colors.

**Mikron® House Systems**, helping to meet the wide and varied needs of regional residential markets across North America. Available in MikronWood® Energy-Efficient Composite for high performance and aesthetic benefit.

**High-Heat Glazing Bead**, a PVC-clad bead with aluminum stabilizer to prevent shrinking and deformation in high-heat environments.

**Edgetherm®** insulating glass sealants, for user- and machine-friendliness, including Edgetherm® 3600 hot-melt butyl sealant, an active, single-part hot-melt butyl sealant that offers superior performance, productivity and durability over comparable technologies for IG.

**Top-Drain Sill**, a unique double-layered technology to seal water out of entryway doors.

**Core Threshold**, a new offering for the general market that delivers the ideal combination of performance, quality and value.

Check out [www.Quanex.com/GlassBuild](http://www.Quanex.com/GlassBuild) to learn more about the show, and be sure to stop by Booth 2571!

## Custom, Quality Screens Service for Today's Needs from Quanex

Struggling with inventory? Devoting too much floor space to low-value screens production? Looking to boost overall plant efficiency?

Screens production generally requires reliable, skilled workers and valuable floor space that could be better used to make your core, high-value products. Quanex Building Products can help with full-service screens solutions.

With Quanex Screens, you can focus on the products that make you money, all while freeing up plant floor space, reducing labor and focusing greater attention on high value-added portions of your business. At Quanex's 14 screens production facilities throughout the United States, quality window and door screens are 100% of our focus. And because it's all we do in those locations, we can do it with higher attention paid to product quality and efficiency in manufacturing. Optimize inventory, eliminate costs and equipment required for screen fabrication and enhance your balance sheet by capital from screens toward higher-margin, primary manufacturing activities.

### Here's How It Works:

**First, our teams start by evaluating your specific needs** and what you might stand to benefit from outsourcing screens production. We help

you identify the potential around inventory, IG production and the flow of your production.

*"Quanex Screens is a true service, not just a product we offer," says Brandie Stiltner, territory sales manager, western region, Quanex Homeshield. "We work closely and directly with our screens customers to understand their screens needs, and more importantly, how their business can benefit from working with us."*

**Next, Quanex delivers streamlined operational efficiency via our electronic data interchange (EDI) system.** We adapt your unique specifications directly into our manufacturing process. With our flexible system, we can work with all types of customer data and file types. All build notes are incorporated into making your screens, including size, color, mesh type, labels that match your branding and any other physical characteristics.

**Your sequencing and shipping needs are also accounted for in our EDI system.** We know exactly which screens you need to match the windows and doors coming off your line, helping to create a totally seamless experience that gets your finished product into the hands of your customers as efficiently as possible. We supply you with advanced shipping



notification, and orders can be delivered by cart, pallet or individually shrink-wrapped—it's based on your preference.

*"Screens service isn't a one-size-fits-all solution," Stiltner adds. "Every customer is unique, with their own needs, their own system, their own production schedules. And those needs aren't always static either. Quanex has the flexibility to deliver on customer needs as they change, with no disruption to the flow of business."*

Want to learn more? Contact your Quanex representative today to discuss how sourcing your screens with Quanex can make a big impact on your plant floor.

## Thermal Performance to Match Antarctic Conditions with Super Spacer® TriSeal™

The harshest cold-weather conditions on Earth exist in Antarctica. It's the coldest, driest and windiest continent, with temperatures on record dipping as far as -128.6°F (-89.2°C).

It's also home to thousands of scientists and researchers from around the globe, with numerous facilities dotting the icy landscape. Marambio Base is one of them—a permanent, year-round military and scientific research compound that also includes a large, frequently used airfield sometimes referred to as “Antarctica’s Entrance Door.”

For the people who live and work at Marambio Base for weeks, months and years at a time, indoor comfort is of the utmost importance. Structures here utilize the highest quality insulative materials to maintain livability for the interior spaces. So, when base operators began to undertake significant renovations, including windows and doors throughout the facility, Super Spacer® TriSeal™ from Quanex Building Products was identified as the right fit for the highest possible performance.

“We needed to achieve the greatest insulation possible, and in order to do that, we knew warm-edge flexible spacer was a necessity for the insulating glass used in the remodel,” said Mariano Stefano, engineer with La Casa de los Cristales®, one of Argentina’s top glass fabrication and distribution companies. “Our company has worked extensively with Quanex over the years, but never before on a project like this. It was a unique project in a hostile climate that needed to stand up to the coldest temperatures on earth.”

### Achieving the Pinnacle of Thermal Performance.

The demands for the project were established early: Insulating glass (IG) needed to reach a K coefficient of 1.6 kcal/h·m<sup>2</sup>·°C. Windows also needed to achieve a high solar factor, allowing the sun’s rays to enter the interior and provide heat—without letting that heat escape.

To meet these needs, the insulating glass configuration included triple-glazed units with two low-e and tempered glass lites, with 4-millimeter tempered glass in the middle. Two, 9-millimeter airspace chambers filled with argon gas were sealed with Super Spacer TriSeal.

Super Spacer TriSeal provides a unique triple-seal design that incorporates an inner acrylic adhesive seal for immediate unit handling, a polyisobutylene primary seal for enhanced gas retention and low moisture vapor transmission,



La Casa de los Cristales® markets high-performance insulating glass units under the Climanet® brand, made with Super Spacer® products from Quanex.

and an outer silicone seal for proven structural strength and superior durability.

“We chose Super Spacer TriSeal because it’s the best technology available in both composition and adhesion,” Stefano said. “The butyl, the adhesive and the structural silicone make Super Spacer TriSeal the most complete spacer available versus other available options, and we knew it was the right choice to ensure the completed IG units met the high demands of the application.”

### Testing and Logistics.

La Casa de los Cristales worked closely with Quanex engineers throughout the development and testing process to ensure the units would perform to specification once installed in their final application.

“Testing is always important, but in this application, the stakes were even higher,” said Quanex Senior Technical Services Engineer Doug Hauck. “Given the extreme temperatures experienced in Antarctica, any compromise on performance or potential for unit failure would be a major challenge to correct.”

Getting the completed units to their final destination was no simple task. Units were manufactured in Olavarría, Argentina, before they were packed and loaded onto a military aircraft for delivery at Marambio Base. Once on-site, the units were joined with their framing and properly installed in applications throughout the base.

“Once the windows were installed and heat was provided to the space, the interior of the glass was measured as a final test,” said Stefano. “The interior glass surface measured 64°F (18°C), while the exterior temperature was -13°F (-25°C).”

With the work completed by La Casa de los Cristales and Quanex, researchers working at Marambio Base can trust in long-lasting thermal performance and interior comfort—even in the most extreme conditions on Earth.



Triple-pane insulating glass units made with Super Spacer® TriSeal™, delivering outstanding thermal performance necessary in harsh Antarctic conditions.

## Düsseldorf's Kö-Bogen Building Is a Stunning Example of Mixed Media

The combination of curved glass and natural stone create a focal point on famous Königsallee Boulevard.

The Kö-Bogen building (translated to "Kings Bow") in Düsseldorf sits at the point where Königsallee Boulevard, a luxury retail district, converges with the scenic Hofgarten promenade. Designed by Daniel Libeskind, the unique structure combines modern curved glass and travertine stone to tie in both its natural and urban surroundings.

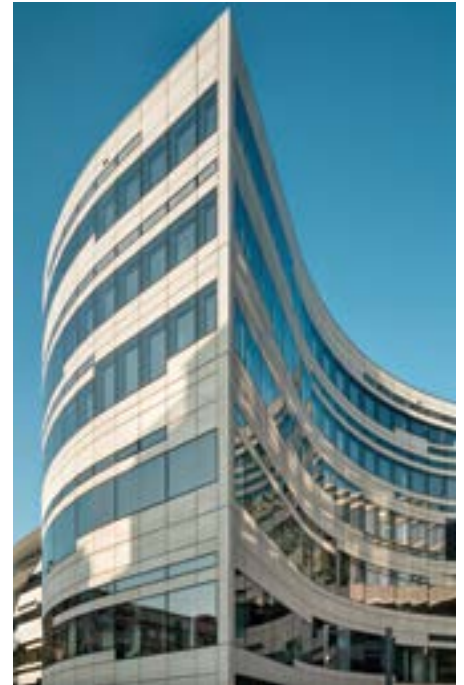
The complex design required an insulating glass (IG) solution that would satisfy the aesthetic and structural requirements of the building. Döring Glas from Berlin and Lindner Group in Arnstorf collaborated to run numerous tests to develop IG that would meet the demands of the curved and kinked glass elements of the design.

As part of the process, the team enlisted the technical assistance of Edgetech Europe GmbH, a division of Quanex Building Products.

According to Christoph Rubel, Edgetech's European technical manager, "The glass elements were bonded both internally and externally, whereby the outer bonding acts like a mechanical safeguard. Glued glass connections required a UV-stable, silicone sealant. Using our Super Spacer® T-Spacer™ Premium Plus, the IG repeatedly passed compliance tests according to EN 1279 with standard IG silicones."

The entire façade is 161,000 square feet, of which more than 23,000 square feet is curved and kinked glass with different radii and panel widths. This could only be achieved by a glass process with a flexible spacer that adjusts to any conceivable glass form and can be precisely positioned down to the last millimeter on an automated line to ensure the parallelism of the glass pane.

The glass geometry of the Kö-Bogen building is unique in Europe and an architectural marvel that is complemented by the use of the flexible, high-performing Super Spacer T-Spacer Premium Plus.



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