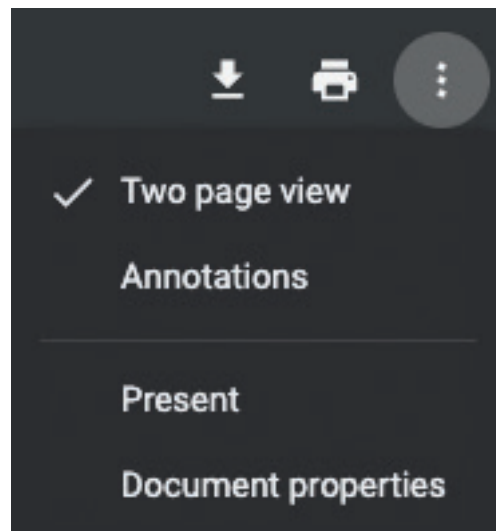


## Welcome to the digital edition of Glass Magazine!

To view the issue in a two-page format using Google Chrome,  
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# GLASS

MAGAZINE®

CELEBRATING  
75  
YEARS

THE GLASS AND GLAZING AUTHORITY SEPTEMBER 2025

GLASS  
MAGAZINE  
CELEBRATES

75  
YEARS

—  
LOOKING BACK  
AT SEVEN  
DECADES OF  
EXPERTISE

GLASS MAGAZINE  
AWARDS  
SHOWCASE  
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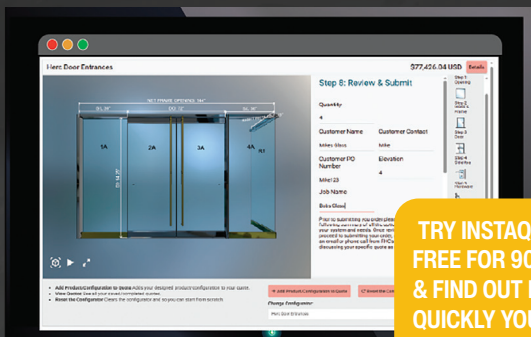
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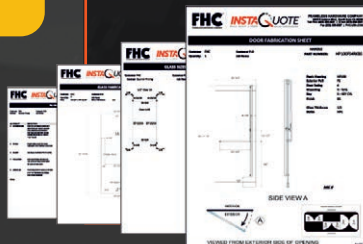
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BY NORAH DICK

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BY MATT GYORE

### 30. Your Profits: Finance

Strategies to Detect and Prevent Business Fraud

BY MARCO TERRY

### 34. Innovation

The Case for Warm-Edge Spacer Systems

BY JOE ERB

**ON THE COVER:** Populus, the first carbon-positive hotel in the U.S., takes home the Glass Magazine Award prize this year for Best Green Project. Nominating company Kawneer supplied a variety of its architectural aluminum systems to achieve the project's sustainability goals, which include a target of LEED Gold. Photo by Jason O'Rear.



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## BONUS CONTENT

Available at [GlassMagazine.com](https://www.glassmagazine.com) and [glass.org](https://www.glass.org).

### RESOURCES

NGA presents new technical resource on circularity and architectural glass recycling

### WORKFORCE DEVELOPMENT

New podcast on how glass companies are tapping into the second-chance workforce

### EVENTS

New NGA Glass Fabricator Conference (GFAB) announced for 2026 in Chicago

## GLASSBLOG



### FORECAST

#### Glazing, Racing and Continued Focus

By David Vermeulen,  
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Products



### INDUSTRY

#### Chips off the Old Block

By Max Perilstein,  
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Consultants



### DESIGN

#### How Glass Shaped BMW's Iconic Look

By John Stephenson,  
BRPH



## PROJECT SHOWCASE

700 Santana Row is a mixed-use development located in San Jose's Santana Row district. The building encompasses 28,000 square feet of retail space, 290,000 square feet of Class A office space and a 450,000-square-foot parking structure with 1,300 stalls. Its façade, made of Solarban 70 glass by Vitro, and its LEED Silver certification allow for both aesthetic innovation and environmental responsibility. Features include a metal façade with flowing curves that reflect sunlight and a translucent curtain wall design that brings natural light into its eight stories. Photo by Bernardo Grijalva.

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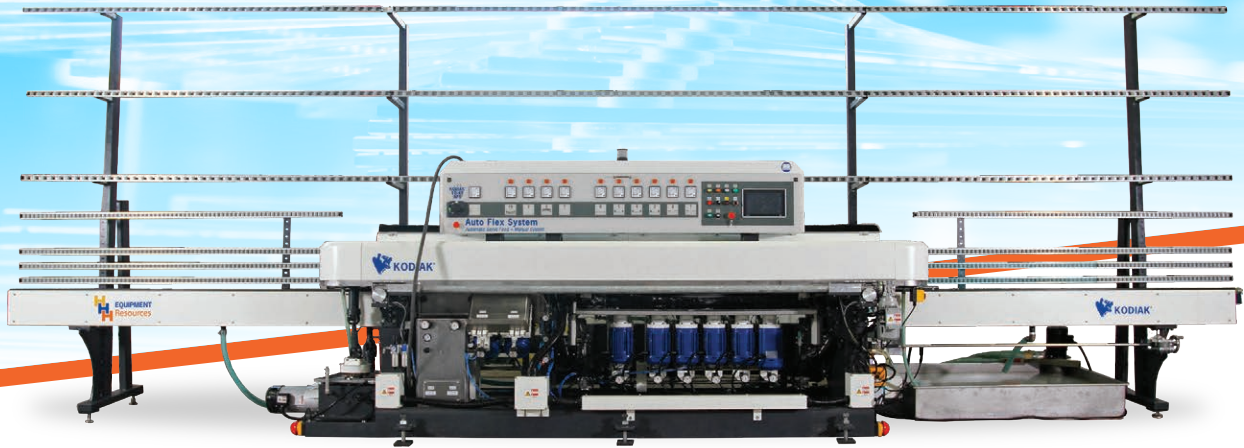
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## Then, Now and Next



NICOLE HARRIS

**T**his is a friendly, one-time takeover of this column. Katy Devlin graciously suggested I commemorate this magazine's 75th anniversary by looking back on my NGA start as editor-in-chief, and by the time you read this, former National Glass Association president and CEO.

When I joined NGA in June 1990, Glass Magazine was published monthly. I hosted a glazier focus group to learn how Glass Magazine was viewed. After a lot of prodding, one of the attendees held up Glass Digest and said, "This is our industry bible; this is the only thing I read." Heads nodded.

Target identified! After that, I decided that we would work to make Glass Magazine the number one magazine in the industry, and I couldn't have done that alone. Some of the same people alongside me then are here today, and I want to acknowledge their impact.

**Beth Moorman** (NGA circa 1996) is our magazine production director, who, like me, retires this year. Beth and I started our publishing careers with typesetting machines, rubyliths, bluelines and midnight print proofs checks. One day Beth walked into my office and declared: "We can save \$80,000 year if we go all-digital with our print files." Glass Magazine

### A Production Director Closes the Book on Three Decades

In addition to this being the 75th anniversary of Glass Magazine, 2025 is also the year that Beth Moorman, production director of both Glass Magazine and Window + Door, retires. After 29 years at the National Glass Association, Moorman will be closing the book, so to speak, on her long career in printing and publishing. Before she left, she sat down with Editor Norah Dick to discuss the magazine, how it's changed during her tenure and what makes Glass Magazine special.

### Technology shaped printing and publishing

"We've reinvented the production process four different times in the 29 years I've been here," Moorman says. When she started at the National Glass Association in 1996, the magazine used film for page layout, and many parts of the layout process itself could not be done in-house. "All the advertising materials were submitted as pieces of film, and then the designer would create the page layout with just empty boxes where the advertising had to be



From left: Tim O'Connell, directory and list specialist; Beth Moorman, production director; Mike Gribbin, Executive Publishing; Chris Hodges, senior sales consultant; Nicole Harris, former president and CEO, NGA.



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was among the first trade magazines to make this technological leap, one of many cost-saving improvements Beth suggested while serving as our deadline drill sergeant.

**Jeff Smith** (NGA circa 1995) joined NGA with no magazine experience. He wanted out of his Blockbuster manager job and sold me on his math and spreadsheet skills. Jeff was instrumental in calculating our advertising market share, building our profitable product directories and everything else I threw at him. Jeff was also our first “remote” employee, decades before that was a thing. Jeff is now director, association services and analytics.

**Michele Nosko** (NGA circa 1991 and 2015) started her NGA career as a circulation assistant. One day, she walked into my office and declared she wanted to do something new, adding that she had a marketing degree. Soon, she was heading up NGA’s much-needed marketing department. When the Great Recession hit, Michele moved on to another trade association. She made me work very hard to convince her to come back to NGA after I became president in 2014. Michele is NGA’s chief operating officer.

**Jenni Chase** (NGA circa 1998 and 2005) was a punk rocker wannabe news anchor who scored A+ on her editing and proofing tests. When Jenni moved to Colorado, it wasn’t long before I called her up to ask, “How do you like your new job?” and ultimately lured her back to run AutoGlass—from home. Our remote staff was growing, and Jenni leveraged her editors to re-engineer NGA’s education and training programs. Jenni is vice president of workforce development.

**Katy Devlin** (NGA circa 2004) started as an intern, and though I can’t take credit for hiring her, I lay claim to keeping Katy for NGA when she decided to move from Maryland to Brooklyn to Santa Barbara to Milwaukee. Katy became our second-ever remote employee and a far

better editor-in-chief than I ever was. Her talent for content development and her deep industry knowledge and connections are behind the programming for NGA’s events, soon to include the NGA Glass Fabricator Conference (GFAB) launching in 2026. Katy is vice president of content and programming.

As you can see on the masthead, the Glass Magazine dream team includes many other talented people, listed here with their “years with NGA”: Cory Thacker (17), Chris Hodges (17), Emily Thompson (11), Norah Dick (8), Tristan Scofield (5), Cameron Francis (3), Tara Lukasik (3), Rachel Vitello (3), Holly Robinson (1), and Cathy Underwood (1).

I leave NGA after 35 years with a deep fondness and respect for Glass Magazine. I’m proud of our many successes, including expanding our glass and glazing coverage across multiple online platforms; our publishing “firsts” like the Top 50 Glaziers list in 1992, Top Fabricators list, and Architect’s Guides; breaking the important stories; surviving the Great Recession and the Covid pandemic; and our integrity—always publishing only verified reporting.

Glass Magazine, along with Window + Door, were the wellspring for much of NGA’s growth; from the building of GlassBuild America and our education and training programs to the credibility underlying the combination of NGA and the Glass Association of North America (GANA) and resulting advocacy into the technical powerhouse you know today.

As the glass and glazing industry evolves, I know Glass Magazine will continue to inform, reflect and anticipate the road ahead for NGA members and the world of glass. That’s an anniversary to celebrate now, and for years to come. ■

placed,” she explains. The printer would then add in those ads and graphics when printing.

Gradually, more processes came in-house thanks to software and technology. Programs like Copy Dot allowed graphics to be digitized, including ads. Eventually, software became so advanced that Moorman and other members of the publications team took professional classes on how to switch from using Quark Express, the industry standard in publishing software for many years, to Adobe’s new platform, InDesign, which launched in 1999.

### Looking back at 29 years

Reflecting on her three decades coordinating production, Moorman says that among her favorite issues was a special 1998 issue honoring the 50th anniversary of NGA, which featured special decade-themed inserts narrating the long history of the glass industry. “Our designer at the time did a fabulous job with those, and it was a fun project we all collaborated on,” she says.

She adds that one of the best things about working in production is the consistency between jobs: “Printing is printing,” she says. Despite the fact that the subject matter she’s printing doesn’t affect how it’s printed, she’s glad to have learned about architectural glass.

“I do like glass because it’s a subject I didn’t know anything about, and you can’t help but learn about something by seeing and reading about it,” she says. “It has never been boring.”





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### NEED-TO-KNOW INFORMATION FROM THE NGA

#### COMING 2026: NEW NGA GLASS FABRICATOR CONFERENCE (GFAB)

A new National Glass Association event combining the strengths of the NGA Glass Conference and Glass Processing Automation Days has been announced. The NGA Glass Fabricator Conference (GFAB)™ offers fabrication company executives, technical leads, plant personnel, and machinery and software partners the chance to learn at forward-looking educational sessions, participate in innovative training workshops, and foster connections with fellow fabrication industry partners.

Scheduled for April 26-29, 2026, at the Radisson Blu Aqua Hotel in Chicago, Illinois, this event will address key needs of different fabrication personnel, including an executive track, technical track, workshop track and networking opportunities. Additionally, a hands-on workshop track will take place at nearby Skyline Design.

Learn more about this new event as information becomes available at [glass.org/nga-glass-fabricator-conference](https://glass.org/nga-glass-fabricator-conference). ■

#### NEW RESOURCE ON CIRCULARITY AND GLASS RECYCLING

The National Glass Association published a new technical resource, *Overcoming Challenges of Circularity and Architectural Glass Recycling*, which reviews the types of glass that can be recycled, clarifies misconceptions about recycling glass, details benefits and value creation that comes from glass recycling and outlines end-use products. Because of the potential for expanded value, increased cullet use has been cited as a key strategy towards long-term sustainability goals for many types of glass industries.

This five-page Glass Technical Paper explains the challenges and risks that come with glass recycling currently within North America, references broader global activities around cullet reuse and proposes proactive steps to maximize the value of cullet reuse. By expanding circular practices in the field of architectural glass, opportunities to strengthen local labor markets and enhance the glass industry's reputation as an effective and sustainable solution will grow. ■



**Overcoming Challenges of  
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#### BLUEBEAM TRAINING COURSES AVAILABLE ON MYGLASSCLASS.COM

The National Glass Association now offers Bluebeam software training courses within its online training platform, MyGlassClass.com, at a 30% discount to NGA members. Developed by Troy DeGroot, director of Bluebeam Professional Services, UChapter2, the courses provide time-saving tips and tricks to help elevate the design review process, detailing/sketching, document management, quantity takeoffs, estimates and more.

The available Bluebeam courses include Bluebeam Baseline Basics, Bluebeam Material Takeoffs & Estimates: The Basics, and Advanced Bluebeam Material Takeoffs & Estimates. Industry courses from UChapter2 include Construction Estimating Principles and Reading Construction Documents. ■

#### LEGISLATION FOR GLAZIERS WEBINAR

Staying abreast of legislative, political and regulatory developments is not merely about compliance, it's about strategic adaptation, risk mitigation, fostering innovation and maintaining a competitive edge in a dynamic and evolving industry. The August 7 Thirsty Thursday session with Mike Oscar, director of government relations, American Subcontractors Association, broke down the latest legislative, political and regulatory developments shaping the glazing industry and subcontracting landscape. For glazing subcontractors, these developments directly impact their ability to secure projects, manage costs, comply with legal obligations, and ultimately, ensure their long-term viability and success. Learn more at [glass.org/webinars](https://glass.org/webinars). ■



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Glassfab is delighted to announce the grand opening of its latest manufacturing facility in Dallas, Texas. This strategic expansion not only enhances the company’s national presence but also underscores its unwavering dedication to excellence, operational performance, and collaborative partnerships with customers. The newly established Dallas facility is fully operational, equipped with cutting-edge tempering, fabrication, and laminated glass products. Positioned to serve the Southern region more effectively, this facility is designed to reduce lead times while upholding superior quality standards and dependability that Glassfab is renowned for.

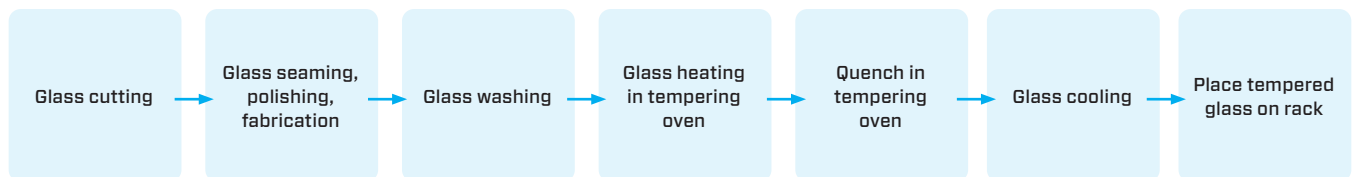
“We are excited to extend Glassfab’s legacy of quality and exceptional service to the Dallas market,” stated Greg Grothoff, President of the Southwest Region. “This facility enables us to forge closer connections with our customers, ensuring unparalleled support and rapid turnaround times. We are proud to have brought together an outstanding team of Texas professionals: Suzanne Wilson, Claudine Willey, Josh Fincannon, and Saul Ramirez. Their leadership and commitment have been instrumental to our success.” This opening represents a significant milestone in Glassfab’s journey of growth and innovation within the glass fabrication industry. As we embark on this new chapter, we remain steadfast in our mission to lead the market through quality craftsmanship and exceptional service.



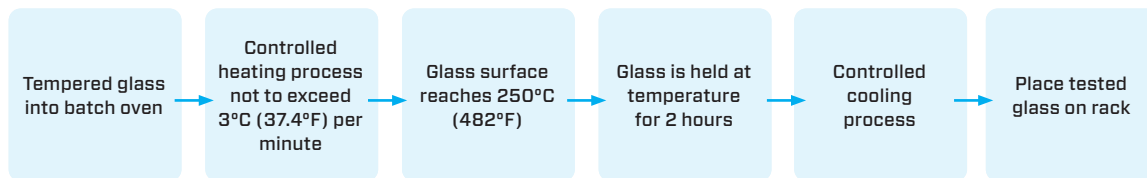


## GLASS INFORMATIONAL BULLETIN

### STEP 01: TEMPERING PROCESS



### STEP 02: OFF-LINE HEAT SOAK PROCESS according to industry standards EN14179-1:2016 and ISO 20657



According to EN14179-1:2016 and ISO 20657, the oven must be heated so that the glass temperature itself reaches 260°C (500°F) +/- 10° and is maintained through the soak phase.

## Heat Soak Testing of Tempered Glass

Fully tempered glass used in architectural applications may infrequently spontaneously break for a variety of reasons, including, but not limited to, unperceivable imperfections or inclusions in the glass substrate. During the tempering process, the glass is heated and rapidly cooled. Most inclusions are stable; however, during the rapid quenching process of fully tempered glass, some unstable inclusions can be trapped in the tension region. These unstable inclusions, most notably nickel sulfide, or NiS, can cause spontaneous breakage if their physical form changes due to heating and cooling once installed.

The purpose of a heat soak test is to reduce the risk of spontaneous breakage in the field by influencing the NiS inclusion

to break the glass during the test. It is important to remember that a heat soak test will reduce the risk but will not completely eliminate the potential of a spontaneous break due to a NiS inclusion. There are a multitude of variables that could affect if a NiS inclusion will be present in the glass during the manufacturing process, and if a NiS inclusion will cause the glass to spontaneously break. Consult with the fabricator for heat soaking benefits for your specific project.

#### Glass type

Heat soak testing may be done on any fully tempered architectural glass including, but not limited to, clear, tinted, low-iron, patterned and low-emissivity coated glass. It does not impact visual or

performance characteristics of the glass passing the test. Reference ASTM C1036 Standard Specification for Flat Glass and C1376 Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass for more information on glass types and properties. Heat soak testing is only applicable to fully tempered glass, not to heat strengthened or annealed glass.

Laminated glass may be comprised of glass layers that are fully tempered. The heat soak testing of glass layers that are to be used in the construction of laminated glass units is typically not necessary. Interlayers can be designed to contain broken glass pieces should a spontaneous breakage to one or more of the laminated glass layers occur.

To reduce the possibility of sponta-



neous breakage due to NiS inclusions and preclude the need for heat soak testing, heat-strengthened glass may be utilized where heat-treated glass is being considered. However, tempered glass must be selected when necessary to comply with building codes, meet design loads and minimize thermal stress breakage.

### Effect of heat soak testing on surface compression

There is currently no North American standard for heat soak testing. Some companies in North America perform heat soak testing in accordance with EN 14179-1:2016 Glass in Building—Heat Soaked Thermally Toughened Soda Lime Silicate Safety Glass or ISO 20657 Glass in Building—Heat Soaked Tempered Soda Lime Silicate Safety Glass. These standards are equivalent and have specific instructions for heat soak testing. When the heat soak test is performed as specified, there is typically no effect on the surface compression of the tempered glass.

### Statistical heat soak versus 100% heat soak

There is no consensus on using a statistical sampling approach (not all lites tested). The European EN 14179-1:2016 and ISO 20657 standards require all lites to be heat soaked.

### Heat soak testing process

The process of heat soak testing tempered glass is defined in EN14179-1:2016 and ISO 20657. Heat soak testing subjects the fully tempered glass to specific temperatures for a fixed amount of time through an additional heating step to accelerate glass breakage caused

The National Glass Association thanks its task group volunteers for developing this resource: Gin Benner and Adam Mitchell, Agnora Inc.; Jon Griggs, Guardian Glass LLC; Jim Gulnick, McGrory Glass; Rick Wright, Richard E. Wright Associates; Rob Carlson, TriStar Glass Inc.; Gady Ginzburg, Vibrantz Technologies; Aaron Thompson and Chuck Wencil, Viracon; Steve Marino, Vitro Architectural Glass; and Matt Kamper, Woodbridge Glass Inc.



Excerpted from NGA Glass Technical Paper FB56-18 (2024) Heat Soak Testing of Tempered Glass for Architectural Applications

by potentially harmful NiS inclusions in the glass. Any breakage that occurs during the heat soak test will reduce spontaneous glass breakage in the field due to NiS inclusions. The off-line process is a batch process in which fully tempered glass is heat soak tested in an oven at some time after the tempering process.

### Effect on post-temperable low-e coatings

The temperatures that the glass is subjected to during heat soak testing are low compared to the temperatures used for heat-treating. However, the coated glass supplier should be contacted for specific guidance when coated product is being heat soak tested.

### Effect on iridescence

When the EN14179-1:2016 and ISO 20657 heat soak procedure is followed, the glass is allowed to cool to ambient conditions without the assistance of fans or blowers. There should be no effect on iridescence.

Reference EN14179-1:2016 and ISO 20657 for more information.

### Project cost and schedule implications

The heat soak process is a batch process with limited capacity that takes several hours to complete and exposes fully tempered glass to an additional heat-treating operation and additional handling. Specifying heat-soaked tempered glass requires additional processing time for the fabricator since it involves an additional process step. Ensure that there is ample time built into the overall production schedule to accommodate the required processing time; this may also impact the project's construction schedule. To evaluate the cost-benefit of heat-soak testing, the project design professional should consider all factors in the analysis, including, but not limited to, the volume of tempered glass, the glass construction, the consequences of glass breakage within the glazing system, etc. ■

# The most-clicked news stories on GlassMagazine.com, brought to you by **GLASS MAGAZINE WEEKLY \***

## **NSG Group Opens Solar Array**

NSG Group announced a new 2.0 megawatt peak photovoltaic solar array at its Ottawa facility in Illinois, which will supply about 3.9 gigawatt hours of renewable electricity annually. Owned and operated by SolAmerica Energy, based out of Atlanta, Georgia, the new array will provide energy to the facility for the next 15 years under a power purchase agreement. The build is powered by over 5,000 advanced thin film Series 7 solar modules manufactured by First Solar using NSG Group's solar energy glass products.

## **Erdman Launches Korean Subsidiary**

Erdman Automation Corp. has established Erdman Automation ROK, a wholly owned subsidiary located in the Republic of Korea. Erdman ROK will complement U.S. operations by supporting select manufacturing functions, enabling increased focus on production at the Minnesota headquarters. This move also aims to position Erdman to better navigate the supply chain landscape while continuing to deliver automation solutions at the pace and scale the market demands.

Erdman Automation's international expansion will allow it to bring its automation capabilities to customers around the globe. With Erdman ROK, the company strengthens its ability to support customers not only in North America but also in Asia, Europe and

other key markets—offering faster lead times and localized technical support.

## **Isoclima Partners with Optima Ballistic**

Isoclima has signed an industrial partnership with Optima Ballistic, a manufacturer specializing in ballistic glass solutions. The alliance marks an expansion of Isoclima's global manufacturing footprint, designed to address the increased demand for advanced transparent armor solutions in the North American Free Trade Agreement armored market and selected specialized security sectors worldwide.

Under the agreement, the production for the NAFTA region—encompassing the United States, Canada and Mexico—will be carried out at Optima's facility in Barranquilla, Colombia, under Isoclima's technical governance and quality standards. The agreement includes a shareholding participation by Isoclima.

## **Glassfab Tempering Opens New Facility**

Glassfab Tempering Services officially opened its newest manufacturing facility in Dallas, Texas. The facility is now fully operational and equipped with tempering, fabrication and distribution capabilities. It was established to better serve regional demand and reduce lead times. Greg Grothoff was named president of the new Dallas operation.

## **Hartung Glass Announces New Team and Expanded Capabilities**

Hartung Glass Industries announced a revitalized leadership team and newly expanded capabilities at its Pueblo, Colorado, facility. The facility has welcomed a new team of seasoned glass professionals and operations experts. Other enhancements include increased glass tempering capacity for faster lead times, CNC machinery and edgework technology, improved logistics and production workflows for on-time delivery, and a continued focus on safety, precision and customer satisfaction.

## **Velux Group Signs Agreement with Novelis**

The Velux Group has entered into a multi-year commercial agreement with Novelis for the supply of high-recycled-content aluminum. This means flat-rolled aluminum made from more than 70% recycled content will be used to manufacture Velux roof windows and accessories to further reduce carbon emissions. The aluminum alloy provided by Novelis to Velux is specifically optimized for use in roof window production.

Novelis drives low-carbon aluminum solutions and has been a supplier to Velux for more than 40 years. Since 2022, the companies have collaborated to reduce the carbon footprint of the aluminum used in Velux products. To date, more than 50% of the aluminum supplied by Novelis to Velux has been





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replaced with high recycled content, and the partners are working on increasing this amount in the coming years.

### Glassworks Closes

After 55 years of serving the Seattle area, the owners of Glassworks Inc. have retired and closed the business as of Aug. 31.

“This was not an easy decision, but it is one made with a full heart and deep gratitude for the incredible customers, vendors and friends who we have met and worked with along the way,” company officials say in the announcement.

### LiSEC Launches New LiTROS Brand

The LiSEC Group has presented the new LiTROS brand, which facilitates entry into industrial glass processing with a product portfolio. Being part of the LiSEC Group, LiTROS combines decades in the sheet glass industry with a fresh brand identity. LiTROS is aimed

at companies wishing to switch from manual processes to semi-automated, software-supported production.

The LiTROS Horizontal Washer is a glass washing and drying system capable of being used as a stand-alone machine. The LiTROS Float Cut as well as the Float Cut-Tilt version with tilting elements are available for cutting and de-coating float glass. LiTROS also offers a range of solutions for insulating glass production.

### FHC Launches On-Demand Stock Glass Division

Frameless Hardware Company announced the launch of its On-Demand Stock Glass Division, bringing to market a “Glass in a Box” product line. This expansion gives glaziers and contractors immediate access to high-demand glass sizes and configurations, streamlining the supply chain and bypassing lengthy lead times typically associated with custom-fabricated glass.

With this launch, FHC positions itself as a one-stop shop, offering hardware, installation tools, glazing supplies and stocked glass. These stock glass solutions are ideal for projects with common openings or multiple identical units—such as hospitality, multifamily residential and light commercial applications.

### PEOPLE



Frank

### Birdview Skylights

appointed *Sara Frank* as president. Frank brings over 20 years of experience in residential and commercial skylights and opening glass walls.

She most recently worked with NanaWall as the education vertical sales manager.

As president, Frank will oversee all aspects of the company’s operations, including strategic planning, product development and customer experience. She will also focus on strengthening relationships with contractors, architects and homeowners.



Struthers

Cyncly appointed *Paul Struthers* as chief revenue officer. As leader of Cyncly’s Sales and Strategic Solutions, Struthers will help the company accelerate its growth. He

brings over 25 years of leadership experience—having held senior roles at Bell Canada, RSA, Amdocs and Sage—leading functions across strategy, sales, product, marketing and professional services.



Sabbagh

Steel Encounters appointed *Mo Sabbagh* as executive vice president, architectural division. In this role, Sabbagh will provide strategic oversight of the division

to maximize success on each building project. He brings with him a reputation as a skilled façade professional with a portfolio of successful projects, including

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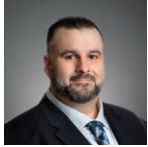
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the Apple Headquarters, 66 Hudson and One Vanderbilt Tower NYC. His preconstruction expertise includes positions at companies such as Enclos, Permasteelisa North America and Clark Pacific.



Principe

**Frameless Hardware Company** appointed *George Principe* as service center manager. Principe will spearhead the company's East Coast expansion efforts and will operate out of the company's New Jersey Service Center and Architectural Show Room.

With a background spanning branch management, operations, logistics and customer service, he brings leadership, business acumen and hands-on experience to his new role. Prior to joining FHC, Principe served as branch general manager at CRL and as operations manager at B&B Trucking & Warehouse / MAC Logistics.



Hunter

**Glassfab Tempering Services** appointed *Bill Hunter* as general manager of its Linne facility in Tracy, California. Hunter joins Glassfab with over 30 years of experience in architectural glass manufacturing. As general manager, he will be responsible for overseeing day-to-day operations at the Linne facility, driving strategic initiatives, and supporting the company's commitment to safety, quality and improvement.

**Safti First** announced the addition of *Geoff Pettis* as direct architectural sales representative. In his new role, Pettis will focus on providing the architectural and glazing communities with technical, code and product information on the company's complete line of fire, ballistic, and other specialty glazing and framing systems, including Safti First's new curtain wall and pre-glazed door lite kits that will

compliment Safti First's Titan Metals Products line of fire and specialty doors.

**Steves & Sons** appointed *Chris Cook, Nick Palmer, Daniel White* and *Michael Vancleave* to key leadership roles within the company. In their new roles as general managers, White and Palmer will lead Steves & Sons door plants. White will oversee the Lebanon, Tennessee, facility, while Palmer will manage the Brigham City, Utah, plant. Palmer's appointment coincides with Steves & Sons' completion of a 100,000-square-foot expansion at its Utah facility, which employs 135 people and features a new robotic prime line.

Cook joins Steves & Sons as a multi-family specialist and will lead business development initiatives across the Southeast. Vancleave, who takes on the role of area sales manager, will focus on strategic program development and key product lines across the Midwest. ■

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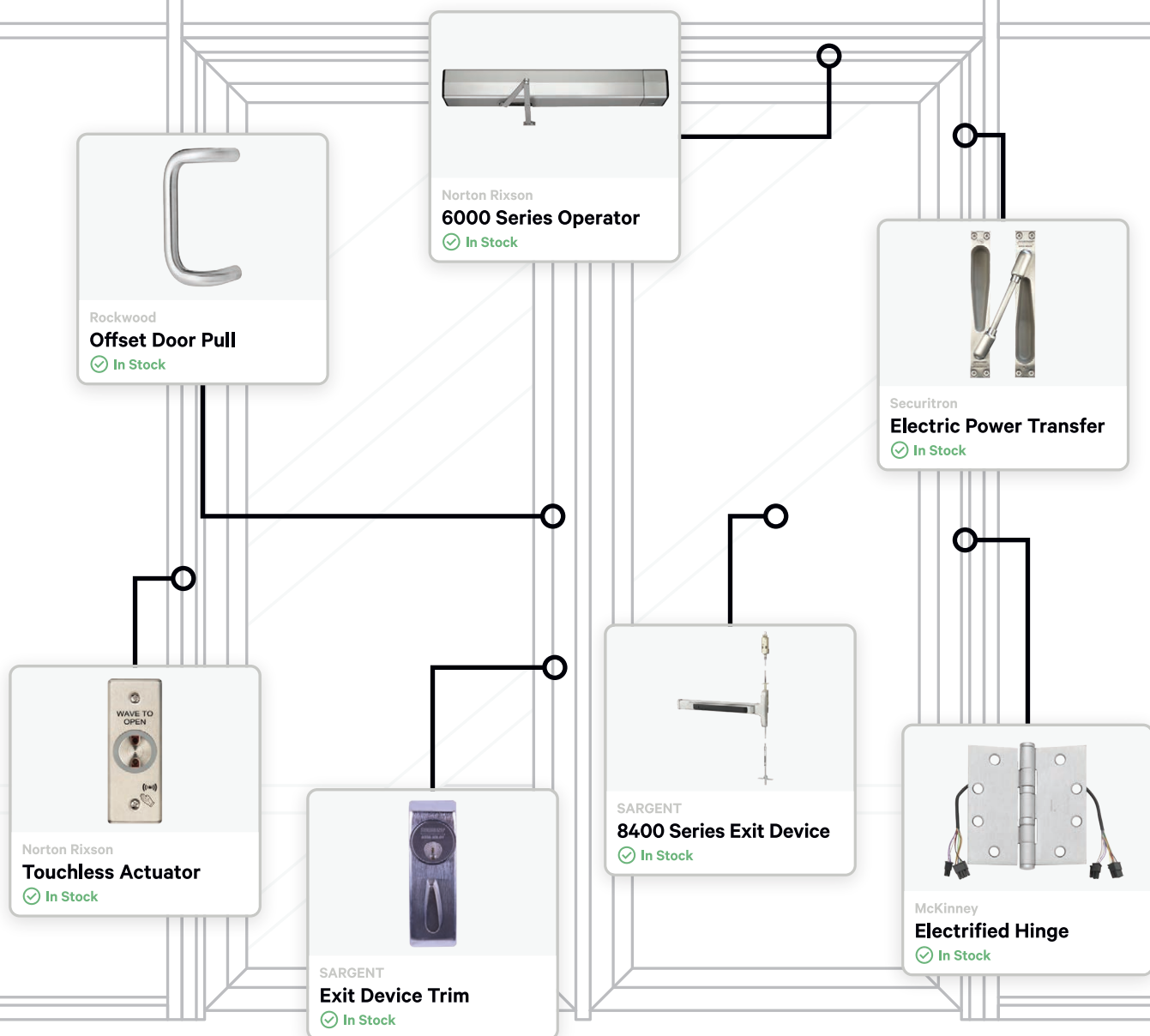
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**“I’M CONFIDENT WE COULD SEE A FLOAT GLASS MANUFACTURER IN CANADA WITHIN THE NEXT THREE TO FOUR YEARS.”**

## WILL FLOAT PRODUCTION RETURN TO CANADA?

ASSOCIATION OFFICIALS  
CONSIDER BENEFITS OF NEAR-  
SHORING FLOAT PRODUCTION  
**BY EUGENE GERDEN**

**C**anada should consider establishing its own float glass production within the next several years due to the need to reduce its dependence on the United States and ensure stable domestic supplies, according to regional organizations. As the initial fears of massive disruptions of float glass supplies from the U.S. have generally eased, local analysts from Fenestration Canada, the Architectural Glass and Metal Contractors Association, and the Ontario Glass and Metal Association say serious actions are needed in order to better ensure Canada’s security in its float glass sector.

### **Increased demand for float glass**

This need to ensure the float supply is also due to the recent, active growth in demand for float glass in Canada thanks to an active housing construction market. The Canadian Prime Minister and the Premiers have

been clear about increasing the housing supply, which will require glass. If the programs being put into place come to fruition and are successful at increasing the quantity of buildings, the overall demand should rise.

Adrian Edge, director of codes and regulatory affairs for Fenestration Canada, in an exclusive interview, confirmed these market trends and the current stabilization of the Canadian float glass sector. “At this time, without any additional tariff pressures, tensions on the conversation about float glass or architectural glass supply have calmed down,” Edge says. “That being said, this is the second time in four years that the supply of float glass has been threatened.”

Edge also believes that Canada needs its own float glass production and will see manufacturing develop in the near-term. “As a strategic resource without a viable alternative, and given

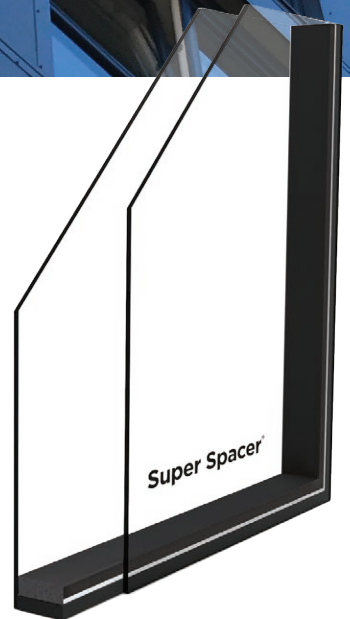
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## CLOSER LOOK

we have most of the resources required to create our own float glass, it's both advantageous for supply chain security and Canada's ability to ensure the components of a good window, car or other item requiring glass is within the means for the Canadian industries to determine. I'm confident we could see a float glass manufacturer in Canada within the next three to four years."

Edge also adds that Fenestration Canada, on behalf of the fenestration sector in Canada, is looking into ways to support potential float glass manufacturing in the future. Analysts for Fenestration Canada expect the demand for float glass will continue to grow in Canada in years to come, which could then speed the revival of Canada's own float production.

According to Edge, while there's been a slight economic slowdown, it's much less than expected, given the uncertain economic climate.

### Canada's float production history

Canada suspended its float glass production more than 50 years ago. While there were some attempts to restore it in the past, these have not produced results. Canadian Premium Sand announced plans to build a float glass plant near its own silica sand deposit in Manitoba in 2021, but pivoted to transform its business to create solar glass for renewable energy. According to the company, it is the first time solar glass will be produced in Canada and the proposed solar glass manufacturing facility will also be the only one of its kind in North America.

In 2018, Xinyi Canada proposed building a \$400 million float glass plant in Stratford, in southwest Ontario, which would have represented the company's first glass factory in North America. However, the project was met with stern opposition from a small number of local residents largely related to concerns about the amount of groundwater that

would have been used at the plant, as well as the carbon footprint of the plant. In addition, the COVID-19 pandemic and associated lockdowns in Canada in 2021 became another reason for the cancellation of the project. Xinyi Canada expressed disappointment at the time, but a Xinyi representative told local Ontario media that the company is ready to bring the factory back to Ontario when the investment environment is more welcoming. ■



*Eugene Gerden is an international freelance writer who specializes in covering the global glass sector.*



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# INSIGHTS

26. GLAZIER BULLETIN 30. YOUR PROFITS: FINANCE 34. INNOVATION



GLAZIER BULLETIN

## SAFETY IN THE SKY

RAILING INSTALLATION BEST PRACTICES FOR HIGH RISES

BY MATT GYORE

**R**ailings and windscreens are essential architectural elements, not only making exterior spaces safer but more livable and enjoyable. In particular, glass railings and windscreens protect occupants from the elements while providing breathtaking views for living spaces and entertainment areas.

Installation of railings and windscreens on high-rise structures requires planning, organization and meticulous attention to detail. Working at heights is inherently hazardous, with risks to the installer, construction personnel and

pedestrians beneath the worksite.

The trend to incorporate glass railings and windscreens into high-rise structures, both commercial and residential, shows no sign of slowing down. Therefore, adhering to best practices for safe installation of these elements is essential to the safety of glaziers.

### Safety starts with equipment

Working at high elevations when installing railings and windscreens requires the handling of large, awkward and often heavy components and materials. Wind and other weather can also have a signif-

icant impact on the work environment. These conditions can create a dangerous worksite for installers.

For glaziers, Occupational Safety and Health Administration regulation 1926.502 provides important guidelines for fall protection of all kinds, including during railing installations. These comprehensive regulations require the use of fall protection measures at elevations starting at just 4 feet.

Active and passive safety gear options are used by glaziers during the railing installation process, including tethering mechanisms, safety vests and hard hats. Some sites, such as mid- and high-rise commercial towers, require platforms to provide enhanced stability to safely conduct railing installations, including suspended scaffolds or powered platforms. For projects utilizing large glass panes, typically in excess of 60 inches by 48 inches, cranes are often used to lower heavy glass panels into place for glaziers to complete the installation.

### Innovations enhance safety

In the past, wet glazing was the standard for glass railing installations. The process includes installation of the base shoe channel, installation of the glass, mixing and pouring of expansion cement into the channel, and finally the insertion of a gasket to seal the base shoe and help prevent water and dirt from entering.

The wet-glaze installation process requires installers to spend significant time working on the building's edge. The more time spent in these precarious work zones, the increased possibility of accidents. Technological innovations are improving safety during railing installations, as well as during repair and maintenance, reducing the amount of time glaziers spend working



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at the building's edge.

Dry-glazed systems offer a significant advantage by using mechanical components to secure the glass pane in place. These systems are designed to fasten glass panes in the base shoe without liquid grout or cement. Dry glazing typically uses devices that expand within the base shoe when tightened, mechanically securing the glass pane. The process can be completed from inside the balcony or terrace without reaching over the top rail, making glaziers more efficient and minimizing hazardous work time at the building's edge.

#### **Cleaning and maintenance safety**

Installation is merely the start to railing safety considerations. Repair and replacement of broken or malfunctioning railing systems bring about unique safety concerns. Working with installed materials can sometimes be more complicated than the initial

installation. When the glass in wet-glazed systems needs to be replaced, it requires the painstaking process of chiseling out the cement adhesive in the base shoe, an effort that must be conducted at the platform edge. Dry-glazed systems eliminate this risky process as glass panes are held in place by mechanical devices that can efficiently be loosened, freeing the glass without chiseling.

Cleaning exterior glass railings is an ongoing concern, especially in tall buildings. Use of scaffolding is the preferred option for safely cleaning exterior glass railings. But glass railings and windscreens on some structures are cleaned from an interior position, requiring use of regulated safety equipment, such as harnesses, lanyards and anchor points that provide fall arrest.

Innovations in glass coatings are a useful way to improve worker safety by reducing the frequency of cleanings.

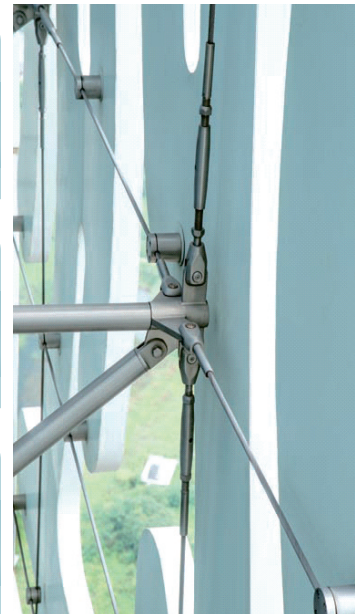
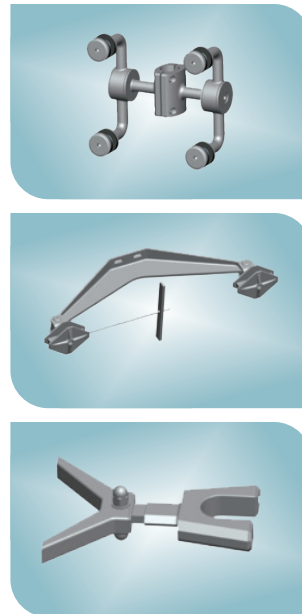
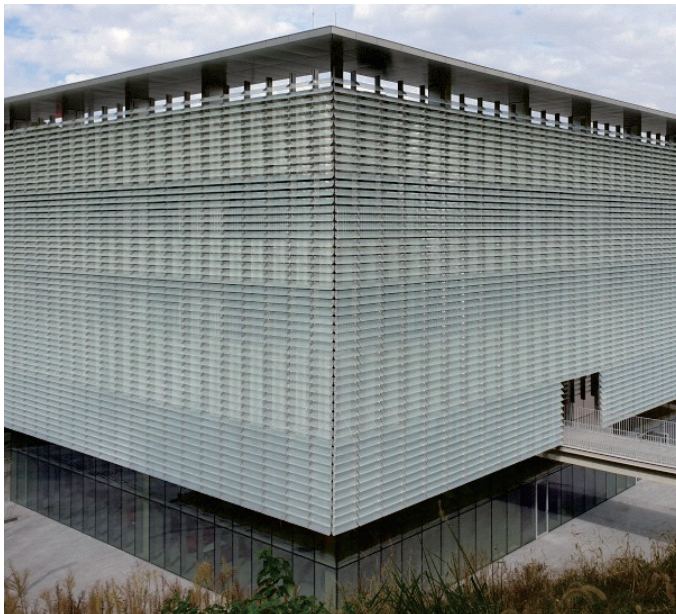
Today's coatings typically last for years, repelling water and other liquids to prevent spotting and reduce aging. The chemical composition of these coatings also prevents contaminants from adhering to the glass, making the need for regular cleanings less frequent.

#### **Advanced technologies enhance safety**

Installing railings and windscreens on high-rise structures mandates vigilant use of safety procedures and equipment. But advances in glass railing and windscreen technologies that minimize the amount of time glaziers spend on or over a building's edge are essential components of an evolving approach to glazier safety. ■



*Matt Gyore is technical director of the glass railings group at CRL.*



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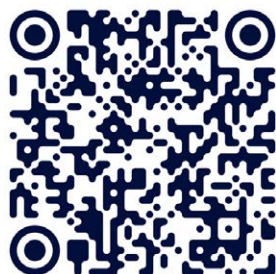


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## FINANCE

## STRATEGIES TO DETECT AND PREVENT BUSINESS FRAUD

IF YOU OWN OR MANAGE A BUSINESS, FRAUD COMES WITH THE TERRITORY  
BY MARCO TERRY

**W**e have all come across business fraud at some point. If you own or manage a business, fraud comes with the territory. You'll see it eventually. During my 20 years in business finance, I have worked with several companies that dealt with the effects of fraud. In some of these cases, the company faced potential closure. Surprisingly, none of the frauds were particularly sophisticated and most could have been prevented. Here are some types of fraud with suggestions on how to mitigate it.

### Clients who don't intend to pay

While not technically fraud, these situations are just as painful and expensive. In the following scenario, your company signs up a new client, delivers the product, performs the work according to a purchase order and submits an invoice. However, the client delays payment and stops responding to your phone calls. Your invoice eventually becomes what is commonly referred to

as "bad debt." Only later do you discover that this client has a reputation for never paying on time—if at all. Collections agencies are chasing them. Your company is just the latest vendor to do business with them.

**Solution:** This common situation can be easily mitigated. Run a commercial credit report on new prospective clients, especially for large contracts. Avoid offering terms to clients whose reports indicate questionable payment histories. Avoid companies with open collection agency accounts, major lawsuits and more.

### Employee theft

Employee theft is likely the most damaging and corrosive type of fraud a company can experience. It ranges from employees stealing minor items to major financial fraud, a serious issue. Major employee theft in companies typically occurs because a single employee in a "trust position" abuses their power. We have seen situations where a trusted employee approved fake orders, handled the vendor's payment and issued payments to their personal account.

**Solution:** Employee fraud is nearly impossible to prevent. However, you can limit your exposure by implementing these tactics.

**Divide fiduciary tasks.** An effective way to minimize internal fraud is to divide fiduciary tasks among employees, such as approving transactions, processing payments and managing bank accounts. No single employee has the power to perpetrate the fraud. Additionally, work with your bank or payment processor to establish a dual-approval solution, which requires two employees to approve disbursements that exceed a certain amount.

**Review accounts and financial statements regularly.** Reviewing your financial statements regularly provides a clear picture of your company's financial health. It also familiarizes you with your numbers and helps you catch potential issues. This practice is especially helpful if you run a small company.





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**Consider fidelity bonds.** Getting a fidelity bond on employees with access to your accounts or payment systems covers your company if a bonded employee harms your company due to financial dishonesty. For example, companies usually get a bond to cover employees who oversee the substantial assets of their company's retirement plans.

#### Vendors that submit inflated invoices

Companies that buy products in bulk may encounter vendors who charge the full price for the order but fail to deliver the entire order. The discrepancies may be minor, with the hope that your team will not notice. Over time, these minor discrepancies add up.

**Solution:** Check vendor invoices against your purchase order and the items delivered before making a payment. Ensure the invoices and purchase orders are accurate and match. Companies that make a large number of

purchases but cannot check every order should consider spot-checking. Select a few orders at random and verify those. Expand your verifications if you find discrepancies.

#### Fake vendors and invoices

We've seen an increase in fake vendors submitting fraudulent invoices. This fraud can take many forms. In some cases, the purported vendor submits an invoice for a generic product or service. The invoice amount is small, and the fake vendor hopes that someone will pay it without asking questions. More complex forms of this fraud have the fraudulent vendor impersonating a larger, well-respected company. They create a fake website that copies the authentic vendor's site, create realistic invoices and even maintain a well-staffed call center masquerading as an "accounts receivable" department. Most fraudsters initially target larger companies.

However, many of these scams are now targeting smaller businesses.

**Solution:** There is no single way to catch these invoices, and no method is 100% effective, but issuing purchase order numbers for purchases above a specific value can minimize the problem. Require that all vendor invoices include your purchase order number. Cross-check the invoices against the purchase order. Flag any invoices that don't have a purchase order number and request that the vendor provide the purchase order number before you pay the invoice. ■



*Marco Terry is managing director of Commercial Capital LLC, a factoring company and provider of invoice financing to companies in the glass industry.*

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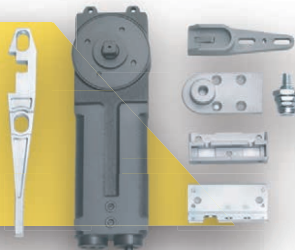
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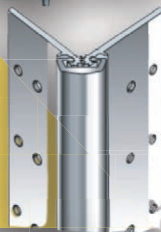
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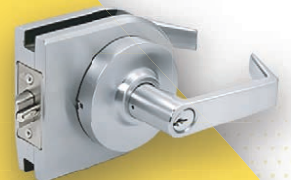
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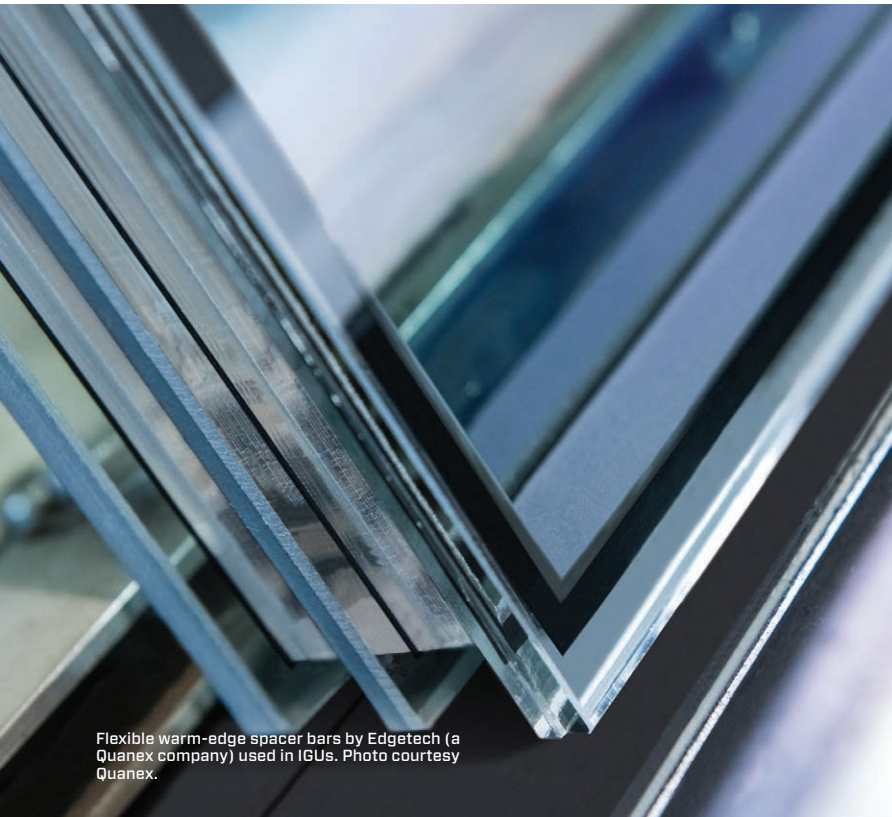
**Straight pull handles**  
*back - to - back*



**offset pull handles**  
*back - to - back*







Flexible warm-edge spacer bars by Edgetech (a Quanex company) used in IGUs. Photo courtesy Quanex.

## THE CASE FOR WARM EDGE

AS SUSTAINABILITY TARGETS GROW, WARM-EDGE SPACER SYSTEMS SUPPORT HIGH PERFORMANCE **BY JOE ERB**

**D**eveloping more sustainable building infrastructure has been one of the primary goals of the commercial glass and glazing industry for years now. More stringent energy codes continue to proliferate, driving commercial fabricators to do what's in their power to deliver more efficient, high-performance glass. It's an important mission—buildings are responsible for about 40% of total energy consumption in the United States, including 75% of all electricity use and 35% of the country's total carbon emissions, according to the U.S. Department of Energy's National Renewable Energy Laboratory. As our industry continues to advocate for high-performance glass, it's important that we contribute to optimizing energy

consumption with thermally efficient insulating glass systems.

The key to achieving our goals is applying the right technologies to ensure high performance. One of those technologies is warm-edge spacer systems, which have established themselves as a reliable option for demanding applications. For glass professionals, it's worth staying educated on the warm-edge fundamentals—what it is, how it works and what to look for when adopting the technology.

### More than thermal performance

It's important to note that not all warm-edge spacers are the same. The term can be relatively broad and there is no industry standard that specifically defines the technology. Generally, flexible warm-edge technology offers improved IG thermal

performance by reducing heat flow through the edge of the glass, leading to major improvements in thermal properties compared with metallic spacer options.

High-performance warm-edge systems can offer more than just enhanced thermal performance in end-use applications. A quality warm-edge solution can deliver a variety of other performance benefits, such as improved unit quality and consistency, long-term durability, enhanced condensation resistance, improved sightline aesthetics, reduced touch points during fabrication, acoustic benefits, and more. And warm-edge systems are highly compatible with modern automated equipment and can enable fabricators to achieve greater production efficiency on the shop floor. Following installation, a manufacturer's IG line can become significantly more efficient while saving as much as 60% in labor costs and requirements.

### Sourcing technical support

Converting from a rigid spacer application process to a flexible one involves a bit of a learning curve, just like any new technology. Rigid spacers require the fabricator to assemble many components offline into a spacer bar frame that includes the bar, joiner keys, primary sealant and desiccant, which is then applied to the glass. But flexible warm-edge technology is different; there is no spacer frame assembly process required. Flexible spacers are delivered on continuous reels and applied directly to the glass via manual or robotic applicators as needed.

That makes it important to take advantage of available technical support to help you with the transition. A good supplier of warm-edge spacer systems can provide some of that as a value-add. Again, making a switch in technology represents an opportunity to make additional improvements, and it's an opportunity you should take advantage of. ■



*Joe Erb is national account manager for Quanex Building Products.*



Oldcastle BuildingEnvelope's modified TCR-225 window wall system preserves Gund Hall's distinctive mid-century character. Photo courtesy of Oldcastle BuildingEnvelope.

## GREAT GLAZING: GUND HALL, HARVARD GRADUATE SCHOOL OF DESIGN

When Harvard University's Graduate School of Design set out to renovate its iconic Gund Hall, the challenge was clear: achieve a stringent overall weighted U-factor of 0.30 while preserving the building's distinctive mid-century character. The 1972 structure, with its striking glass-enclosed multi-level studio "trays" required innovative solutions to meet modern energy standards without compromising its architectural integrity.

### The challenge

The renovation demanded customized approaches for each elevation. For the clerestory windows, surrounded by complex steel trusses that made interior access nearly impossible, Oldcastle BuildingEnvelope® modified its TCR-225 window wall system for a more efficient exterior installation, eliminating the need for interior scaffolding or lifts. The team adapted the system to accommodate triple-glazed units, increasing the glass pocket from 1-inch to 1-¾-inch glazing while maintaining the building's aesthetic profile.



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### The design

The east elevation's distinctive slope glazing required modifications to the BMS-3000 single slope skylight system, replacing the standard tubular back member with an I-beam design for seamless integration with the building's existing structure while significantly improving the thermal performance.

The most technically challenging elements were the expansive north and south elevations, where the team implemented hybrid vacuum insulating glass technology. This cutting-edge solution was integrated into Oldcastle BuildingEnvelope's Reliance™ veneer curtain wall system through significant engineering innovation. The team reduced the system's sightline from 2 ½ inches to 2 inches and decreased profile depth to closely mimic the original aesthetics.

Strategic positioning of the VIG on the exterior optimized condensation resistance, achieved through extensive thermal modeling and collaborative

problem-solving. The result: a modified veneer system achieving a remarkable U-factor of 0.19, contributing significantly to the project's overall performance goals.

### The result

This renovation demonstrates how strategic partnerships between glazing contractors, design-assist experts and innovative technology can transform historic structures into high-performance buildings. Gund Hall now serves as a model for updating mid-century architecture to contemporary energy standards while preserving architectural character—proving that sustainability and heritage can coexist beautifully.

To learn more, visit [obe.com](http://obe.com) or call 866/653-2278. ■

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# **BUILDING EXPERTISE**

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**MEET THE GLASS AND  
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## MEET THE EXPERT: JOSE QUINONES

Years in Industry: 22

Company Name: Frameless Hardware  
Company (FHC)

Booth Number: 14022



### My top areas of expertise

- Architectural railing system design and installation
- Railing code, testing and standards compliance
- Product specification, construction documents and project management

### Ask me about...

Railing systems. With 22 years of experience, my expertise falls squarely in the architectural railing world. Be it system design, installation recommendations, product specification, or code and testing compliance, my goal is to be a resource for glaziers and architects. We will be talking about off-the-shelf stock solutions and installer-friendly systems, while also educating attendees about our extensive manufacturing capabilities, custom fabrication, pre-construction

services, unmatched lead time, in-house testing and drafting/engineering services—FHC's real differentiators.

GlassBuild attendees will be presented with a comprehensive offering of railing systems, from our award-winning ACHIEVE dry-glazed railing system, to our stainless steel, aluminum post systems and windscreen systems. One display I'm particularly excited to talk about is our new "Railing Store," designed to inspire by showcasing custom configurations and finishes of our F-Post stainless-steel systems, square and round standoff systems, and our ACHIEVE railing system.

### Make sure to see...

I will be giving live, hands-on demonstrations of our ACHIEVE dry glaze railing

system throughout the show. Named "Best Innovation for Installers" by Glass Magazine, it is the easiest and fastest way to install glass in a base shoe. We also have a new display with live testing of our new line of shower door hinges, which we've already tested to over 1,000,000 cycles.

### What you might not know our company does

GlassBuild is great because we show off the finished product, but what you can't see is all the work and people behind the scenes—the FHC Secret Sauce. While attendees will see a lot of imported stock components at other booths, we fabricate material at our 600,000-square-foot manufacturing facility in Los Angeles where we manufacture custom railings,

entrance systems, bifold doors and more.

### Make an appointment?

Just call 888/295-4531 or visit [fhc-usa.com/railing-hardware](http://fhc-usa.com/railing-hardware).

### Anything else to add?

We initially coined the phrase "You Now Have a Choice..." but when it comes to custom capabilities, turnkey solutions and cradle-to-grave service, we like to say we are "THE Choice." ■

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## MEET THE EXPERT: ASHLEY PRICE

Years in Industry: 21

Company Name: Salem Fabrication Technologies Group, Salem Fabrication Supplies

Booth Number: 22061



### My top areas of expertise

- Diamond tooling and polishing products specialization
- Innovation in glass fabrication consumables and tooling
- Enhancing fabrication efficiency through automation and product optimization

### Ask me about...

Salem Fabrication Technologies Group brings nine decades of experience to the glass fabrication and glazing industry through its divisions, Salem Fabrication Supplies and HHH Equipment Resources. At GlassBuild, Ashley Price, vice president of supply operations, Salem Fabrication Supplies, will provide insight into our full line of consumables and tooling products that support

real-world fabricator needs. With 21 years of experience in fabrication supplies and a specialty in diamond tooling and polishing products, he'll speak on our newest product advancements in cutting, polishing, lamination and edging solutions.

### Make sure to see...

Visitors to our booth can expect hands-on insight into increasing efficiency, quality and uptime in their fabrication operations. Whether looking to upgrade equipment, streamline production lines or source high-performance supplies, our experts will share the latest in automated glass processing technology and consumables innovation, including strategies for maximizing tool life, optimizing material handling and integrating automation—whether

they're a small shop or a large-scale facility.

This year at GlassBuild, we're unveiling our latest technologies developed based on what our customers want and need. Expect detailed conversations around our TruCut cutting wheels, FinishLine polish wheels, VistaSafe EVA film, Storm Surge diamond resin wheels and more.

### What you might not know our company does

Salem is preparing to release a new line of peripheral diamond wheels, with testing results showing over 1,000,000 inches achieved on the initial profile—redefining long-life tooling with re-truing capability.

### Make an appointment?

Contact us at [info@salemftg.com](mailto:info@salemftg.com).

com or visit us online at [salemftg.com/contact](http://salemftg.com/contact).

### Anything else to add?

We understand that every fabrication shop is different. That's why our approach is rooted in real-world solutions, not one-size-fits-all answers. Whether you're seeking advanced automation, dependable tooling or simply a partner who understands your challenges, we invite you to stop by and start a conversation. Let's talk shop—your goals, your growth and how we can help power both. ■

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**SALEM**  
FABRICATION SUPPLIES



# MEET THE EXPERT: ED ROBLES

Years in Industry: 31

Company Name: Salem Fabrication Technologies Group, HHH Equipment Resources

Booth Number: 22061



## My top areas of expertise

- Glass machinery solutions and automation strategies
- Hands-on glass fabrication and processing expertise
- Equipment installation, operator training, and technical support in glass production

## Ask me about...

Salem Fabrication Technologies Group brings nine decades of experience to the glass fabrication and glazing industry through its divisions, Salem Fabrication Supplies and HHH Equipment Resources. At GlassBuild, Ed Robles, vice president of sales, HHH Equipment Resources, will speak on our machinery solutions and automation strategies. With over 31 years of experience in the glass industry, he works with the industry's

top manufacturers and has a deep, hands-on understanding of glass processing, helping customers overcome production challenges through equipment, tooling and process innovation.

## Make sure to see...

Live demonstrations will showcase two of our leading-edge machines. The Skill Glass ED-101 vertical CNC is a high-performance CNC processing center designed for precise, space-saving vertical glass machining. It drills, mills and polishes with speed and accuracy. The KODIAK® 10-45 AFS edger/miterer features fully automatic grinding and polishing wheel adjustment for consistent, high-quality edge finishes with minimal manual intervention. Interactive digital demonstrations will

showcase other machinery and automation solutions from our full equipment line, with machine specifications, operational parameters, real-world video footage, and examples of robotic integration and automation.

## What you might not know our company does

While only select machinery will be on display, our product line extends across the full spectrum of glass fabrication—from straight-line edgers and bevelers to tempering furnaces and washing systems. Robotic integration and automation are being prioritized and we're expanding into the commercial IG sector with new support product offerings. Beyond the shop floor, we support our partners with equipment installation, operator training,

preventative maintenance and ongoing technical support.

## Make an appointment?

Contact us at [info@salemftg.com](mailto:info@salemftg.com) or visit us online at [salemftg.com/contact](http://salemftg.com/contact).

## Anything else to add?

We recognize that each fabrication shop is unique. Our approach focuses on practical, customized solutions rather than generic answers. Whether you need advanced automation, reliable tooling or a partner who truly understands your challenges, we encourage you to visit and start a conversation. ■

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## MEET THE EXPERT: SAM FRANKLAND

Years in Industry: 12

Company Name: Smart Glazier Software

Booth Number: 11041



### My top areas of expertise

- Glass industry business software development
- Workflow optimization and integration
- Customer-focused software training and support

### Ask me about...

Smart Glazier Software has been developing purpose-built software for the glass and glazing industry for the past 25 years. We work with glaziers and fabricators of all sizes, helping them streamline their quoting, ordering and day-to-day business management. GlassBuild attendees can expect practical, solution-focused conversations about everyday challenges. We'll share how our tools help teams work faster, reduce errors and stay on top of their jobs.

### Make sure to see...

We'll be running hands-on software demos of Smart Glazier Business, our all-in-one business software designed for glaziers. It brings together quoting, scheduling, invoicing, payments, customer communication and supplier management—without the complexity of traditional ERP systems. And our Smart Glazier Connect is a fully branded, online ordering platform that helps glass fabricators streamline how they receive quotes and orders from customers. Whether you're a small installer or a high-volume fabricator, our demos will show exactly how the software can support your team, product range and goals.

### What you might not know our company does

We also offer a range of other tools and services designed to support every part of a glass business. Smart Glazier Design is a standalone suite of design tools for quoting and ordering that include 3D visuals and detailed installation reports, making them ideal for shops that want fast, accurate design capabilities without needing full job management software. Our Smart Glazier Software integrates with trusted industry platforms, allowing businesses to keep using the tools they already rely on. We also provide support, training and onboarding with each customer to make the transition feel simple, supported and stress-free.

### Make an appointment?

Contact us at [sales@smartglazier.com](mailto:sales@smartglazier.com) or visit us at [smartglazier.com/en](https://smartglazier.com/en).

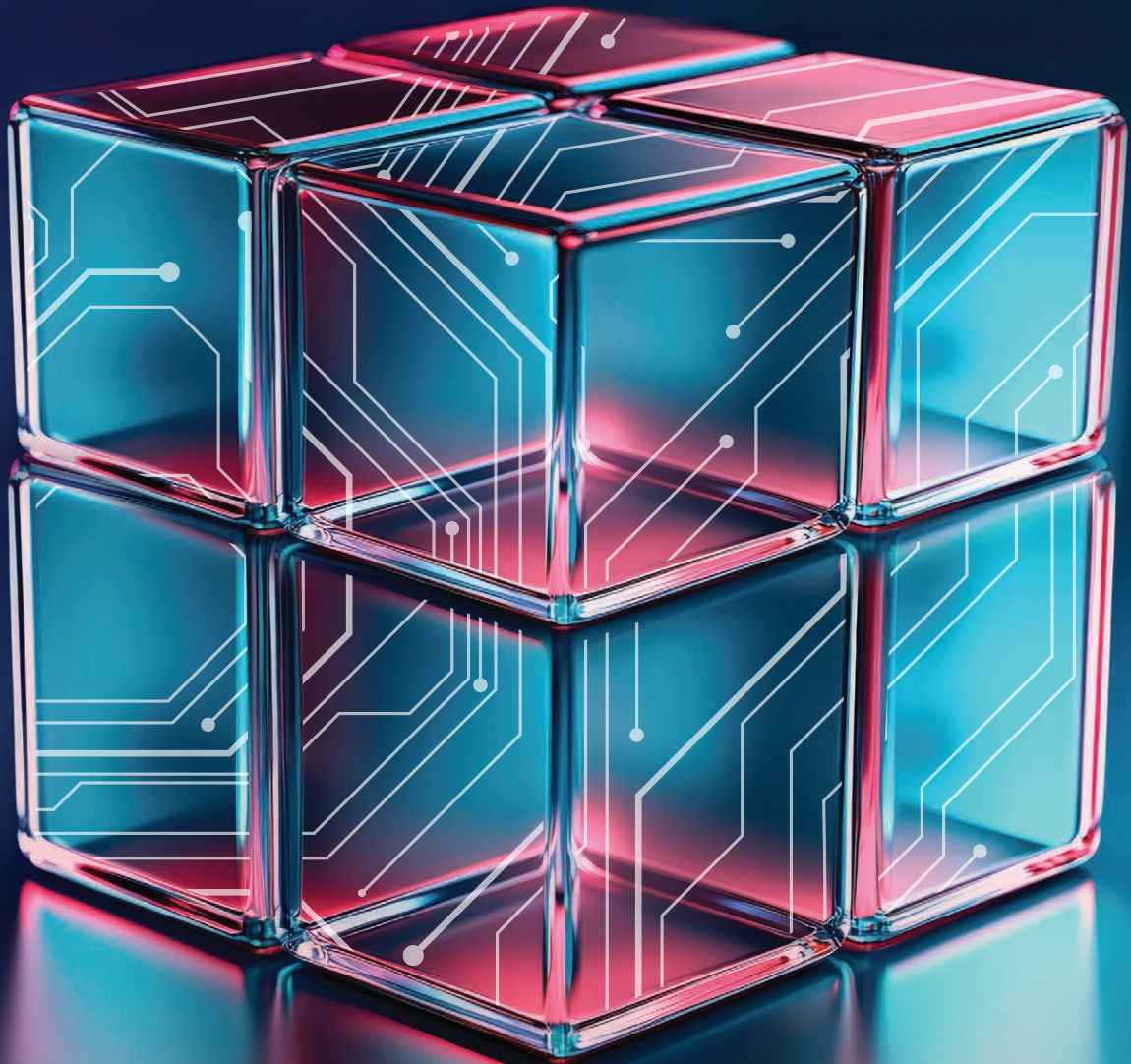
### Anything else to add?

Smart Glazier Software was built specifically for the glass industry—not adapted from generic construction tools—which means every feature, workflow and detail has been designed with glaziers and fabricators in mind. Whether you're looking to modernize quoting in the field, simplify how your team operates, or create a more professional customer experience, our software is built to grow with you. ■

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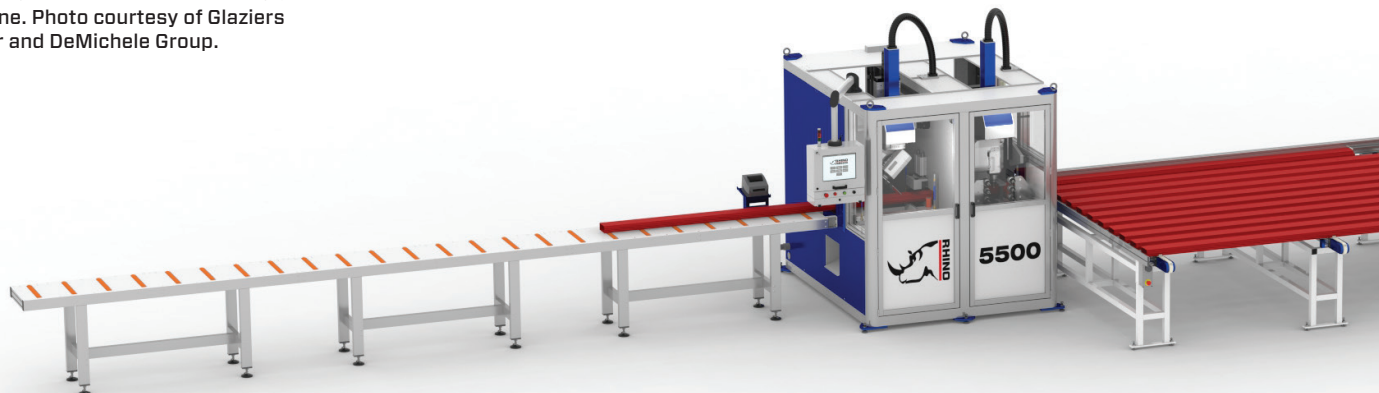
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The Next-Gen RHINOFAB 5500 extrusion machine. Photo courtesy of Glaziers Center and DeMichele Group.



## SOLUTIONS FOR TODAY'S GLAZING FABRICATORS

NEXT-GEN EXTRUSION MACHINES REDUCE MANUAL LABOR, ENHANCE ACCURACY IN FABRICATIONS AND HANDLE MORE COMPLEX STOREFRONT AND CURTAIN WALL MATERIALS

BY TARA LUKASIK

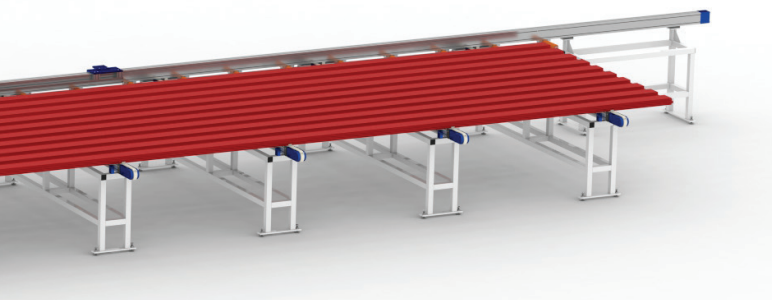
**W**ith glazing contractors and fabricators focused on future-proofing their businesses to help them stay competitive in a challenging economic climate marked by inflation, supply chain disruptions and labor shortages, customizable machinery and software is essential in helping fabrication shops stay profitable. Backed by nearly 80 years of industry experience combined, Glaziers Center Inc. and the DeMichele Group are committed to transforming fabrication shops into profitable, high-productivity centers that can sustain business growth even during economic downturns.

A software and machinery company specializing in enhancing the fabrication of architectural aluminum for curtain walls and storefronts, Glaziers Center and the DeMichele Group integrate innovative ideas with advanced software technology and RHINOFAB machinery, delivering customizable solutions tailored specifically to the glazing industry. Their offerings streamline critical processes such as cutting, fabricating, labeling and inventory management, helping glazing contractors improve accuracy, increase efficiency and reduce labor costs.

In July, the two companies held online demonstrations of their Next-Gen RHINOFAB 5500, an advanced extrusion machine redesigned from the ground up to enhance speed, precision and versatility in fabrication. Glass Magazine sat down with Glaziers Center President Bill Cole, DeMichele Group President Brian Hefner, and DeMichele Group Chief Design Engineer Walter Luckenender to discuss how customizable machinery solutions are helping contractors to handle complex storefront and curtain wall jobs efficiently using one automated machining center, eliminating the need for multiple machines or extra handling steps.

**Glass Magazine: What are some of the key technological innovations in the RHINOFAB 5500 compared to previous models?**

**Walter Luckenender:** Our RHINOFAB 5500 features reimaged design with a top-mounted, five-axis fab spindle capable of fabricating profiles on the front, back, top and at any XY angle, paired with a three-axis spindle on the bottom for drilling, routing, countersinking, tapping and notching. What truly sets it apart is its innovative saw system—dubbed the “all saw”—that can execute 90-degree, bevel, miter, and compound miter cuts with a unique open cutting window that prevents material part binding and enables efficient chip management. Its high-powered, liquid-cooled spindles and rapid tool-changing capabilities enable faster turnaround times, and it integrates a vacuum chip collection system, ceramic-coated precision rollers to protect parts and easy maintenance access. Importantly, it operates with a familiar, fully automated, data-driven interface compatible with existing software and workflows, allowing precise handling of complex aluminum



extrusion fabrication, including curtain walls and door frames.

**GM: What motivated you to release an updated version of the RHINO FAB, and why was this the opportune time for its introduction?**

**Bill Cole:** The RHINO FAB 5500 offers several key benefits that glaziers and fabricators need in today's highly competitive and fast-paced environment. Speed and throughput to meet tight project timelines and high volume demands; precision and complexity handling for modern architectural designs requiring complex miters, angled holes and compound cuts; automation and operator ease-of-use to reduce reliance on skilled labor and minimize human error; flexibility to handle a variety of size materials and job types; and reliability and clean operation to maximize uptime and minimize maintenance. This new generation builds on successful features, customer suggestions, and adds smarter, easier-to-use capabilities tailored for glazing fabricators—essentially, we kept what worked and fixed what didn't.

**GM: How do the advancements of this new version offer practical advantages to glazing contractors in their daily operations?**

**Brian Hefner:** This next-gen version enables contractors to handle and deliver more complex storefront and curtain wall jobs with confidence, while still being efficient on common storefront and curtain wall. Using one automated machining center eliminates the need for separate machines or extra handling steps—all fabrication steps are done with one automated machining center, so you save on valuable shop floor space, eliminate handling material multiple times and improve productivity. The system is easier and better, yet remains reliable and easy to learn, use and maintain.

**GM: What were the key takeaways of the RHINO FAB 5500 machine's online demo in July, and what can we look forward to in Orlando from the DeMichele Group, Glaziers Center and RHINO FAB?**

**BH:** The demo was very well received, generating more interest from participants than all the other demos we've

done, except for GlassBuild. There were a number of technical questions brought up by attendees at the conclusion of the demo, including the capability for door version milling and drilling, single-pass door processing, and combined drilling and tapping in one step to optimize speed and reduce tool changes. Our Next Gen Rhinos will be showcased live at GlassBuild America for all attendees to see up close and personal. It's a great opportunity for our customers to experience the machines firsthand during a live demo; it offers a whole different experience, seeing it in person.

**GM: What is Glaziers Center's long-term vision for the RHINO FAB product line? Are there future enhancements or complementary machines in development?**

**BC:** We're always looking to help fabricators save time, reduce waste and improve overall productivity and quality. We are releasing the next-generation RHINO FAB 5100 Dedicated Doorfab, 5700 Combo and standalone 5000 cutting center. For glaziers and fabricators, we look to offer everything needed to be efficient, accurate and adaptive in a fast-moving, detail-oriented market, enabling them to take on more complex jobs with faster turnaround and less labor-intensity.

Visit us at [glazierscenter.com](http://glazierscenter.com) and [demichelegroup.com](http://demichelegroup.com) or contact us at [sales@glazierscenter.com](mailto:sales@glazierscenter.com) or call 607/968-1620 to learn more. ■



Request a demo replay of the Next Gen RHINO FAB 5500

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# GLASS MAGAZINE AWARDS 2025

BY RACHEL VITELLO





THE 2025 GLASS MAGAZINE AWARDS WINNERS PUSHED THE BOUNDARIES OF WHAT GLASS AND GLAZING ARE CAPABLE OF DOING. THIS YEAR'S 10 PROJECT AWARD WINNERS AND SEVEN PRODUCT AWARD WINNERS EXEMPLIFY WHAT IT MEANS TO THINK OUTSIDE OF THE BOX AND ACT WITH INNOVATION IN MIND. THIS YEAR, THERE WERE 78 TOTAL NOMINATIONS ACROSS THE PROJECT CATEGORIES AND 39 NOMINATIONS FOR PRODUCTS.

Projects this year boasted eccentric designs inspired by the natural world, while always continuing to meet the design intent of the project—including energy efficiency, decreasing carbon footprint, daylight and overall functionality.

In honor of Glass Magazine's 75th anniversary this year, a new project category was added—Best Retrospective Project. This new category received an impressive number of submissions as those in the industry sought to showcase their iconic and historic projects and retrofits. Also new this year to the project awards is the category Best Internal Training Program. As the glass and glazing industry seeks to hire and train skilled labor, implementing effective internal training programs is essential, and we're proud to showcase one here.

"The Glass Magazine Awards showcase what is best in the world of glass and fenestration, and this year's winners are no exception," says Glass Magazine Editor Norah Dick. "It feels especially meaningful to have such a strong showing of all that glass can do—for occu-

pants, for the environment and for our broader infrastructure—during the magazine's 75th anniversary year. Glass has come a long way in the last century, transforming into a high-performance building material that is crucial for our infrastructure."

New to the product competition this year is the Best Digital Tool category, which highlights the growing use of software and automation across the industry.

The awards program is only possible with the expertise of our project award judges, who lend their time and experience to adjudicate the project competition. We would also like to thank the wider industry for taking the time to vote in the public products competition.

Glass Magazine's editorial staff thanks all the companies that took the time to complete a nomination form. We realize that many more industry companies have outstanding projects and products they could showcase. To participate in next year's Glass Magazine Awards, contact Associate Editor Rachel Vitello at [rvitello@glass.org](mailto:rvitello@glass.org).



GLASS MAGAZINE AWARDS

PROJECTS + PROGRAMS



PROJECT OF THE YEAR  
BEST PROJECT TEAM

ONE RIVER NORTH





Nominating companies  
Kuraray and Millet  
Glass Industry

Location  
Denver, Colorado



One River North, a mixed-use development that includes apartments, redefines the boundaries of glass architecture through the bold integration of a sculpted “living canyon” carved into the façade of the tower. The carved canyon, a signature design element, reimagines how architecture can blend urban living with organic forms, say company officials. This design element required close collaboration between structural and design teams, as the glazing system had to adapt to varying angles, setbacks and open-air garden terraces throughout the vertical void. This feature introduced a range of complex geometries that pushed the boundaries of traditional curtain wall design, say Millet Glass officials.

Glazing consultants and fabricators were brought in early during the design development phase, allowing for real-time feedback and refinements. Despite the challenges, ranging from pandemic-related delays to the complexities of the canyon’s form, the project team overcame them through a shared commitment to innovation, safety and excellence in execution.

The façade required highly customized glazing units—many with unique shapes and dimensions—designed not only for aesthetics but also for high performance and occupant safety. The canyon void includes open-air terraces and sky gardens that function as communal areas, requiring the use of advanced laminated systems that offer safety without sacrificing transparency or views.

The façade is fully clad with insulating glass, offering thermal performance, allowing natural light to flood the interiors and framing spectacular views of the Rocky Mountains. In elevated outdoor areas, SentryGlas interlayers by Kuraray were used for their exceptional post-breakage strength, ensuring safety without compromising transparency or aesthetics. All glass units were fabricated by Millet Glass Industry, using glass manufactured by Vitro Architectural Glass. This project not only pushes the limits of what is structurally and visually possible with glass but also demonstrates how glazing systems can support both architectural expression and occupant well-being, say Kuraray officials.

One River North challenges the norms of glass application in high-rise construction and demonstrates how glazing can become a tool for biophilic design and urban storytelling.

“To bring such an idea to life requires a synergistic vision and compatibility across an enormous amount of trades,” says Glass Magazine Awards judge Pete de Gorter, vice president, DeGorter Inc. “A design and implementation this bold isn’t possible without the highest of functioning teams.”

#### WINNING TEAM

Glass fabricator  
Millet Glass  
Industry

Glass  
manufacturer  
Vitro Architectural  
Glass

Glazing contractor  
Alliance Glazing  
Technologies

Interlayer supplier  
Kuraray

Structural  
engineer  
Jirsa Hedrick

General contractor  
Saunders  
Construction

Architects  
MAD Architects /  
Davis Partnership  
Architects

Photo credit  
Baptiste Yang



FIRST RUNNER-UP  
PROJECT OF THE YEAR

# THE HENDERSON

Nominating company  
sedak

Location  
Hong Kong, China



**T**he Henderson pushes the envelope of what's possible in glass and façade engineering. With double-curved, insulating laminated glass covering the tower from podium to crown, the design merges organic form with high-performance engineering. The curvature of the glass is not purely aesthetic—it enhances wind load distribution and promotes resilience in a typhoon-prone region.

"This office building boldly redefines what is possible in design, engineering and glass. I think it is an example of a building that will inspire architects, designers and engineers to think more boldly and bigger as to what

is possible with the use of glass," says Glass Magazine Awards judge Tara Brummet, chief of staff, Vitrum Glass, Apex Aluminum & Lorval Developments.

One of the project's most groundbreaking innovations is the roof-level banquet hall, constructed from 9,500 square feet of structural glass, forming a transparent, all-glass volume with curved insulating glass units and laminated glass fins. The ability to create this expansive, unsupported space at height while maintaining performance in extreme wind conditions is a feat in itself, say sedak officials.

The Henderson is a landmark office tower located in the heart

of Hong Kong's business district. Designed by Zaha Hadid Architects, this 650-foot-high commercial building features office spaces, retail areas and a stunning rooftop banquet hall with panoramic views. The façade features over 4,000 panels of double-laminated, curved insulating glass, incorporating more than 1,000 unique curvatures. These units were fabricated with SentryGlas interlayers to ensure superior impact resistance, structural integrity and zero ultraviolet penetration.

The Henderson's completion in 2024 marks a new chapter in façade engineering. sedak officials say this project not only

## WINNING TEAM

Glass fabricator  
sedak

Interlayer supplier  
Kuraray

Podium and tower top  
seele Hongkong Ltd.

Façade engineer  
Eckersley O'Callaghan

Tower façade  
Far East Aluminum Works  
Co.

Design architect  
Zaha Hadid Architects

Architect  
Ronald Lu & Partners

General contractor  
Hip Hing Construction Co.

Civil and structural engineer  
C.M. Wong & Associates  
Ltd.

Consultancy services  
Arup

Photo credit  
Martin Lee

enhances Hong Kong's skyline but demonstrates how multi-disciplinary collaboration, digital precision and material innovation can solve real-world challenges—be they structural, environmental or aesthetic.

It's not just about beauty or performance—it's about building trust and pushing boundaries, say officials from sedak. The result is a harmonious blend of art and engineering, where every curved panel tells a story of precision, resilience and excellence.

## THE JUDGES

The project awards are only possible with the expertise of our judges, who come from every part of the glass industry. The Glass Magazine editorial team again thanks them for taking the time to share their insights with us.



**Tara Brummet**  
Chief of Staff, Vitrum Glass, Apex  
Aluminum & Lorval Developments



**Nathan Seaman**  
National Sales Manager,  
Form Metal Systems



**Peter de Gorter**  
Vice President, DeGorter Inc.



**Syndi Sim**  
Director of Sales and Business  
Development, Q-railing



**Alice Dickerson**  
Founder and Managing Director,  
Division 08 Marketing



**John R. Stephenson**  
Senior Architect, BRPH



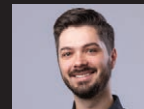
**Kayla Natividad**  
Architectural Technical Services  
Engineer, NSG Pilkington



**Brian Tobias**  
Product Marketing Analyst, Tubelite



**Tom O'Malley**  
Partner and Director of Sales, Clover  
Architectural Products



**Austin Zajichek**  
Marketing Manager, Linetec



**Diana San Diego**  
Vice President of Marketing, Safti First





■ *Best Retrospective Project*

# MOYNIHAN TRAIN HALL

Nominating  
company  
seele Inc.

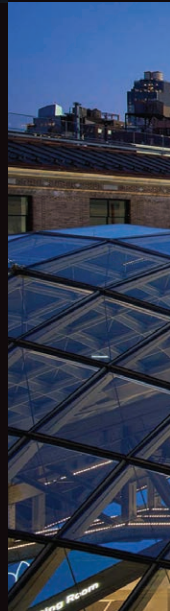
Location  
New York City,  
New York

**T**o transform Manhattan's historic James A. Farley post office—originally constructed in 1918 to mirror Penn Station—into the modern Moynihan Train Hall station, seele installed five domed skylights consisting of structural steelwork and glass. The new station was built to serve as a concourse to the nearby Pennsylvania Station and thus create more capacity for the growing number of passengers, which currently number more than 650,000 daily.

The converted building benefits from glazing that fills the station with natural

light that highlights the historic steelwork. In line with the project's adaptive reuse objectives, the original structural steelwork of the post office was preserved. The new, cable-braced roof structures connect seamlessly with the historic steel trusses of the former postal building.

"This project is both sensitive to the building's original function, as well as honoring the lost Penn Station. It provides a grand monumental space with innovative methods. It is an iconic project fitting the great city," says Glass Magazine Awards



*“This project is both sensitive to the building’s original function, as well as honoring the lost Penn Station. It provides a grand monumental space with innovative methods. It is an iconic project fitting the great city”*

Glass Magazine Awards judge John R. Stephenson, senior architect, BRPH.



#### WINNING TEAM

Façade manufacturer and contractor  
seele Inc.

Architect  
Skidmore, Owings & Merrill LLP

Engineer  
Schlaich Bergemann  
Partner

Main contractor  
Skanska USA Civil  
Northeast Inc.

Photo credit  
Lucas Blair Simpson  
Empire State Development I  
SOM

judge John R. Stephenson.

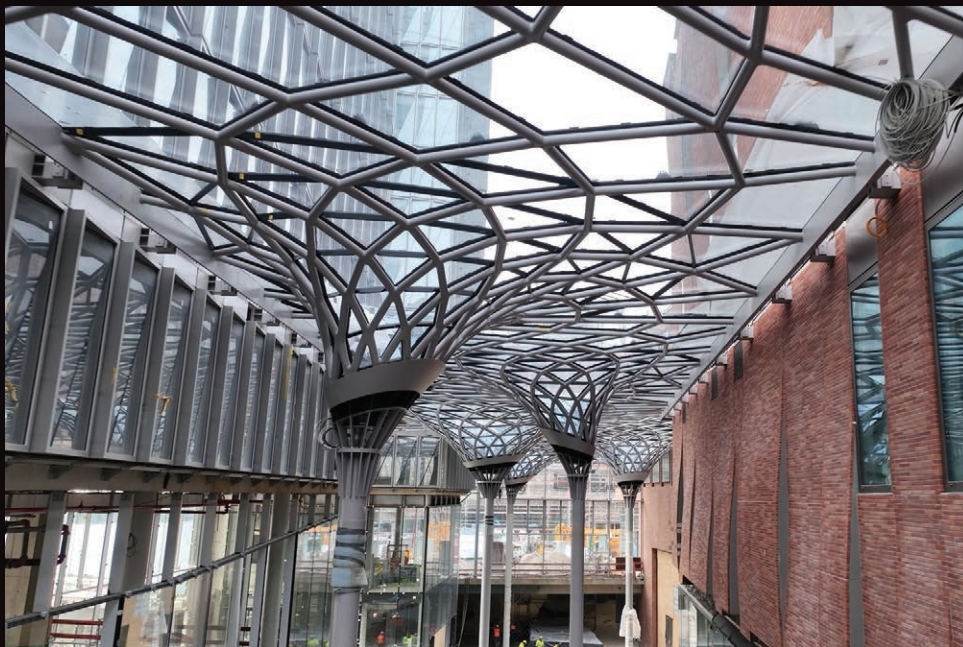
Individual elements are mounted on top of the roof’s steelwork and consist of aluminum frames and toughened safety glass units with a dot ceramic frit and a high-performance coating. This project consists of 3,384 insulating glass units with solar coating and frit and 670 tons of structural steelwork.

Each of the aluminum-glass elements is unique. Gutters to drain water from the roof are integrated into the roof structure. The drainage system is fitted with electric heat tracing

so that drainage can still be ensured during winter when the gutter system is covered by snow and ice.

“Moynihan Train Hall is a standout example of architectural and artistic vision. Transforming a century-old post office into a vibrant transit hub, the project blends structural glazing, public art and high-performance glass to honor the past while embracing the future,” says Glass Magazine Awards judge Alice Dickerson, founder and managing director, Division 08 Marketing.





## WINNING TEAM

Glass fabricator and laminator  
Q4Glass

Interlayer supplier  
Kuraray

Contract glazier  
Cornelius UK Ltd.

Facade contractor  
Roschmann Group

Architect of glass roof  
Werner Sobek

Master planning  
HPP Architekten GmbH

Structural engineering  
Werner Sobek

Excavation  
WTM Engineers GmbH

Energy and sustainability  
GETEC Gruppe & Unibail-Rodamco-Westfield

Photo credit  
Darren Arpe

■ *Best Feat of Engineering*

# WESTFIELD HAMBURG-ÜBERSEEQUARTIER GLASS ROOF

Nominating company  
Kuraray

Location  
HafenCity, Hamburg,  
Germany

The Westfield Hamburg-Überseequartier glass roof embodies a true feat of engineering. The roof features a complex and unique form, which from above resembles a glass lake with small whirlpools. The roof required over 9,000 parametrically designed nodes and a network of steel and aluminum profiles, each customized for its specific position. The bolted connection system—developed with support from CCTH and Friedberg GmbH—was tailored to allow controlled movement and flexibility, a critical innovation for such a lightweight, yet massive

structure. The integration of SentryGlas in larger panels offers structural integrity and resilience, essential for such a large-span, unsupported canopy.

“The visual impact of this project speaks boldly of the complexity behind this glazing design. With every panel uniquely shaped and strengthened by SentryGlas, the engineering speaks for itself. Simply put, wow,” says Glass Magazine Awards judge Alice Dickerson.

Its innovative geometry resembles filigree jewelry, both transparent and protective, say officials. Off-site construction and high-

precision assembly were used for this project. Sustainability was a major design goal, demonstrated by the use of solar control glass.

Standardized welding was rejected in favor of reworkable bolted connections, enabling off-site assembly, easier logistics and on-site adjustments. With glass laminated with SentryGlas interlayer, the project meets demanding structural and safety standards, enhancing post-breakage performance and resistance to wind loads, vibrations and other dynamic forces.





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#### WINNING TEAM

Glass fabricator and installer  
**Vitralum Glass Solutions**

Hardware  
**CRL**

Photo credit  
**Vitralum Glass Solutions**

wall and around the perimeter of the glass for decorative purposes. Incorporating the reeded panel inside the low iron glass required precision CNC cutting of each panel and being able to install the glass in a safe and secure manner in order to have rigidity.

The shower door also incorporated hardware by CRL to match the luxury aesthetic, including pivots and a door handle, all in brushed bronze.

"This shower is not only stunning but it represents an exceptional level of creativity in combining the patterned glass with standard float into one cohesive piece. The seamless integration speaks to the level of craftsmanship and precision required for this project," says Glass Magazine Awards judge Tara Brummet, chief of staff, Vitrum Glass, Apex Aluminum & Lorval Developments.

#### ■ Best Glass Interior

## MASTER SHOWER REEDED

Nominating company  
**Vitralum Glass Solutions**

Location  
**Orlando, Florida**

This unique shower door design demonstrates how all spaces can be transformed using glass. The custom reeded glass design, created for a customer by glass fabricator Vitralum Glass Solutions, was tasked with matching the reeded aesthetic found in the marble of the bathroom wall, while also offering necessary privacy.

To deliver a unique look and still be able to offer privacy, Vitralum decided to innovate and cut a section of the low iron glass. This allowed them to insert a  $\frac{3}{8}$ -inch low iron reeded panel into the panel of glass. The final design of this new construction proved to be original and beautiful, say officials.

Every panel was wrapped with u-channel, an aluminum profile that is used to insert glass for decorative or fastening purposes, to create a framed, transitional look. The u-channel was used in this project both to secure the glass to the



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■ *Best Green Project*

# POPULUS





Nominating  
company  
**Kawneer**

Location  
**Denver, Colorado**

## WINNING TEAM

Contract glazier  
**8G Solutions**

Architectural  
aluminum systems  
manufacturer  
**Kawneer**

Architect  
**Studio Gang**

General contractor  
**The Beck Group**

Photo credit  
**Jason O'Rear**

P

opolus is the first carbon-positive hotel in the United States, according to nominating company Kawneer. The project was designed to be the center for a thriving community, contributing to Denver's ever-evolving landscape. The 13-story Populus hotel has a distinctive façade designed to mimic the area's iconic Aspen trees, which have a white bark often scarred with a dark pattern that resembles eyes. The designers mimicked this distinctive pattern in the hotel's façade by creating a white shell featuring elliptical windows of varying sizes—the “eyes” of the façade.

One of the project's main goals was to combine the urban character of the

city's downtown with its rich ecology to create a building that would redefine the Denver skyline, say officials. The project features a variety of Kawneer's architectural aluminum systems to achieve its ambitious design and sustainability goals.

The façade is targeting LEED Gold and incorporates highly recycled building materials and fewer finish materials, maximizing structural efficiency and minimizing waste. Populus' ongoing building operations will also be carbon positive. In addition to the building's embodied carbon, the hotel's operational carbon footprint is offset from its daily operations and every guest's stay. For every room that is booked at the hotel, a tree is planted, creating a direct impact on the environment. Featuring highly sustainable design features, Populus goes beyond net zero to help the planet thrive, say Kawneer officials.

“As the first carbon-positive hotel in the U.S., Populus sets a new benchmark for climate-conscious design by actively sequestering more carbon than it emits. Its striking, biomimetic architecture and regenerative strategy redefine what sustainable hospitality can be,” says Glass Magazine Awards judge Austin Zajick, marketing manager, Linetec.





#### ■ *Best Internal Training Program*

## L-3 LEADERSHIP DEVELOPMENT PROGRAM

Nominating  
company  
Egan Co.

Egan Co. is a multi-trades contractor based in Minnesota and North Carolina specializing in a multitude of skilled trades and professional services, including commercial glazing, curtain wall installation and more. The company is comprised of about 1,000 employees and 12 different specialty trades, according to its website.

Egan Co.'s L-3 Leadership Development Program is a cohort-based, development experience designed to empower current and emerging leaders across the organization. Grounded in Egan's leadership competency model, L-3 focuses on leadership from three critical

perspectives: Leading Self, Leading Others and Leading Business.

This program is delivered through a blend of strategic partnerships and internal facilitation. "With two different L-3 tracks, one tailored to field leadership and the other to office leadership, L-3 addresses the unique challenges and opportunities within each environment, while maintaining a consistent foundation of core leadership behaviors and principles," say company officials.

The Field Leadership L-3 is a three-month experience with one full-day classroom session each month.

The Leadership L-3 is a six-month experience with two full-day sessions every other month and a business challenge project the participants work on as small groups/teams throughout.

Egan measures effectiveness through post-program evaluations and employee surveys, and company leaders receive feedback from their direct reports annually.

To ensure the company was designing a program aligned with Egan's goals and company culture, the developers took over a year to plan it. During that time, they identified the characteristics they wanted to see in a leader at the company, and

also defined a competency model and framework for evaluating leaders.

"Egan's program goes beyond the standard approach to skills development. While technical and role-specific training is essential, Egan has included a holistic focus on leadership and behavioral development. I think this approach is critical in today's workplace, where accountability, collaboration and adaptability are as important as technical expertise," says Glass Magazine Awards judge Tara Brummet, chief of staff, Vitrum Glass, Apex Aluminum & Lorval Developments.



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**WINNING  
TEAM****Contract glazier**  
ES**Glass laminator  
and fabricator**  
Tecnoglass**Interlayer supplier**  
Kuraray**Design architects**  
Aston Martin  
Design Team &  
Bodas Miani Anger  
(BMA Architects)**Developers**  
G&G Business  
Developments &  
Aston Martin**Photo credit**  
Tecnoglass

The glazing system also had to comply with some of the most stringent building codes in the country, particularly regarding wind and impact resistance in a coastal, high-rise environment. The use of laminated glass ensures that panels remain in place and continue to protect the interior even after breakage, an essential feature for a structure of this height and location, according to Tecnoglass officials. These laminated units not only provide protection but also enhance the building's aesthetics, allowing expansive views without compromising safety. Every glass element was specifically tailored to support the building's aerodynamic performance.

Glass units were laminated and fabricated by Tecnoglass. The curved façade required precision engineering and high-performance glazing, balancing aesthetics with structural resilience. The framing systems were tailored to resist large-missile impacts and high wind loads without compromising the building's signature transparency and flow.

"The Aston Martin Residences project proves you don't have to choose between protection and design. This massive glass façade is a standout example of how high-performance glazing in a high-rise application checks all the boxes for energy efficiency, resilience and aesthetics," says Glass Magazine Awards judge Alice Dickerson, founder and managing director, Division 08 Marketing.

**■ Best Protective Glazing**

# ASTON MARTIN RESIDENCES

**Nominating company**  
Tecnoglass/ES**Location**  
Miami, Florida

Located at the mouth of the Miami River, where it meets Biscayne Bay, the Aston Martin Residences rise 66 stories to become an iconic part of the Miami skyline. Aston Martin Residences sets a new standard in protective glazing for high-rise residential construction, say officials at Tecnoglass.

The tower's curved geometry, and the fact that no two floors are alike, required a highly customized approach to both the structure and the façade, according to Tecnoglass.

To comply with South Florida's strict hurricane impact codes, the building features a laminated insulating glass unit system with SentryGlas interlayers, offering resistance to windborne debris and extreme weather conditions. This system provides post-breakage retention, helping the façade remain intact during storm events and preventing breach of the building envelope, officials say. This is important in helping to prevent injury due to glass breakage.



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■ *Best Specialty Glass Project*

# KRESGE COLLEGE

Nominating company  
Skyline Glass

Location  
Santa Cruz, California





#### WINNING TEAM

Contract glazier  
Wausau Window & Wall  
Systems

Glass fabricator  
(insulating glass units)  
Thompson IG

Glass fabricator  
(decorative glass)  
Skyline Design

Designer  
Studio Gang

Photo credit  
Jason O'Rear

For this woodland campus project, Skyline Design applied an etched pattern to the externally-facing insulating glass units using its Eco-etch process. Studio Gang designed the custom pattern featuring native wildlife silhouettes and laid it out in the 2-by-2 grid, which the American Bird Conservancy says birds will best perceive. Removing the glass reflection via etching is a highly effective way to make glass perceptible to birds, say Skyline Design officials.

“Kresge College uses an elegant blend of bird-safe glass technology and custom design of the native animal silhouettes, pushing bird-safe glass beyond standard motifs into expressive, region-specific architectural art,” says Glass Magazine Awards judge Austin Zajichuk, marketing manager, Linetec.

Skyline worked with Studio Gang to create a graphic featuring native California animal silhouettes. With this technology, Skyline can etch a unique pattern onto the surface of each prefabricated insulating glass unit. The resulting product is proven to lower the material threat factor rating with the American Bird Conservancy and carries a lifetime warranty, say officials, while also being unique and decorative to the specific area.



■ *Best Decorative Glass Application*

# KAISER BELLFLOWER MEDICAL OFFICE

Nominating  
company  
Aragon  
Construction  
Inc.

Location  
Bellflower,  
California

## WINNING TEAM

Contract glazier  
Aragon  
Construction

Glass fabricator  
Glasswerks

Glass  
manufacturer  
Vitro Architectural  
Glass

Metal system  
manufacturer  
Kawneer

Architect  
The SLAM  
Collaborative

General contractor  
Turner  
Construction Co.

Glass artwork  
design  
EGG Office

Photo credit  
Tom Bonner  
Photography





**K**aaiser Permanente, a national health care provider, recently opened a 33,000-square-foot radiation oncology center in Bellflower, California. This all-electric, LEED Gold outpatient facility boasts a unique, decorative façade featuring a tree foliage design that welcomes visitors, patients and employees. The fritted glass pattern design was inspired by the local “Belle-fleur” apple tree, grounding the building in local context.

The glass artwork pattern was created through digitally printed ceramic frit custom patterns, insulated into low-emissivity insulating glass units to create the pattern across the segmented radius of a unitized curtain wall enclosure. The glazing system featured the use of four-sided structural silicone butt joints to minimize any interruptions to the artwork.

“This building design offers a unique visual presence in both natural daylight and when backlit at night,” says Glass Magazine Awards judge Tara Brummet. “This structure stands out with the innovative use of the printed glass.”

This project incorporated many unique glazing features aimed at delivering a wholly beautiful decorative façade, say officials. The four-sided structural silicone glazing butt joints were chosen to allow the expression of the artwork right up to the edge of the outboard lite. To maintain the four-sided SSG butt-joint appearance, a unitized curtain wall system was required due to the seismic zoning of the project location. Immense coordination was also required to ensure the hundreds of custom art files were fit to each glass size to ensure perfect alignment across the mural façade.



■ *Best Digital Tool*

## GLAZIERS TOOL

By S. Albert Glass/Mainstreet

Glaziers Tool is a specialized software platform designed for glaziers, providing industry-specific tools to streamline workflow, improve efficiency and manage job-related tasks. Glaziers Tool fills a niche gap by providing a glazing-specific software solution, rather than a generic contractor management platform. Unlike broader construction software, it incorporates industry-specific

workflows tailored for glaziers. The software streamlines estimating and simplifies projects with an interface designed for real-world glazing operations.

The glazing industry has traditionally relied on manual methods or non-industry-specific software to manage operations, leading to inefficiencies and errors, says Steven Albert, vice president of S. Albert Glass.

Glaziers Tool addresses these challenges by reducing manual entry and calculation errors in estimates and providing improved workflow management. It enables mobile access so field teams can update jobs in real time. These features help glazing companies improve productivity, reduce costly errors and stay competitive in a rapidly modernizing industry.

■ *Best Framing System or Component*

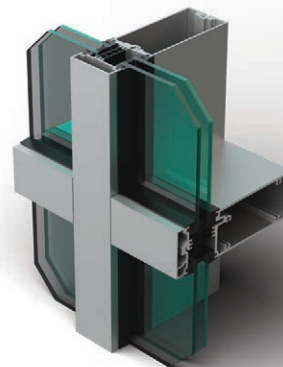
## 1600UT SS CURTAIN WALL SYSTEM

By Kawneer

The 1600UT SS Curtain Wall System powerfully combines the high thermal performance of Kawneer's 1600UT System 1 Curtain Wall with the screw spline system of the 1600 SS Curtain Wall System. This integration delivers ultra-thermal performance and faster installation, along with the advantages of a semi-unitized frame construction. The system features a

2-1/2-inch sightline with custom covers available, a standard 7-3/4-inch depth system with an optional 6-1/4-inch depth system, and screw spline fabrication. It has been tested to meet the latest seismic requirements.

This system addresses key customer challenges and market demands for ultra-thermal performance by offering an overall system U-factor of



0.24 with 1-inch glass, which significantly enhances thermal performance and energy efficiency. Additionally, its semi-unitized frame construction simplifies installation and reduces labor costs, making it an attractive option for projects requiring efficient and cost-effective solutions.





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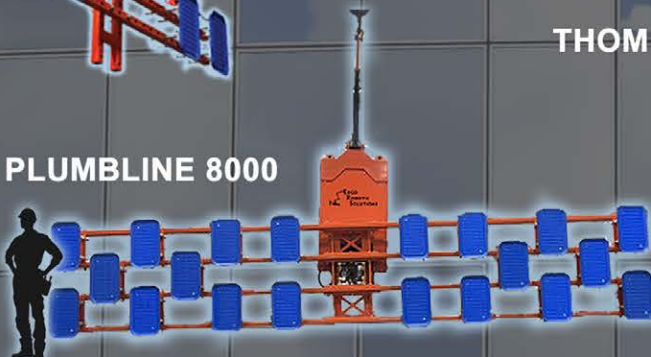
**THOM 2200/4400**



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■ *Best Glass or Glass Component*

# LYTO

By Privacy Glass Solutions

Lyto is an electrostatic micro-shade system encased within a double or triple insulating glass unit. Activated by a low-voltage electrical current, Lyto delivers instant and total blackout without motors, cords or mechanical components. This ensures quiet, low-maintenance operation. The product is ideal for windows, doors, skylights and privacy glazing, making it suitable across a wide range of sectors, including health care, education, commercial, hospitality, retail, residential, marine and high-security institutions. Designed for both new construction and retrofit applications, Lyto offers a clean, high-performance alternative to motorized blinds and conventional shading systems.

Lyto addresses the growing demand for low-maintenance, visually clean privacy solutions. Traditional shades often involve visible hardware, motors and electrical wiring. Lyto eliminates these concerns with a self-contained, battery-powered system built into the glass itself. The product also appeals to energy-conscious projects with optional photovoltaic solar integration. By solving for simplicity, performance and visual integration, Lyto meets modern architectural needs in a more elegant and efficient way, say company officials.



■ *Best Hardware Product or System*

# STORMARMOUR

By StormArmour Inc.

StormArmour is a three-part stormwater mitigation system engineered to prevent wind-driven rainwater intrusion through the tracks of sliding glass doors—a critical and largely unaddressed vulnerability in residential and high-rise structures. StormArmour is designed to be installed quickly, leave no major residues and maintain operability of the sliding door post-installation. Designed in alignment with Federal Emergency Management Agency priorities and to meet performance expectations in the Florida Building Code testing application standards protocols, StormArmour is available in multiple lengths and configurations to accommodate major sliding glass door systems.

Over the past seven-plus years, the StormArmour team has worked to develop StormArmour as a solution to address a critical vulnerability in residential and high-rise buildings:



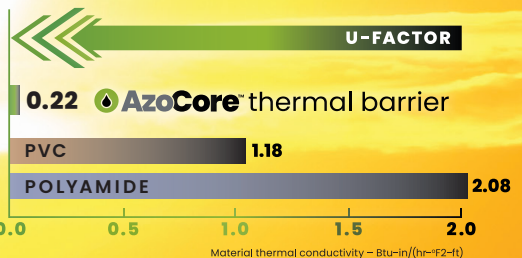
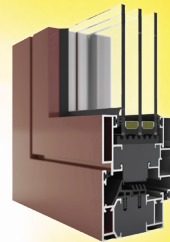
water intrusion through sliding glass door tracks during wind-driven rain events. Existing mitigation approaches, such as sandbags or impact-rated shutters, fail to protect sill cavities and often obstruct door use or require significant effort to deploy. The three-part system (exterior guard, internal seal and foam wedge) creates a watertight seal without permanent modification to the door frame or track.



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■ *Best Innovation for Installers*

# HERC-DOOR SELF-CLOSING DOOR RAIL

By Frameless Hardware Company (FHC)

Designed for all-glass entrances, the new FHC Herc-Door Self-Closing Door Rail with In-Rail Concealed Closer provides a convenient option for architects, specifiers and glaziers looking to upgrade commercial interiors with herculite-style door aesthetics via full-length door rails. With the new design, the closing mechanism is housed entirely within the door rail. Available in 90-degree hold open and no hold open models, this innovative design bypasses the need to cut into the floor for traditional closers, making it well-suited for tenant improvements and retrofit applications.

While similar technology has existed in smaller European style patch fittings, FHC designed and engineered an American-made, self-closing solution that can accommodate a full-length door rail profile seen in most all-glass herculite-style entrances. This gives all stakeholders more design flexibility and ease of installation in terms of matching existing conditions and adjacent sidelites.

■ *Best Innovation for the Factory*

# TRUCUT PREMIUM CUTTING WHEELS

By Salem Fabrication Supplies



The TruCut tungsten carbide cutting wheel is a uniquely manufactured product for the glass industry. These cutting wheels are used to score glass so that, when the right pressure is applied, the glass will separate seamlessly. Salem Fabrication Supplies offers a wide range of wheel angles for glass fabricators, from 125 degrees to 165 degrees. These are also available in both fully assembled packages, ready to plug directly into the machine, or individual pieces

that may be assembled according to fabricators' needs.

During the production process, the manufacturing of the angle degree for these wheels is held to a tighter tolerance than others in the industry, resulting in consistent, clean breakouts with minimal pressure. TruCut wheels with micro teeth are also available for use with thick glass and for cutting through film, allowing the fabricator to shorten their processes and achieve a

much higher edge quality. Many fabricators regularly deal with some form of rework, whether in polishing the glass or having to rerun a jumbo lite on the breakout table. TruCut cutting wheels consistently provide relief to operators in that they deliver supreme breakout quality with no flares or runs in the glass. This means that the polishers need only polish the glass one time and that the glass breaks out properly the first time.





## Pilkington **AviSafe™**

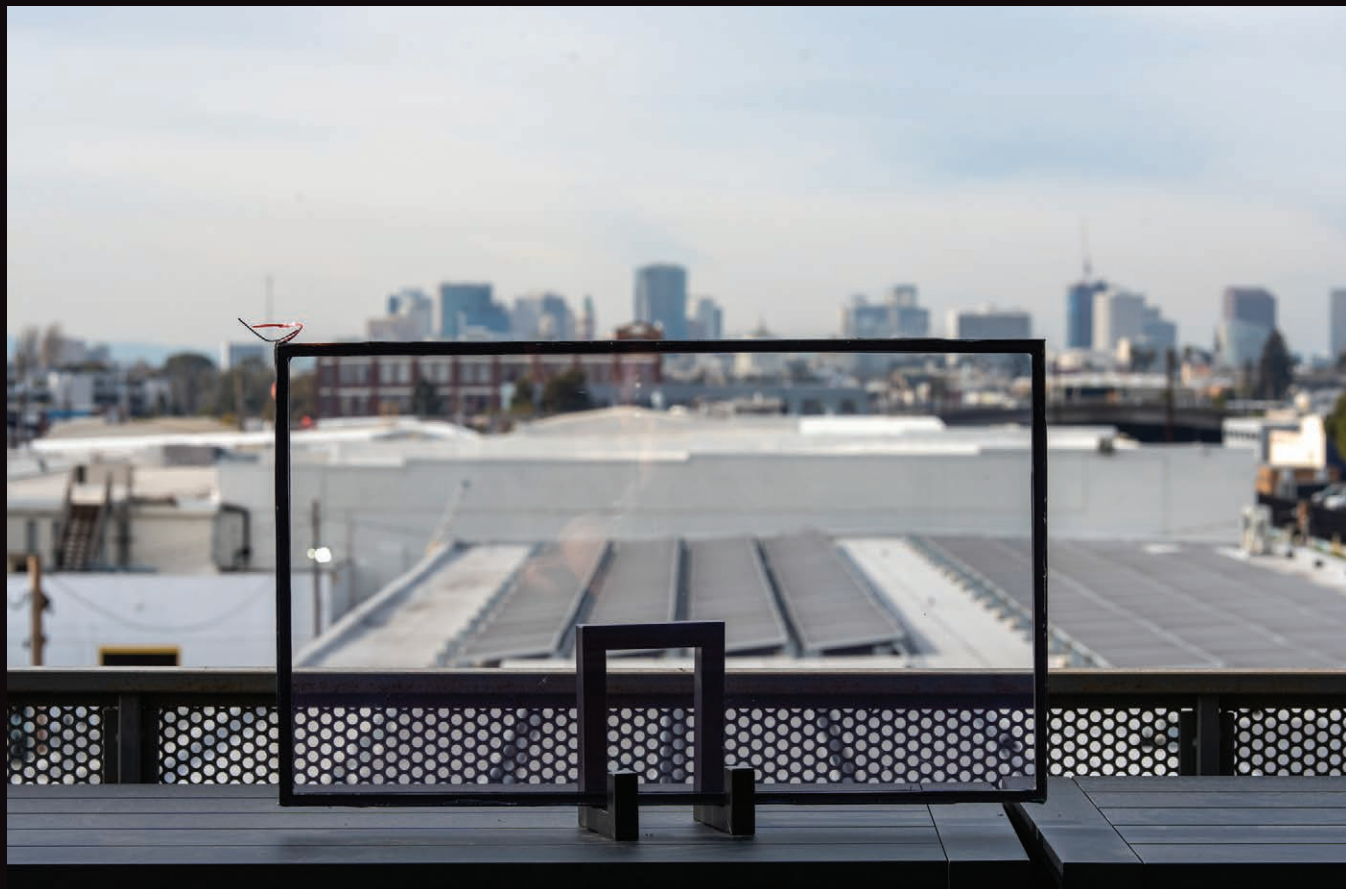
Bird-friendly glass with a surface #1 UV-enhanced coating that breaks up reflections to avoid collisions. Earning a low threat factor of 12 from the American Bird Conservancy, it's like giving birds a heads-up without having to make millions of tiny helmets.

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■ *R&D Award*

# INNOVIO WITH SAFEFLIGHT UV

By Andluca

Andluca presents an innovative architectural glazing solution that seamlessly integrates its SafeFlight UV bird safety interlayer with its Innovio solar energy generation technology. Designed for use in façades, curtain walls, skylights and other exterior applications, this product meets the growing demand for sustainable and high-performance building materials.

Developing a bird-friendly photovoltaic glass requires overcoming significant design and performance challenges. The goal was to create a product that protects birds from collisions while seamlessly integrating solar energy generation—all without compromising aesthetics.

A key hurdle was making the glass visually appealing for architects and designers while ensuring birds could recognize and avoid it. Traditional solutions often resulted in darkened glass or unsightly patterns that limited design flexibility. Through extensive R&D, Andluca developed a UV coating that is virtually invisible to the human eye but clearly perceptible to birds, effectively preventing collisions.

Balancing this bird-safe technology with efficient solar energy capture was another challenge. Many past solutions compromised either aesthetics or performance. Through years of research and repeated testing,

the company refined a glass makeup that optimizes solar harvesting while maintaining a sleek, high-clarity appearance. Merging bird safety with renewable energy in a visually appealing solution redefines the possibilities for architectural glass. ■





Pictured: One River  
North, Project of the  
Year winner, Kuraray and  
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Excellence in Glass.  
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Celebrate the Glass Magazine  
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Nov. 5, 2025, 3:45pm - 4:15pm

**GLASS**<sup>®</sup>  
MAGAZINE

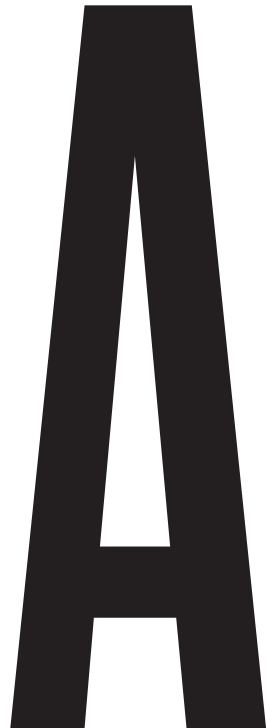


A large, three-dimensional number '75' in a light gray color, casting a dark shadow to its left and slightly forward. The number is positioned in the upper half of the page.

GLASS MAGAZINE CELEBRATES  
SEVENTY-FIVE YEARS

HOW THE PUBLICATION PROVIDED SEVEN DECADES OF EXPERTISE AND TRUST  
BY NORAH DICK





s part of the 1973 Glass Magazine article, “ASG’s Outlook Optimistic,” author Arthur M. Acker, vice president of sales and marketing for ASG Industries, offers a brief history of glass, in seven paragraphs no less. Acker reflects on the broad history of the material, going all the way back to the Egyptian glazes of 12,000 B.C. and hops over to the stained-glass windows of medieval Europe. At the end of this condensed history, he wonders about the future. “Tomorrow, entire cities may be enclosed in glass domes that can regulate the weather!”

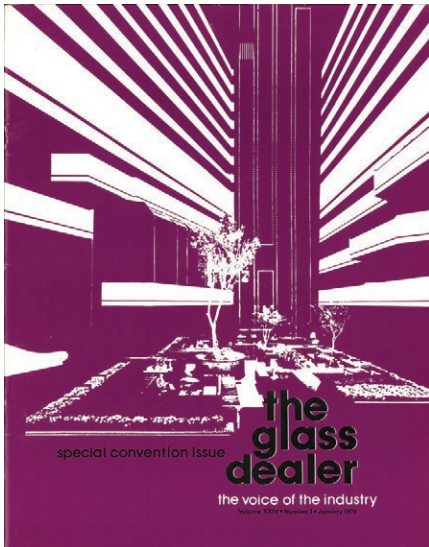
While it’s likely this observation is slightly tongue in cheek, the author’s forward-looking optimism about glass as a building material stayed with me after looking through several decades of Glass Magazine’s archive. Like the author, Glass Magazine has looked backwards, and forwards, to gather insights to support its glass industry readers.

First published in 1950, and debuting as the Glass Dealer, the magazine was a slim pamphlet offering news of the industry and notices of new products. As times changed, markets expanded and challenges intensified, the magazine adapted, offering insights for and from the industry, becoming a sophisticated publication that showcased everything from market analysis and technical expertise to expansive features that spoke to the full breadth of the glass industry itself.

Glass Magazine has also faced challenges, of course, namely the 2008 recession. Averaging 124 pages per issue in the mid-2000s, the magazine saw its length and circulation greatly reduced by the financial crisis, as many publications did at the time.

But the magazine, like the industry, has survived and evolved, adapting to showcase industry expertise online, across social media and in our weekly newsletters. And print has remained strong—last year’s GlassBuild preview issue was the largest that Glass Magazine’s production editor has ever produced, numbering 187 pages.

Here, in six editions of the magazine, is a snapshot of Glass Magazine through the years, demonstrating what has made it a powerful, vital voice for the industry, then and now.



JAN.  
1974

## The energy crisis spurs innovation

January 1974

Architectural glazing raised its profile throughout the 1960s as the building material found more applications, including in external curtain walls. As a testament to its popularity, by 1970, there were more than 30 float plants in operation around the world. And then came the 1973 oil embargo.

The embargo, imposed by the Organization of Arab Petroleum Exporting Countries, or OAPEC, led to high prices throughout the decade as well as fuel shortages. It also caused those in the architect and design community to question the viability of glass as a building material.

Throughout the energy crisis, Glass Magazine was there, making the case for glass. Many pages early in the decade, and into the 1980s, were dedicated to how glass could continue to be a viable, and vital, building material.

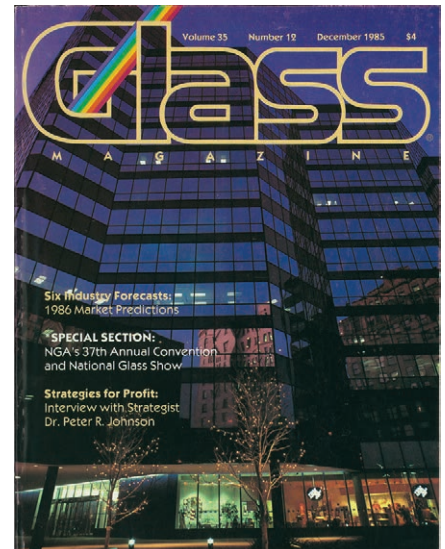
In a short column, “On Construction and the Energy Crisis,” Gene Queatham, director of the National Glass Dealers Alliance (the precursor to the National Glass Association), struck a cautious tone, while remaining candid. “We are in

“Construction is a solution to our national problems to a far greater degree than it is a part of those problems.”

for a substantial slowdown from the way things have been in 1973, and a generally hostile environment for construction,” he says, listing several ongoing challenges at the time, including a reduction in building incentives, institutional building projects and more.

He encouraged the readership to think long-term, and to understand that every shift creates opportunities in construction. “On balance .... I think the net impact of the energy crisis on construction will be a positive one. That’s just another way of saying that, as in most other areas, construction is a solution to our national problems to a far greater degree than it is a part of those problems.”

In a creatively titled piece published in the April issue of that year, “‘Nation of Moles’ Not an Answer to the Energy Crisis,” the NGDA’s General Counsel Steven John Fellman recounts the opinion of industry executive Donald C. Hegnes, manager of architectural and construction services for PPG Industries’ Glass Division, on how to weather the energy crisis. Instead of reducing window area on buildings, as was suggested by some in the architectural community, Hegnes recommends using more high-performance materials,



DEC.  
1985

including double glazing.

This did seem to come to pass—in June of that year, the magazine recounts Hegnes’ remarks from their annual meeting, where he celebrated the fact that “sales of insulating glass have grown until it now dominates the commercial construction market.” Perhaps buoyed by the success in adopting this glazing material, Hegnes goes on to wonder, “Why not triple-glazed units, or quadruple?”—a question that echoes current debates about providing energy-efficient glazing systems.

Throughout the 1970s, magazine content helped change the conversation on architectural glass, framing glass as a building solution, as Queatham said, and not a problem.

## Glass gets complex

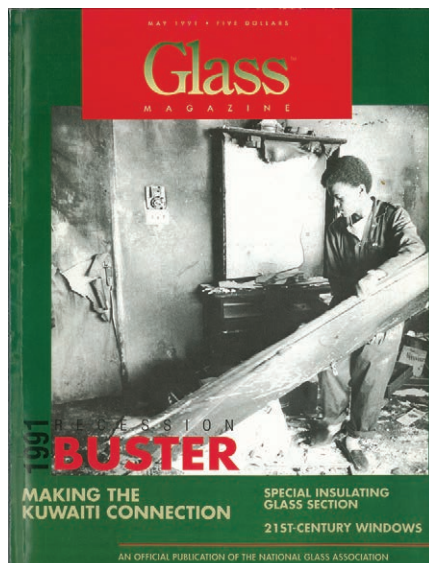
December 1985

Moving into the 1980s, plenty was happening in glass, according to Glass Magazine’s editorial pages. Companies were learning how to computerize some processes, including estimating. And demand for glass was up, just as glass itself was becoming more complex.

Much of that complexity was still due to the energy crisis of the 1970s, which



“We must be involved in world economic affairs because they will carve the future destiny of our country. We must be involved, or the decisions will be made, and the directions set, without us.”



MAY  
1991

incentivized the use of glass in insulating glass units and in solar panels. Natural disasters like Hurricane Alicia in 1983 would also cause those in the industry to seriously consider how to strengthen glass systems so they could better withstand windborne debris.

In the last issue of 1985, R. C. Cunningham, executive vice president of AFG Industries (later acquired by AGC Flat Glass America), takes stock of where glass is as a building technology, in a comprehensive market forecast, “New Technologies Bring Changes & Opportunities.”

Echoing the optimism of the ‘60s and ‘70s, Cunningham opens by saying, “The past quarter century has been the most dynamic in the history of man,” referencing major technological advances like the polio vaccine and NASA’s mission to the moon.

Greater technological advances had touched glass as well, he points out. “The retail glass shop, and a glazier’s life, was simpler 20 to 50 years ago, too. Almost any glass requirement could be cut from stock sizes, and the customer could select from any glass color he wanted as long as it was clear,” he playfully observes.

That level of simplicity, Cunningham

argues, was over in 1985, and it was “a whole new ball game in the glass business.” Some of that “new ball game” included a rise in the adoption of tempered glass. Driven by safety glazing laws, tempered glass increased in use by a dramatic 91% between 1975 and 1985, according to AFG’s calculations. A continued interest in energy efficiency was also spurring the adoption of low-emissivity coatings and an increased demand for insulating glass units.

Added to this was a demand for more thicknesses and colors, says Cunningham, which meant more inventory to manage on the part of the individual glass business. Beyond the organization of their shop, glass business owners were also having to become more fluent in the technological advances of their product. “The competent glass professional must be able to discuss intelligently technical properties of these new glasses, recommend shading coefficients, discuss relative heat gain and explain to a customer theories of the emissivity of heat transfer,” Cunningham says.

Essentially, not only was glass being asked to do more, but so were the people who sold it, cut it and installed it.

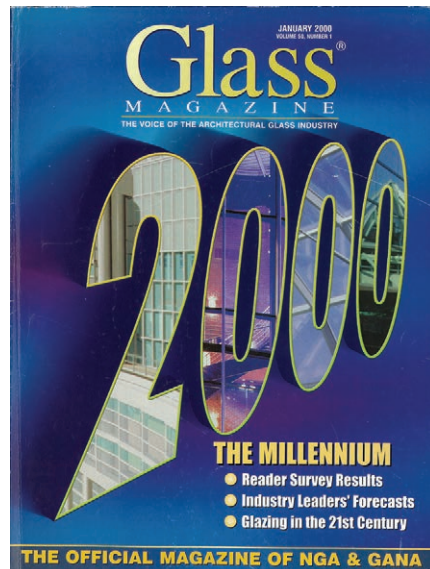
And so was Glass Magazine, which was growing in size and breadth of features, and providing a place for critical analysis like Cunningham’s to help guide the industry forward.

### The glass industry goes global May 1991

Going into the last decade of the century, the glass industry market became even more nuanced as globalization connected North America to the worldwide glass industry. By 1988, Glass Magazine had started to feature an “International Marketplace” section, where international companies could find local distributors for products in the North American market. As part of this increasingly global perspective, the magazine also began to regularly cover international glass shows like glasstec and Vitrum.

In the August 1990 issue, then-NGA president Bob Dyer advised the North American glass industry to be proactive about getting involved in the international marketplace, as a business and as an industry. “We cannot ignore these new world markets, or hide behind our protective oceans anymore,” he says. “We must be involved in world economic affairs because they will carve the future

Going into the last decade of the century, the glass industry market became even more nuanced as globalization connected North America to the worldwide glass industry.



JAN.  
2000

destiny of our country. We must be involved, or the decisions will be made, and the directions set, without us.”

The first years of the 1990s also saw the Gulf War, including Operation Desert Shield, which concluded in 1991. In May of 1991, Glass Magazine ran a striking cover of a 14-year-old Kuwaiti boy clearing wreckage from his home after the occupation had ended. The cover story, “Making the Kuwaiti Connection,” worked to facilitate U.S. construction companies’ involvement in the rebuilding efforts in Kuwait, which was estimated to amount to “billions of dollars’ worth of materials and labor” over several years, according to the article.

Glass Magazine’s feature is educational, walking the reader through what to expect in this new market, providing everything from a list of people and institutions to contact, to guidance on cultural differences from a subcontractor already active in Kuwait. “The personal approach counts in Kuwait, and so does previous experience,” recommends subcontractor Joe Patterson of World-wide Glass products.

According to the U.S. Army Corps of Engineers, which awarded many of the contracts, much of the recovery work went to U.S. firms and allowed Kuwait

to reopen 145 schools and 1,000 public buildings in a short span of time.

### New connectivity offers new opportunities January 2000

While globalization connected businesses across the world, as the glass industry approached the new millennium, a new type of connectivity was growing: the internet and e-commerce.

In her Editor’s Notes of the January 2000 issue, then-editor Nicole Harris, who went on to become publisher and then NGA president and CEO, foregrounds the new online world. “The futurists tell us the obvious when they say more of us will be living in a dot-com world, researching and shopping for everything from books to mortgages,” she says, citing the statistic that 200 million people were on the internet worldwide at the time.

Harris considers how the rise of online shopping is likely to affect business more broadly, observing that e-commerce “represents a shift of power to consumers who will have access to and use an ever-widening variety of information sources to make decisions about every purchase that they make. And everyone, it seems, is on a need-to-



AUG.  
2013

know-right-this-very-nanosecond basis. Speed and convenience, to say the least, are of the essence.”

Harris goes on to demonstrate how greater connectivity will also allow the NGA and Glass Magazine to respond more quickly to industry demands and needs; as a case in point, the association had just polled the industry directly, through its new GlassFacts.com website, about what kind of information the site should house. Harris says that poll respondents asked for “glass production statistics and trends, links and updates to codes, building and materials data, and a Q&A section.”

The magazine appears to respond to that interest in “glass production statistics and trends” within the same issue, including a feature that spells out the results of their “Millennium Survey,” which polled the industry on the current state of the market. The comprehensive report includes industry-specific statistics based on survey responses from over 200 glass industry members on topics ranging from their feelings about the market, to the challenges they faced going into the new century.

And the feelings were good, according to the feature. “What is the overall mood at the new millennium? Decidedly optimistic,” the author declares,





AUG.  
2024

as 67% of responding companies described the industry as in “good shape,” though labor was already a leading challenge for many businesses.

More than capturing turn-of-the-century market conditions, the survey, and the issue of the magazine more broadly, shows how Glass Magazine was using available tools to respond to industry needs.

## Looking back at the Great Recession August 2013

The hopes of the Millennium Survey were expressed in a gradual increase in nonresidential construction in the early part of the 2000s. And then came the Great Recession.

Even in January of 2008, the magazine was still predicting moderate growth for the year, as nonresidential construction continued to grow, culminating in a trend that had begun in 2004. But experts were already predicting a decline in the market, the scope of which became much clearer in 2009.

As during other times of economic downturn, the editorial staff and industry contributors writing in the magazine encouraged companies to diversify their business, including

expanding into light commercial work and mirror fabrication. They also highlighted new markets, such as the energy-efficient building incentivized by the Obama administration.

Even so, in a state of the industry poll published in the January 2010 issue of the magazine, 71% of respondents said they had seen a profit decrease. In 2011’s Top 50 Glazier report, published in July, 57% of companies said they saw sales drop more than 30% from the previous year. And in the April issue of 2012, Glass Magazine reported on the shocking closure of Trainor Glass, previously one of the country’s top 10 glazing firms by sales volume.

Glass Magazine reported on the dismal statistics and downward trends throughout this period, but perhaps as importantly, focused on how companies were surviving. In a 2013 feature, “The New Normal,” written by Katy Devlin, then-editor of Glass Magazine, full-service glass company Santa Barbara Glass was profiled to understand how they had survived the economic turbulence and what could be learned from their experience. The company’s president, Dan Hope, explained how leadership worked hard to cut costs, done some pro bono work for general contractors and tried to give customers the best value for their money, even when that money was very scarce.

Ultimately, Hope’s recommendation to the industry was to stay lean, in addition to being very proactive. “Not only will we survive this economic downturn, but we have learned some very valuable lessons that we would otherwise have not. It’s impressive to look back and see some of the waste we used to think was normal. We are now operating about as lean as possible, and as sales improve, this will only help our bottom line.”

The in-depth profile served as a kind of post-mortem of one of the most difficult periods for construction in recent history, diving deep into the crisis, but also sourcing wisdom directly from industry members about what could be learned from it.

## Showcasing aspirational design August 2024

The Great Recession was by no means the last time Glass Magazine responded to an industry-wide emergency. The publication put out “Now and Next” in May of 2020, a special edition of the magazine that provided industry-specific advice for helping glass businesses weather the pandemic while keeping their employees safe.

But I’d like to close this look back at the publication by focusing on the Glass Magazine Awards, which have, personally, been one of my favorite issues of any year during my tenure. And it seems appropriate to end this history of the magazine with a feature that showcases the future of glazing, as the Awards issue always does.

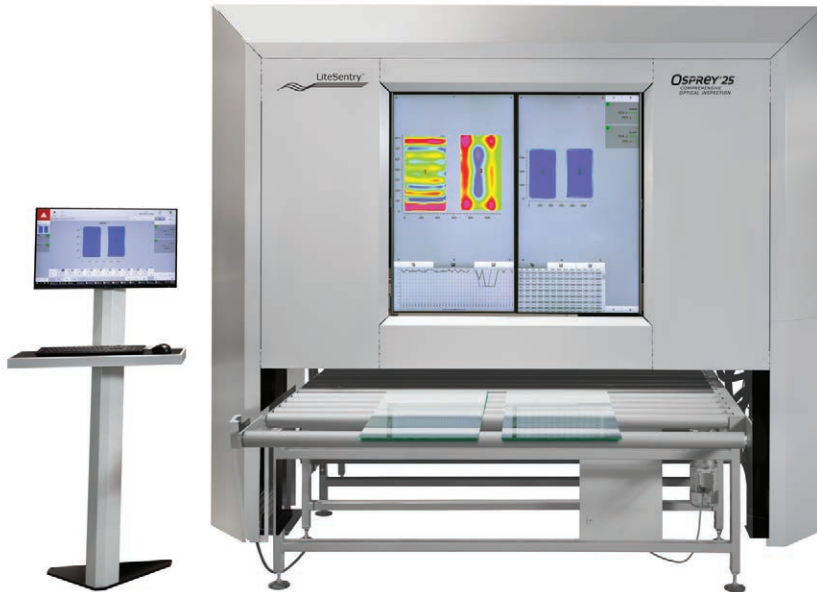
For decades now, the awards have showcased the best in glass, glazing and fenestration, and have offered the opportunity to celebrate the achievements of a building material that is still often overlooked.

Categories have shifted over the years—the increasing technical complexity of glazing spurred the editorial staff to add a “Best Specialty Glass” category in last year’s edition. This year’s feature, which can be found on pp. 44-72 includes the new category of “Best Retrospective Project” in honor of the magazine’s 75th anniversary, as well as a new category, “Best Internal Training Program,” highlighting NGA and Glass Magazine’s commitment to facilitating workforce development.

As an editor, I’m impressed each year by the nominations, and in the projects and products that showcase all that glass can do. The awards underline the forward-facing optimism the magazine has always embodied, looking to the horizon of what is possible in glass.

“I feel that nothing speaks to the state of design more than the use of glass in architecture,” said Glass Magazine Awards Judge John R. Stephenson, AIA, senior architect, BRPH, about the 2022 Glass Magazine Award winners. “It provides a versatile and evocative material where the possibilities are just beginning.” ■

# PRODUCTS



The Osprey®25 distortion scanning system. Photo courtesy of LiteSentry.

## SOLUTION: OSPREY®25 BY LITESENTRY

The Osprey®25, the latest generation of LiteSentry's flagship 360-degree distortion scanning system, offers automated inspection of surface defects, edge chips, white haze, logos and dimensions—all in a single, powerful platform.

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Visit [glassquality.com/osprey](http://glassquality.com/osprey) to learn more about the Osprey®25. ■

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01

02



03

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Euro-Wall's Vista Fold multi-directional folding door system includes panels that fold and slide in multiple directions to allow easy transitions, customized openings and double egress. This system comes with multiple configuration options, from double egress to any number of paired, multi-directional folding panels. This system can accommodate maximum panel heights of 180 inches and maximum panel widths of 52 inches. Designers can combine an unlimited number of panels in a single system.

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### 02. Door rail kit

CRL's DRX modular door rail kit comes with all components necessary for on-site installation of glass doors. Each DRX kit includes everything needed for on-site assembly of one door rail of any length below 48 inches, and for  $\frac{3}{4}$ -inch to  $\frac{1}{2}$ -inch glass. DRX kits can be stocked in advance. Each modular door rail kit includes two DRX rail bodies, adjustable slide block, two end caps, two side covers and a gasket. Finish options include satin anodized, duranodic bronze, matte black and brushed stainless steel cladding.

800/421-6144 | CRLAURENCE.COM

### 03. Digital tool

Vitro Architectural Glass' FramingFactor is a digital tool that allows users to evaluate total assembly performance of insulating glass units in architects' future builds. FramingFactor also includes a custom sizing feature designed to accommodate unique project dimensions and performance metrics such as visible light transmittance and solar heat gain coefficient. FramingFactor delivers project-specific calculations, which eliminates the need for manual entry of center-of-glass values. The tool is designed for early-stage planning and should not be relied upon for precise energy calculations or official submissions.

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#### BENT

Go to category BENT GLASS

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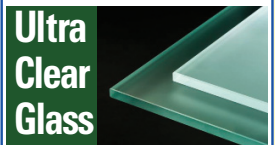
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
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


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
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
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MyGlassTruck.com	18	844/364-4022	myglasstruck.com
NGA Design Academy	59		<a href="https://www.glass.org/architect#guide">https://www.glass.org/architect#guide</a>
NGA Glass Conference: Ann Arbor	99		glass.org/nga-glass-conference-ann-arbor
MyGlassClass.com	97		myglassclass.com
Oldcastle BuildingEnvelope	35		
Pilkington	71	800/221-0444	pilkington.com/na
Precision Glass Bending Corp.	20, 85	800/543-8796	e-bentglass.com
PRL Glass Systems	25	800/433-7044	prlglass.com
Quanex	23		quanex.com
RATH AG	32		rath-group.com/glass
ROTO North America	17		rotonorthamerica.com
Salem Fabrication Technologies Group	38, 39		saalemftg.com
Schweiss Doors	88	866/376-5663	schweissdoors.com
Seclock	21	800/847-5625	seclock.com
SGC International Inc.	83	866/802-8682	sgc-usa.com
Smart Glazier	40		smartglazier.com/en
Technical Glass Products	5	800/426-0279	fireglass.com/matters
Vibrantz Technologies	24		vibrantz.com
Viracon	53		viracon.com/bird-friendly

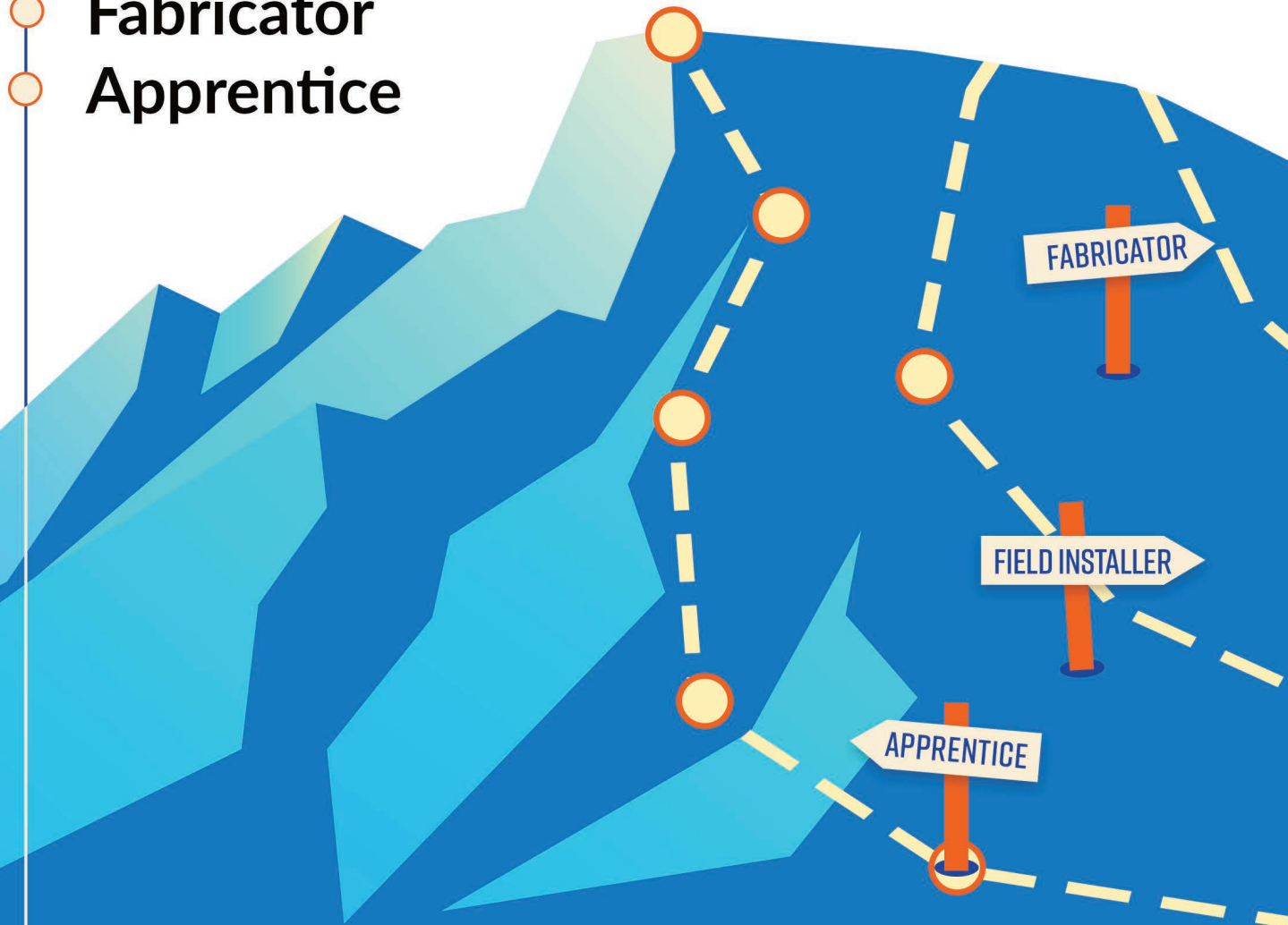


# CHOOSE YOUR PATH

- Installer
- Fabricator
- Apprentice

## NGA Offers Training For Everyone

- ✓ Online training on MyGlassClass.com, available 24/7
- ✓ Allows personnel to train on their smart phone
- ✓ Spanish versions available
- ✓ FREE TO NGA MEMBERS

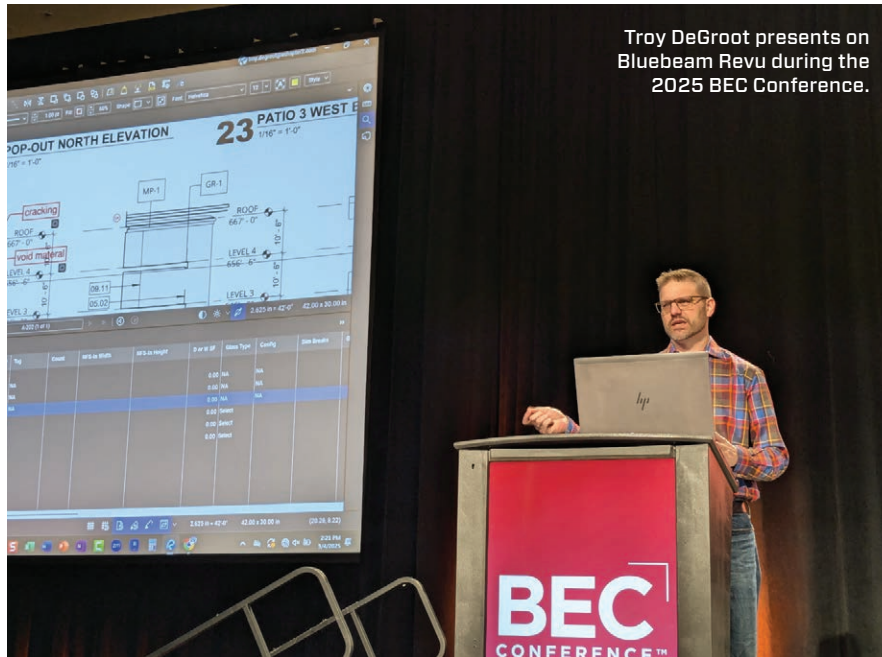


○ Decide which one  
is right for you.



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An initiative of the **NGA**



Troy DeGroot presents on Bluebeam Revu during the 2025 BEC Conference.

## MYGLASSCLASS.COM EXPANDS CATALOG WITH BLUEBEAM TRAINING

NEW COURSES TRAIN USERS ON SOFTWARE, DESIGN REVIEW AND ESTIMATING **BY NORAH DICK**

This year's Building Envelope Contractors (BEC) Conference closed with a session by Troy DeGroot, director of Bluebeam Professional Services at UChapter2, "The Other 85%—What You're Not Getting Out of Bluebeam." Emphasizing that many users of the software are self-taught, his session guided attendees through maximizing the platform's capabilities for essential functions, such as design review, detailing and sketching, in addition to many others.

Now, the National Glass Association has partnered with DeGroot to make his Bluebeam training courses available on the association's online training platform, MyGlassClass.com. Developed by DeGroot, the courses provide time-saving tips and tricks to help elevate the design review process, detailing/sketching, document

management, quantity takeoffs, estimates and more. The courses are offered at a 30% discount to NGA members.

"The feedback to Troy's Bluebeam presentation at the 2025 BEC Conference was extremely positive, and I am thrilled that we are able to bring his expertise to an even wider audience via MyGlassClass.com," says Jenni Chase, NGA's vice president of workforce development.

"I've worked hand in hand with companies building custom tools and training specific to their needs, helping them get the most out of their Bluebeam software investment," says DeGroot. "As we introduce these digital courses on MyGlassClass.com, all [users] have the support they need in an online environment—direct access to a catalog of help resources and a professional

online learning community to work together and brainstorm solutions."

### New courses range from basics to in-depth expertise

Bluebeam courses now available:

**Bluebeam Baseline Basics.** This course provides a starting point for learning how to use Bluebeam Revu and allows advanced users to hone existing skills. By the end of the course, users will have learned how to confidently navigate the interface, apply markup tools to real-world examples with accuracy, and achieve precision with practical measurement techniques, among other skills.

**Bluebeam Material Takeoffs & Estimates: The Basics.** Designed for professionals ready to build on foundational knowledge, this course helps users unlock the full potential of Bluebeam Revu for material takeoffs and estimates.

**Advanced Bluebeam Material Takeoffs & Estimates.** Building on basic skills, this course helps users learn how to create custom workflows, use advanced tools and streamline material takeoffs and estimates.

Industry courses from UChapter2 now available:

**Construction Estimating Principles.** This comprehensive training offers insights from seasoned construction estimators in a collaborative, open-forum discussion that dives into advanced estimating strategies. Key topics include cost and price analysis, project constraints, flexible estimating systems, and optimal project timelines.

**Reading Construction Documents.** This comprehensive online program is designed to equip users with the foundational skills needed to navigate critical project details, material requirements and construction workflows using Bluebeam software. ■



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“Prior to purchasing our automated glass lines, we were manually assembling insulated glass units. This required a lot of manual lifting, moving, and repetition for 9 team members on each of our manual IG lines. We were able to minimize glass handling to only 2 team members per line and one grid installer. One high speed line replaced approximately 75 percent of the production from each manual system, with only 33 percent of the staff. So, we gained a 50 percent increase in production while maintaining only 67 percent of staffing by installing 2 high speed Erdman lines and removing one manual line.

The automated high-speed lines also give us a more consistent finished IG with better quality 4th corner, seal, and less handling (so less chances for fingerprints, dirt, etc. inside the IG.) Our team members went from laborers to machine operators, making their jobs less physical....Erdman Automation has been a great partner to our business and is always willing to support their machines. From their leaders to their install techs, they answer our call every time and help us resolve any issues that may arise. They are also willing to hear what they can do to address our equipment needs, rather than telling us what we need.” - **Bill Webster, Miter Brands**

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