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The Talk // Blogs of the Month

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A Refreshing Return to Business: Top FGIA Summer Conference Discussions

By Laurie Cowin



Big Doors, Big Problems: Considerations for Designing Large Doors

By Stephen Aki, Technoform North America



"The engineering of a door is holistic. It's like a three-way tug of war. Considering the three factors of structural rigidity, thermal performance and ease of operation the bigger the door gets, the harder it is to get all these factors to line up perfectly."

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AGC to Sell North American Architectural Glass Business to Cardinal Glass Industries

Officials from AGC Inc. announced the company will sell its North American architectural glass business to Cardinal Glass Industries, according to a June 15 AGC release.

The \$450 million transfer deal is subject to the approval of the related authorities, and the earliest closing would be July 2021, according to AGC.

The glass facilities subject to sale include AGC's Greenland, Tennessee, float glass manufacturing plant with two furnaces and one coater; its coating facility in Abingdon, Virginia; and a float plant in Spring Hill, Kansas, with one furnace, according to the release.

The North American architectural glass business became a target for sale in the AGC plus-2023 management policy, announced in February. According to AGC officials, "AGC has strived for improvements of the profitability and asset efficiency of its architectural glass business, which was designated as one of the AGC Group's priority issues."

They continued, "AGC has concluded that it will create further growth opportunities by transferring it to Cardinal Glass Industry, which has business trading experience with AGC in the past and is expected to make the most effective use of AGC's assets and personnel."

"Our capital investment plan for these operations will allow us to sustain even higher volumes in a very tight North American glass market," says Roger O'Shaughnessy, CEO of Cardinal Glass Industries.

Cardinal Glass Industries is a private, management-owned company headquartered in Eden Prairie, Minnesota, with more than 8,000 employees operating from 36 factories nationwide.

Industry Companies Expand Capacity

Veka is expanding capacity at its four North American plant locations. The company intends to invest over \$48 million in extrusion infrastructure through 2021 and 2022, adding 23 total lines across North America, expanding its window and door profile extrusion and Veka Outdoor Living Products. The company also says it is focused on employee hiring and retention. "While we believe availability of raw material components will be tight through the end of the year, we see labor availability as an ongoing issue," says Joe Peilert, president/CEO of Veka North America.

Roto North America expanded its warehouse capacity in Connecticut, where it acquired an 18,000-square-foot facility it will add to its current configuration.

MI Windows and Doors is expanding manufacturing capacity at its headquarters in Gratz Borough in Dauphin County, Pennsylvania, with a 90,000-square-foot addition to its existing facility, adding two production lines and a glass room.

Other companies expanding capacity include: Masonite plans to invest in a new 370,000-square-foot door manufacturing facility in Fort Mill, South Carolina; Viwinco Windows broke ground on a 70,000-square-foot glass processing facility in Pennsylvania; United Window & Door added 156,000 square feet of manufacturing capacity in Wayne, New Jersey; and PGT Innovations is expanding to Fort Myers, Florida.

IN THE NEWS:

Month in Review

Pella introduced online pricing transparency, allowing customers to see window and door prices online through its newly launched e-commerce capabilities on Pella.com.

Several companies expanded product offerings. Simonton Windows & Doors launched its DaylightMax product in a black interior option and SoftLite Windows & Doors now offers black window frames in select designs for a home's exterior and interior. United Window & Door introduced its Distinct double-hung window, created using composite materials and a hybrid design with cellular material, and GlassCraft Door Co. incorporated a new 3D laminated product into its MDF barn door collection. And, MI Windows and Doors made FlexScreen standard on its 1556 double-hung windows.

In acquisition news, Vinyl Window Designs acquired Vinylbilt Windows & Doors and Leaf Home Solutions acquired window and door replacement company Quillen Brothers Inc. The Vision Group of Companies acquired Energi Fenestration Solutions, The Novatech Group acquired Energi Terrebone Patio Doors and Michael McCullough, Jean Marois and Martin Boulanger acquired the Energi Laval Extrusion plant and renamed it Thermoplast Extrusions.



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By Emily Kay Thompson ASSOCIATE PUBLISHER

These words have a different meaning than everbut thbefore: GlassBuild America returns this Sept. 13-every15 in Atlanta. Doesn't it feel good to read? We areevery

Going Back to GlassBuild

going back to GlassBuild. In person. A live event with real people in the flesh and products you can see first-hand.

More than ever, this year's event feels like a celebration. We made it through to the other side of this. With all the challenges—keeping up with insane demand with fewer staff and shifts, navigating supply and transportation issues, adapting to new business practices and regulations—you are still here. Not to mention, as busy as ever.

That's another reason why this event is so important. Not only the networking, the inperson meetings, the cool stuff you get to see, but the fact that GlassBuild brings together everyone (see page 68 for the exhibitor list) and everything (see page 38 for a slew of products that will be there) in one place.

This was the concept behind our new Industry Pavilion. We're bringing together more industry resources and organizations for you to see how the industry is working on your behalf and how many of these organizations collaborate to make sure we're all serving the entire industry. The National Glass Association and the Fenestration & Glazing Industry Alliance will be there to greet you in the booth. Organizations such as the National Fenestration Rating Council, Fenestration Canada and the Window & Door Manufacturers Association, among many others, will provide information and

Stay Up-to-Date on the Show Floor with GlassBuild.com

GlassBuild America is back, in person, Sept. 13-15, and this year, GlassBuild.com is the only information source you need before, during and after the show. There's no need to download a show app to stay informed. Simply visit GlassBuild.com to find the schedule, a complete list of exhibitors and interactive floorplan, a showcase of exhibitor products, and all need-to-know show coverage.

New GlassBuild.com Features

Exhibitor Listings

- The Exhibitor List by Company Name shows all exhibitors in alphabetical order, or sort by first letter of the company name. The Exhibitor List by Product Category filters all companies specializing in a specific product offering.
- Each exhibitor profile, linked from the exhibitor lists, provides exhibitor details, a taste of products on display and a contact form for questions or to schedule an appointment.

Product Showcase

- In the Product Showcase, it's easy to find products by company or by category. Read more about each product, find additional details and contact exhibitors, all in one place.
- About half of GlassBuild exhibitors are launching new products at this year's show. See what's new directly from the website by visiting the New Product Spotlight section.

resources in the booth and on GlassBuildTV, a brand new platform that will run educational and informational programming inside the Pavilion for the duration of the show.

These are just a few reasons I'm excited to go back to GlassBuild. A number of industry insiders share their sentiments on the topic on page 36. So, if you're not going to GlassBuild, it begs the question, why not? We know you're busier than ever. We know you have a business to run. This event is an important and convenient way to make sure it runs as smoothly and efficiently as possible.

It will be good see each other again and relearn how to be in public and socialize again, together. See you in Atlanta. ■

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Insulating Glass: Problems and Prevention

Understanding what material and fabrication steps lead to IG failure can help prevent problems



By Amy Roberts

The most obvious indication of failure of an installed insulating glass (IG) unit in a window or door is permanent visual obstruction due to a milky-white fog or film on the interior surfaces of the glass (surface numbers two or three in dual-pane IG) due to moisture or chemical deposition. Note that the keyword in the definition of IG failure is "permanent." The IG unit cannot be classified as a failure if it fogs only during extremes, such as when the temperature falls to -23 C (-10 F) and remains clear the rest of the time.

Problems

Permanent fogging of an IG unit can be caused by hermetic seal failure, which allows intruding water vapor to overcome the dehydration capacity of the desiccant and condense on the inside glass surfaces. Fogging can also be due to film deposits left on insufficiently washed glass (e.g., residue of cleaning solution, adhesive or oils from excessive handling), by the accumulation of the products of chemical interaction between volatiles released from components (spacers, sealants, muntin bars or grilles, desiccant, paints) or component incompatibility (e.g., glazing sealant vs. IG sealant).

Seal failure can also cause loss of inert gas infill, which degrades thermal performance. Windows without the proper safeguards to keep water from puddling around the perimeter seals will thus fail sooner.

Excess heat due to direct sun exposure, especially in south-facing windows, can also degrade seals or spacers. Daytime heating followed by nighttime cooling causes the panes to expand and contract, softening and weakening the seals until they compromise the seal's adhesion or develop cracks that admit moist air.

Other common causes of seal and/or spacer

failure are fabrication-related, such as cracked glass due to excessive edge pressure or poor edge quality from cutting, voids or excessive air pockets in the sealant bead, poor corner fill, poor spacer/glass alignment, desiccant that has been left exposed too long before sealing, poor mix of sealant and damaged low-E coating.

Although rare, with a failure rate of about 1 percent after 10 years when properly installed, such permanent failures are highly visible, require window replacement and are potentially detrimental to the reputation of the fabricator.

Prevention

To help prevent such problems, it is important that IG fabricators and shop floor team leaders understand what material or fabrication process steps tend to harbor the root causes of degradation, as well as the design considerations that minimize edge seal failure based on existing seal technology. They should also understand proper selection and use of compatible sealants, desiccants, spacers, in-fill gases, glass coatings, grilles or muntins, and other components, as well as the elements of testing, packaging, shipment and glazing of IG units.

To provide guidance for effective quality control, improve the likelihood that products will pass certification testing (as often required by AAMA and NFRC standards, codes and Energy Star) and avoid future failures, FGIA sponsors an IG Fabricator Workshop. The next of these — the first since the COVID-19 shutdown — will be held this coming November, with specific date and location to be announced. Since its launch in 2016, this workshop has hosted more than 300 IG industry practitioners, leading them through the aspects of IG fabricating and testing in classroom

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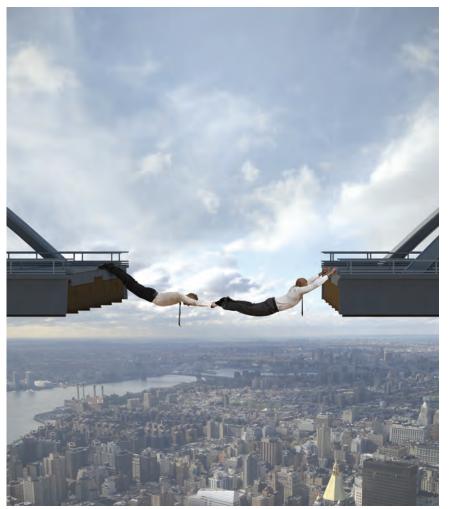
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In the Trenches

sessions and hands-on demonstrations to discover best practices for cleaning, cutting and handling glass, desiccants, sealants, gas fill, frost point testing and much more.

Specifically, the program helps in the development and maintenance of an effective Quality Management System by covering:

- Insulating glass basics (design, energy performance and glazing guidelines)
- Glass receiving, cutting and washing
- Handling glass safely
- Characteristics and placement of rigid and flexible spacers
- Use of muntins and grids
- Desiccants and desiccant matrix
- Sealants (types, proper selection and application, and adhesion to glass)
- Gas filling
- Third-party product certification to ASTM E2190, which includes laboratory testing for dew/frost point, accelerated cycling between extremes of temperature/moisture/ UV exposure, and gas fill durability

A previous participant of a past workshop said, "The hands-on portion is awesome. Being able to take what was learned in a presentation and then apply it in real life was really effective."

Plan now to attend the post-COVID resumption of this workshop. Watch for scheduling details at FGIAonline.org/ IGworkshop.

Amy Roberts oversees the Canadian Standards and Regulatory Building and Energy codes as the director of Canadian and technical glass operations for the Fenestration and Glazing Industry Alliance. She has more than 20 years of industry experience in glass and insulating glass manufacturing, and in residential and commercial window manufacturing. She also has committee experience as part of the technical committee and as a board member at the Fenestration Association of BC and the market transformation committee in Canada.



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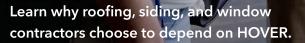
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Building on Momentum

Overall deal volume will likely remain strong in the hot mergers and acquisitions market



By Andrew K. Petryk

The mergers and acquisitions market has been hot, but how long can this positive momentum be sustained? We are gearing up for a busy second half of 2021, and here are some reasons why:

The U.S. economy is strengthening. Capital is abundant and interest rates are low. The housing market remains strong, despite some near-term challenges. First-quarter results point to healthy demand and financial performance. All of those are key demand drivers for business owners and investors.

Strong capital markets environment

- Major public equity indices rose to record highs during Q1 2021 and have sustained gains supported by positive news on the economy and vaccine deployment. The S&P 500 and DJIA realized returns of 13.6 percent and 14.25 percent, respectively, for the year-to-date period.
- Public window and door manufacturers, including Jeld-Wen, Masonite, PGT Innovations, Fortune Brands Home & Security Inc. and Cornerstone Building Brands, continue to outperform the broader market, with a year-to-date return of 24.71 percent. The median EBITDA multiple for the window and door subsector of 9.0x in Q1 2021 is 43 percent above the Q1 2020 level. Cash balances top \$2 billion.
- More than \$745 billion in private equity capital has been raised and needs to be deployed into new investments. Historically active investors in the window and door space, private equity sponsors continue to pursue growth platforms and tuck-in acquisitions for existing portfolio companies.
- Credit markets are open for business, with average lower middle market leverage (total debt/EBITDA) of 4.0x for Q1 2021. (Private equity-sponsored M&A transactions with

enterprise values of \$10 million to \$250 million.) Lenders are evaluating businesses through a post-COVID lens that prioritizes stability and resiliency more than ever before. Diversification, differentiation and supply chain/distribution are key areas receiving more attention in due diligence. Industries showing resiliency through COVID are garnering leverage multiples and pricing on par with, or in some cases, more attractive than pre-COVID levels. Heavily impacted industries continue to see a cautious approach from lenders.

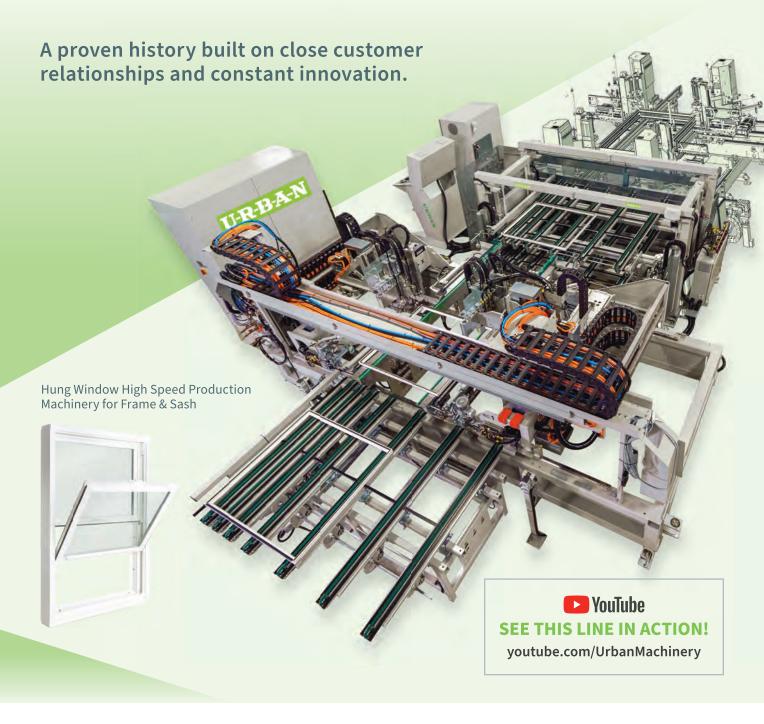
Valuations

Corporate transactions serve as barometers of healthy valuations. Closed in February 2021, PGT Innovations' \$108 million acquisition of Eco Window Systems valued the business at a 1.48x multiple of revenue. Fortune Brands Home & Security's \$660 million acquisition of Larson Manufacturing Co. in December 2020 valued the business at an 8.8x multiple of TTM EBITDA and a 1.69x multiple of revenue.

Lower middle market private equity transaction multiples (with enterprise values of \$10 million to \$250 million) have averaged 6.9x over the past 12 months, slightly lower than the 7.0x to 7.2x range that had characterized the market since 2017. Buyers continue to define a "quality premium" in valuations for aboveaverage financial performance. Premiums of 30plus percent were observed in H2 2020 and are still holding today, reported GF Data.

COVID-19 has impacted industries and company performance differently, and buyers are evaluating "COVID-adjusted" financial results typically with a look-back period of at least three years to derive normalized earnings over the period. Larger transaction size and EBITDA size (i.e., equates to

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Eye on Fenestration

larger scale) also factor into higher valuation premiums paid.

Mid-year outlook

Overall deal volume is expected to remain strong, with these positive market dynamics providing the necessary supports. Middle market transaction (with enterprise values of \$25 million to \$500 million) volume is up 15 percent through May, and deal pipelines are growing. Transaction value is up 33 percent over the same period. The looming tax rate increase is expected to incite more sellers to close in 2021, which will have a significant impact on M&A activity. The proposed rate change would increase capital gain rates from 20 to 40 percent for any gain more than \$1 million.

Recent deal activity in the window and door space is indicative of healthy buyer appetite:

In June, ENERGI Fenestration Solutions Ltd. divested its primary operations in three transactions:

- ENERGI Fenestration Solutions USA Operations, acquired by The Vision Group
- ENERGI Terrebonne Patio Door Division, acquired by Novatech Group
- ENERGI Laval Extrusions, acquired by Thermoplast Extrusions

The Industrials team of Brown Gibbons Lang & Company served as the exclusive financial advisor to ENERGI in the process.

Cornerstone Building Brands completed the acquisition of Denverbased vinyl window and door manufacturer Prime Window Systems (PWS) in May. The company expects the transaction will expand its reach in the residential new construction and repair and remodel markets in the Western U.S. PWS generated approximately \$60 million in sales during 2020. Windows is the largest segment for Cornerstone, accounting for approximately 41 percent of sales and 33 percent of EBITDA in 2020.

Also in May, Glenn Rieder acquired Palm City Millwork, which manufactures custom millwork products, including doors and windows for custom home builders serving the high-end residential market in South Florida.

In January, PGTI acquired a 75 percent ownership interest in Eco Window Systems, which manufactures and installs aluminum, impact-resistant windows and doors serving the South Florida region. PGTI, which also added glass manufacturing capabilities, expects the transaction will expand its presence in the Florida commercial market. ■

Andrew K. Petryk is a managing director and leads the Industrials practice at Brown Gibbons Lang & Company, an independent investment bank serving the middle market. BGL publishes the Building Products Insider, a nationally recognized research publication that discusses critical industry trends and perspectives from leading executives. Contact Petryk at 216/920-6613 or apetryk@bglco.com.

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Summary Judgment: A Legal Procedure to Limit Litigated Claims

What it is, how it can be used

In a lawsuit, a plaintiff bears the burden to prove the case he/she brings against a defendant. Summary judgment is a legal procedure by which a judge, rather than a jury, can decide a claim or part of the claim for either the plaintiff or defendant. This before-trial process is intended to expedite the proceedings and resolve some or all of the issues.

The uniform standard in the federal court system is referred to as the Celotex standard after the 1986 U.S. Supreme Court product liability decision, Celotex Corp. v. Catrett. This has now been adopted by 39 states.

When summary judgment plays a role

Civil litigation invariably involves multiple claims. Plaintiffs will often assert alternative "theories of recovery" to enhance the chances of winning. A routine breach of contract claim may also include an additional claim for violation of the state uniform commercial code and a claim under the state's consumer fraud laws, which provide for a statutory private right of action, usually with the ability to recover enhanced damages and attorney's fees. Multiple claims mean the case as a whole now becomes more complex with each theory of recovery involving unique elements to be proved.

Complexity for a jury compounds what is already an uncertain outcome. And because the amount of money it takes to settle a claim depends on what the potential recovery/exposure may be at trial, an early determination as to which of several claims can get before the jury is critical.

Because not all of the facts are known and not all evidence is established at the beginning of a lawsuit, a plaintiff may assert those claims for which a good faith basis exists. However, as a case progresses through the process of document production and depositions ("discovery"), the facts that can be proved at trial come more into focus. This is where summary judgment plays a role.

Under Federal Rule of Civil Procedure 56, a party may request to the court that summary judgment be entered in its favor on all or part of the overall claim. Most states have either adopted the language of FRCP 56 or some similar version. FRCP 56 states:

The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.

How summary judgment is used

The key is showing the court there is no "dispute" as to material facts and that the court can decide the issue without submitting it to a jury.

For example, if a plaintiff sues his/her former employer for violation of the federal Age Discrimination in Employment Act (ADEA), which applies to private employers with 20 or more employees, and it is undisputed that the employer had only 19 employees before plaintiff's termination, a court will grant summary judgment against the plaintiff on that discrete claim. Keep in mind, however, the plaintiff may have other asserted claims, such as state-based common law or statutory claims that would not be affected by the limited summary judgment on the ADEA claim. Those claims may survive. But through summary judgment the defendant/employer has effectively limited the claims and potential recovery to exclude the claimed right under the federal statute.

Traditionally, trial courts tend to err on the side of letting juries decide cases and have long considered summary judgment a drastic measure. However, the U.S. Supreme Court stated in Celotex



By John Nolan

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Letter of the Law

that the summary judgment procedure is an integral part of the federal judicial system and should not be looked on unfavorably.

Prior to Celotex, it was the general rule that the party seeking summary judgment had to affirmatively disprove an element of the opponent's claim or defense. In the ADEA claim described above, such affirmative proof might be in the form of an affidavit from the employer/defendant stating that only 19 employees were employed. The significant shift brought on by the federal Celotex standard is that a defendant may now be successful on a summary judgment motion simply by demonstrating that a plaintiff has proffered no evidence of one of the elements of the claim.

Now, applying Celotex in our ADEA example, summary judgment would be warranted if the employer/defendant shows that the plaintiff has not offered evidence of 20 employees. It may not seem to be a significant distinction in this basic example. However, in complex commercial and construction defect claims, the difference is important. Construction defect claims can involve many parties, and involve many contracts with a significant number of crossclaims and third-party claims, adding to the complexity of the overall litigation. But not every party has the same obligation.

In Florida, for instance, product manufacturers may not be sued in tort (i.e., claims based on negligence or strict products liability) for construction defect damage to the structure. Summary judgment is a procedure to have such a claim dismissed from the case. The adoption of the Celotex standard heightens the level of evidence required of a party asserting defect claims to oppose summary judgment, thereby limiting potential exposure for the manufacturer.

John Nolan is an attorney with The Gary Law Group, a law firm based in Portland, Oregon, that focuses on legal issues facing manufacturers of windows and doors. He can be reached at 217/526-4063 or john@ prgarylaw.com.



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Use Digital Tools to Get the Most out of Tradeshows



Like every other part of life, technology has changed tradeshows. From lead retrieval devices to Facebook, there's a wide range of ways that tech can change your show experience. Here are some industry insights regarding how to use the many types of digital tools available to have a successful show.

By Norah Dick

k Make your booth interactive

Instead of shipping brochures, exhibitors can incorporate QR codes into the design of their booths, says Gwynn Breckenridge, CMP, tradeshow logistics manager, National Glass Association. Visitors can scan QR codes using their smartphones to access the company's website or information. "The cost of shipping paper is extremely expensive and most companies have leftovers, which are then trashed so they have wasted money in printing, shipping and paying to trash them," says Breckenridge. In addition to being free to produce, QR codes link to websites that can also be updated if needed, she says. Other potential tech to include at the booth includes a touchscreen monitor, which can allow visitors to input their contact information, and can also show a video of the company's products. Exhibitors could also consider incorporating a 3D tour of their facility and products with the use of a virtual reality headset, she says.

Use a lead retrieval device

Breckenridge also emphasizes the benefits of recording leads using a lead retrieval device, such as a badge scanner. "Not enough exhibitors take advantage of the lead retrieval devices they can rent," she says. "By simply scanning badges, the company can collect all the names and addresses of everyone who stops by their booth or reception or meeting along with all the demographic questions asked on the registration form."

A lead retrieval device allows exhibitors to customize and add notes for their follow-up plan, she says. "Fewer people are carrying around



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business cards to exchange and you get a lot more info by scanning a badge."

Post on social media

Other than a lead retrieval device, Breckenridge says exhibitors need to use social media to attract attention. The event company, American Image Displays, also emphasizes the importance of social media as part of a digital marketing plan. Here are some of their recommendations for how to leverage social media throughout the planning and exhibiting process.

Before

- Start promoting your participation early, at least weeks before. You can post photos or teasers, post event information and your booth number, and drive customers to the show's website so they can find you.
- Connect posts to the tradeshow organization's social media, and make sure to use any relevant hashtags for the show. Review who is following the event through their social media, to help develop a sense of potential attendees.

During

- Host a social media contest on whichever platform helps you reach your targets most effectively. You can use the results of the contest to help improve engagement and traffic for the next time.
- Upload real-time content, including live streaming. This can help engage those who cannot attend the event, and attract the interest of those who are there.

After

■ Create curated content summarizing the show's events, such as a compilation video or a blog article posted to your company's blog site. Show your audience what they missed by not being there. ■

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A Conversation with Forel

Marco Schiavon, CEO for North America, discusses the company's growth and industry trends

Ahead of GlassBuild America in Atlanta, Sept. 13-15, Marco Schiavon, Forel's CEO for North America, offered his perspective about the company's growth and innovation, as well as industry trends to keep an eye on.



Online Read the full interview with Marco Schiavon on windowanddoor.com.



Window + Door: How is Forel positioning itself for continued growth and innovation? Schiavon: Since 1976, Forel

has worked hard to anticipate the needs of our customers while continuously improving and developing new technology to exceed their expectations. We utilize feedback from our existing and potential customers to give us firsthand experiences and challenges they face daily. Our research and development team plays a critical part in this success, holding over 50 patents worldwide. As of today, Forel has offices in four countries and works with 30 independent agencies throughout the world, allowing us to sell and install machinery in over 70 countries.

WD: How does the global nature of your business influence design and trends?

Schiavon: Our vision calls for us to be suppliers of competitiveness. Being a global leader in glass processing machinery gives us the opportunity to recognize many of these trends before they come to fruition. It is particularly important that we stay in front of them to

provide all customers with a vast number of pertinent solutions. Many of these trends may start in one area of the world but will ultimately emerge and grow in other regions over time. Forel is committed to evolve for the companies that want to continue moving forward and grow.

WD: What are big-picture trends in the machinery and equipment space?

Schiavon: Although I would not necessarily consider these trends but rather evolutions, there are a few right now. We see the demand for larger and larger pieces of glass. This is becoming more obtainable to process because of the advancements in automated machinery. Another is for thermoplastic spacers to give our customers more flexibility with less inventory.

WD: How does automation continue to influence machinery and equipment trends?

Schiavon: An autonomous warehouse will be the way of the near future. Automated machinery does more than automate "processes." It increases safety, reduces operating costs, improves quality and boosts production rates-important components for every manufacturer to consider. Forel has made considerable investments to improve and implement this technology into our customers' facilities already. From our IG lines, fabrication equipment and lamination lines we offer fully customized glass handling, storage and sorting systems to unite the different operations.

WD: What market challenges do your products solve?

Schiavon: Forel equipment is designed to solve problems of the past, of today and the future. We design vertical solutions to minimize the footprint of the production floor and make our interfaces user-friendly so minimal training is needed. One of the greatest challenges today is shortages in labor. Moving toward automation lets you operate with a minimal workforce while increasing productivity and quality control. ■





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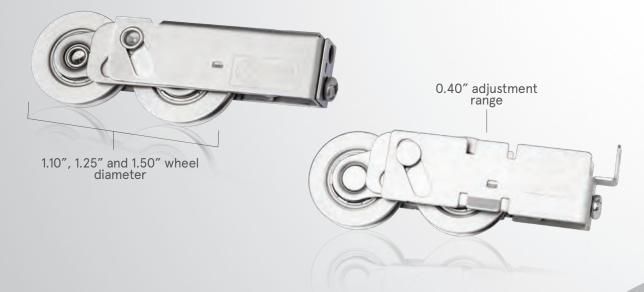
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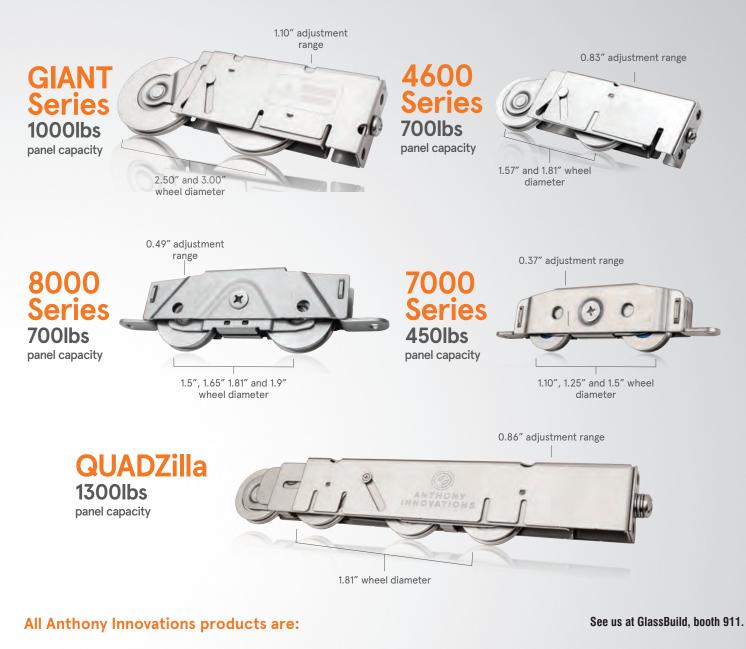
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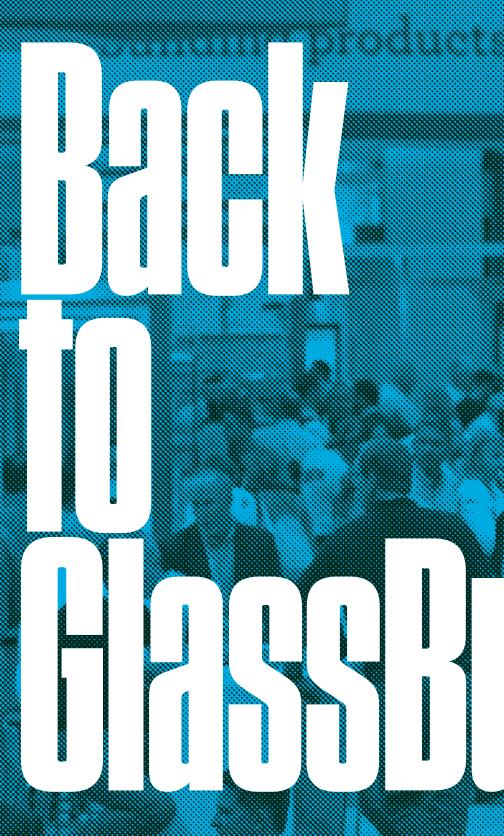
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In-person investment and innovation, in Atlanta By Laurie Cowin and Katy Devlin



fter more than a year of virtual collaboration, the glass and fenestration industries will return to in-person learning, connecting and investing at the 2021 GlassBuild America: The Glass, Window & Door Expo, scheduled for Sept. 13-15 at the Georgia World Congress Center in Atlanta.

"We recognize that GlassBuild America is

the premier show in the industry and we have a responsibility to be there for our customers and prospective customers," says Steve Dillon, marketing director, Veka Inc. "As industry leaders we are not only representing our own company, but the industry as a whole in order to build relationships, advance technology and set trends—not just follow them."

The show will host about 300 exhibitors over more than 115,000 square feet of exhibit space. GlassBuild America is organized by the National Glass Association and is the largest annual gathering place for the entire glass, window and door industries in the Americas. Per organizers, it is the key event in the Western Hemisphere where buyers and sellers meet and learn how to solve their most pressing challenges.

Exhibiting companies have spent the previous year developing new product solutions to address their customers' top concerns, and these innovations will take center stage at GlassBuild America. "We need to show our customers our continued commitment to innovation," says Morgan Donohue, president, Erdman Automation. "We will be demonstrating an entirely new concept at the show. We are proud to say we have done so more than 12 of the years we have participated."

"One of our mottos at EDTM is that we are only as good as our last product. Every single day of the year, we are working on developing new products," says Mark Imbrock, vice president, EDTM Inc. "These new product ideas come from direct interaction with our customers. GlassBuild gives us the perfect venue to discuss customer needs, and help[s] us keep a barometer on the types of products the industry needs. Many times, our new product ideas are a result of direct requests that come from customers, sometimes right from the GlassBuild show floor."

The following pages present Window + Door's official GlassBuild America preview, with a look at the schedule, education opportunities, the official exhibitor list, and, most notably, an extensive product showcase that highlights the innovations on display on the show floor.

"GlassBuild is about strengthening relationships and educating our customers on not only our products, but also the way they can use our products and services to be more efficient," says Larry Johnson, vice president of sales, North American Fenestration, Quanex Building Products. "But more than anything, we want to hear from our customers and dig deeper into their challenges and how we can tailor our products and services to meet their needs now and into the future."

EDUCATION

Ask the Experts

Get top codes and technical questions answered at GlassBuild America. The NGA's team of code experts will be on hand at the Industry Pavilion in booth 3625 to respond to questions about energy codes, glass safety requirements, the next big moves coming at the code and regulatory level, and more.

Joining the Ask the Experts at the Industry Pavilion: Urmilla Sowell, NGA technical director, Karen Wegert, NGA associate director of advocacy and technical services, and NGA code consultants Tom Culp, owner of Birch Point Consulting,

SCHEDULE AT-A-Glance

As of press time. Visit glassbuild.com for updates. Events will take place at the Georgia World Congress Center.

Sunday, Sept. 12 9:00 a.m. - 4:00 p.m. *Registration open*

Monday, Sept. 13

8:00 a.m. - 5:00 p.m. *Registration open*

10:00 a.m. - 5:00 p.m. Exhibit hall open

Tuesday, Sept. 14 9:00 a.m. - 5:00 p.m. *Registration open*

10:00 a.m. - 5:00 p.m. *Exhibit hall open*

Wednesday, Sept. 15 8:00 a.m. - 1:00 p.m. *Registration open*

9:00 a.m. - 1:00 p.m. *Exhibit hall open*

"As industry leaders we are not only representing our own company, but the industry as a whole in order to build relationships, advance technology and set trends—not just follow them." and Thom Zaremba, Roetzel & Andress.

More information about the Ask the Experts schedule will be available at glassbuildamerica.com.

INDUSTRY PAVILION

The National Glass Association will premier the Industry Pavilion concept at GlassBuild. Located in Booth #3625, the Industry Pavilion will showcase resources from associations, organizations and stakeholders spanning all avenues of the glass, fenestration and construction industries on the brand new GlassBuildTV platform. Programming will highlight informative and educational content from across the industry.

"Collaboration is in NGA's DNA," says Nicole Harris, NGA president and CEO. "Following the success of GlassBuild Connect in 2020, we've invited several industry organizations to GlassBuild America in Atlanta to share how they are each working to improve the glass and fenestration industry."

In the Industry Pavilion, GlassBuild attendees can meet with associates from the NGA and the Fenestration and Glazing Industry Alliance, and will find resources from the following organizations:

- American Subcontractors Association
- Architectural Glass and Metal Certification Council
- Architectural Record
- Fenestration Canada
- Glass Performance Days
- glasstec 2022
- Glazing Industry Secretariat Committee
- International Year of Glass 2022
- National Association for Women in Construction
- National Fenestration Ratings Council
- Window & Door Manufacturers
- NGA Regional Chapters
 - Colorado Glazing Contractors
 Association
 - Houston Area Glass Association
 - Mid-Atlantic Glass Association
 - Texas Glass Association
 - Utah Glass Association
 - Washington Glass Association

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"GlassBuild is the venue where the market meets and one can find new products and new solutions."

MARCO PATERMANN, MANUFACTURERS REPRESENTATIVE NORTH AMERICA, FUX



"GlassBuild allows us to share with customers the new things we are doing. GED always comes away from the show with stronger relationships and opportunities to assist our customers with the window manufacturing process."

JOE SHAHEEN, VICE PRESIDENT OF SALES, GED INTEGRATED SOLUTIONS



"We come away from GlassBuild with a sense of the temperature of our customer desire for automation and a renewed understanding of where our customers see the future of their business."

MORGAN DONOHUE, PRESIDENT, ERDMAN AUTOMATION



"We like using the show as a method to get input from customers as to what they hope to see in the short- and long-term for new products. It helps us be proactive to develop products that can help set the next trends."

DAVID HARRIS, PRODUCT MANAGER - EXTERIOR SOLUTIONS, AMERICAN RENOLIT CORP.



"This is a relationship business and a relationship industry and getting to spend time catching up and looking for opportunities to share insights and best practices in person is invaluable."

LARRY JOHNSON, VICE PRESIDENT OF SALES, NORTH AMERICAN FENESTRATION, QUANEX BUILDING PRODUCTS



"These exhibitions allow us to fulfill a natural human need, person-to-person interaction. This year we look forward to showcasing our latest developments and technologies and to show our customers."

MARCO SCHIAVON, CEO NORTH America, forel



"We gain significant insights into what our customers need and what trends we are now seeing in the industry."

ROGER FINCH, NATIONAL MARKETING MANAGER, ODL



"As an industry leader, Deceuninck enjoys the visibility that comes with attending the GlassBuild show. It's an excellent opportunity to showcase new products, processes and people. It's an important yearly occurrence for us."

GREG KOCH, VICE PRESIDENT OF SALES AND MARKETING, DECEUNINCK NORTH AMERICA





Visit GlassBuild.com for

- A complete product preview from GlassBuild America exhibitors
- Videos and additional photos of new innovations
- A sortable, searchable database of products

Innovations on display in the glass and fenestration industry's return to Atlanta

Research, development and new product investments didn't miss a beat during the pandemic. Suppliers from all segments of the glass and fenestration industries are poised to introduce and promote recent innovations and essential solutions during the return of North America's largest glass and fenestration industry event, GlassBuild America, set for Sept. 13-15 in Atlanta.

"GlassBuild is an excellent platform to reconnect with current or former customers, as well as forge new relationships moving forward," says Greg Koch, vice president of sales and marketing, Deceuninck North America. "It's all about building relationships and reconnecting with the industry. That is especially important this year after a virtual event in 2020. Attending GlassBuild is a step in a positive direction for the glass and fenestration industry after COVID and an excellent opportunity to propel the industry forward from a challenging past year."

The following pages highlight trends that are driving development in all segments of the industry, and showcase a selection of products, machinery, equipment and other industry solutions set for display in Atlanta.



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Trending → LABOR-SAVING SOLUTIONS → AUTOMATION → FLEXIBILITY → LOW MAINTENANCE

Machinery and equipment suppliers at GlassBuild America are promoting their range of solutions for smarter factories to help customers address their top challenges—chief among them, labor. Customers are looking "to improve efficiency and throughput without adding labor," says Chris Kammer, marketing coordinator, A+W Software North America.

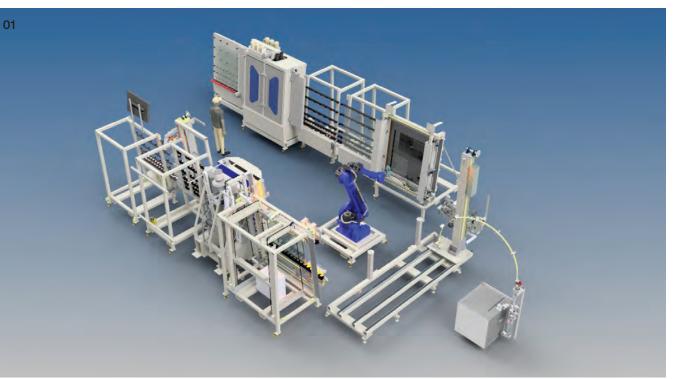
Process improvements in general are a hot trend. "We are seeing that our customers have a desire to continually improve their processes by replacing old and ineffective equipment," says Joe Shaheen, vice president of sales, GED Integrated Solutions, who expects the trend to continue into next year. "GED is providing automation and robotic solutions throughout the manufacturing process to eliminate labor while providing the quality and consistency required. The key is to apply automation as needed and robotic solutions in a way that keeps pace with the rest of the production cycle."

Morgan Donohue, president, Erdman Automation, says the company "is always looking for ways to improve quality and throughput without adding labor." This is especially true as COVID led to a larger uptick in volume and desire to improve production, he says.

Using equipment can also optimize the efficacy of products. Larry Johnson, vice president of sales, North American Fenestration, Quanex Building Products, says the company's products aim to improve energy and process efficiencies. For example, "Our spacer systems when applied manually or while using high-speed automation allow customers to do more with fewer employees," he says.

The increased product demand of the past year is also touching the machinery and equipment space. "Up to now the majority of the manufacturers have predominately focused on supplying the increased demands at maximum capacity. Equipment additions that had not been ordered or budgeted prior to COVID were predominately put on hold until recently," says Marco Patermann, Manufacturers Representative North America, FUX. "Now many manufacturers are looking into increasing their capacity to sustain that increased demand, and equipment sales are back on the rise."

Tools for energy efficiency also abound. "We are seeing a push to conduct more energy evaluations of windows in the field," says Mark Imbrock, vice president, EDTM Inc. "This requires a more complex set of instrumentation that can account for ambient conditions, and be able to collect data over a longer period of time. This will help analyze existing buildings to better model how improved windows or coatings can improve the overall efficiency of the building envelope."



01

Erdman Automation

The Erdman OMRC (One Man Robotic IG Cell) line has been designed to require only one operator and allow for maximum social distancing, safety and IG output. The company reports grid application adds roughly 20 seconds per unit. Booth #2231. 763/389-9475, erdmanautomation.com

02-NEW AT GLASSBUILD

Forel

Forel will reveal the "High Tech" IG line with thermoplastic spacer. The range is capable of processing double, triple and quadruple IG units; IGUs with offset panes or shaped panes; and units up to 130 inches by 236 inches, weighing 275 pounds per linear foot (assembled panel), in thicknesses up to nearly 4 inches. Equipped with a flat plate coupling press with gas filling and sealing machine, the line can process rigid or flexible spacers and can use up to three different sealing products. Booth #231. 651/493-4378, forelspa.com





MACHINERY & EQUIPMENT



01-NEW AT GLASSBUILD

Duespohl Maschinebau Gmbh

DigiApp is a digital dosing system for the primer application using felt strips. The system automatically adjusts the dosing to variations in production speeds and keeps felt tongues from drying out or dripping when production is interrupted. It also monitors the values of the solvent emissions, has a touch screen and can save up to 500 settings. Suitable for VOC-reduced, MCL or MEK primers, it features eight individually acting pumps and is expandable up to 16. Booth #1940. +(49) 5207-92910, duespohl.com

02-NEW AT GLASSBUILD

Emmegi USA Inc.

The Comet R4 is a CNC machining center with five controlled axes for machining bars or workpieces made of aluminum, PVC, light alloys or steel up to 4 meters long. The fourth and fifth axis allow the electric spindle to be controlled by the N/C continuously in the range of -15 degrees to 90 degrees on the horizontal axis and -360 degrees to 360 degrees on the vertical axis. It is equipped with a 12-place tool magazine on the X-axis slide and has a traversing work table. Booth #1331. 201/935-0200, emmegi.com

03-NEW AT GLASSBUILD

Haffner

The DMC-050 Series Profile Machining Center is designed to perform all cutting, milling, drilling and marking operations required for the processing of vinyl lineal profiles. The dual lineal feed can process up to four sash profiles concurrently. Lineal processing is fully automated and CNC-controlled, and is tied directly to an ERP system. The multi-axis machine requires one operator to load PVC lineals and unload fully processed sash/frame profiles. Booth #1047. 888/423-3671, haffnerna.com







04-NEW AT GLASSBUILD

Joseph Machine Co.

The jWeld and jClean line of welders and cleaners feature advanced technology and robust designs, according to the company. Features include a polycarbonate safety enclosure, heavy-duty chassis, ball-screw drive systems, Servomotor systems in the automatic sizing and a regulated vertical clamping system. The cleaning cycle is 12 seconds for a pair of window frame corners. Booth #731. 717/432-3442, josephmachine.com

05-NEW AT GLASSBUILD

Matodi USA

The Battellino SRM 2000 is a sealing robot designed for smallto medium-sized businesses looking to add more automation to their insulating glass production capabilities. Windows continue to get larger and heavier, making hand-sealing much more difficult, time-consuming and costly. The sealing robot seals double- or triple-glazed units with a maximum glass size of 3,000 millimeters by 2,000 mm, and in thicknesses of 3 mm to 12 mm. Booth #2441. 336/668-2300, matodi.biz





01-NEW AT GLASSBUILD

Oz Machine

Meteor - 1 600 is an upcut saw with a 24-inch saw blade suitable for a range of profiles, including aluminum, vinyl and wood. It can cut 16-inch-wide profiles with angles between -22.5 degrees and 22.5 degrees. Other features include a hydro-pneumatic cutting process, nozzle sprayed cooling adjustment, automatic controlled secure cover, cutting stroke speed adjustment and pneumatic vertical and horizontal clamps. Booth #2043. 833/390-0060, ozmachineusa.com

02

Schiavo

The FV1000 machine is specifically designed for drilling, milling and countersinking operations required to fabricate holes and notches of door hinges and fittings. The machine bay consists of a high-speed 3-axis single spindle driven by ball screws controlled by a CNC. It is equipped with software that allows for the loading of a series of different working programs. Additionally, the machine features motorized glass positioning and fast tool changing. Booth #2822. +(39) 0331-897904, schiavotech.it

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01



01

Winpro

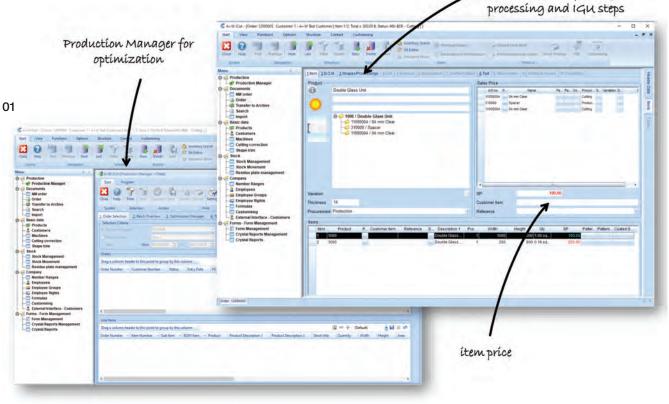
The screen express semi-automatically inserts spline into the grooves on window and door screens. Updates to the machine include an optional swing arm operational system, automatic frame fixture positioning activated by 2D or 1D barcode scanning or FTP download, redesigned pneumatic control system to provide increased machine response time, carriage and spline head belt-driven actuators, and updated controls and safety circuitry. Booth #1631. 216/292-4460, formtekgroup.com

02-NEW AT GLASSBUILD

FUX

The 83-CLM-327 special edition profile wrapping line has a manual slot nozzle, but with an automatic foil position control and adjustment, the frame is open on the operator side. The drive is infinitely adjustable and the entire line is controlled via a 7-inch touch screen monitor. It also is equipped with the FUX Quick Slide Drive quick adjustment of drive wheels, as well as an integrated external humidifier. Booth #819. +(54) 0550-4596, fux.at

Software





01-NEW AT GLASSBUILD

A+W

The A+W iCut provides a solution for smaller fabricators seeking to better automate/optimize and manage their cutting function without the higher cost of a full ERP solution. The software manages glass storage, provides multiple optimization options, steers cutters and synchronizes glass for downstream processes. Additionally, A+W iCut provides a system to manage residuals, which considers valuable residual plates to achieve the best yield, says the company. Booth #2421. 847/220-5237, a-w.com

RA Workshop Software

02

RA Workshop can compute aluminum, uPVC, wood and steel profiles and aids in the design of products such as windows, doors, shutters, roller shutters, insect screens, roller insect screens and panels, according to the company. The bill of material is automatically generated and other reports require one click to generate. Cutting optimization and CNC integration is also available. Booth #2715. +(40) 2132-17554, raworkshop.com enter sizes, shapes, edge

RA Workshop

Software



01

FeneTech

FeneVision Ultimate ERP software for window and door manufacturers and glass fabricators includes features such as web- and client-based quotation and order handling, pricing and costing, integrated CAD, dynamic creation of BOMs, capacity planning, production scheduling, dynamic/batch glass cutting optimization, lineal optimization, tracking control, invoicing, return merchandise authorization and more. Booth #2221. 330/955-2830, fenetech.com

02

Soft Tech

The Dealer Web Module is designed for manufacturers who have a dealer network and want to quote their own projects and sell whole units. The dealer management dashboard helps manage incoming workload while tracking estimates, orders, sales and geographic metrics. The drawing board base configurator for dealers allows dealers to create frames, with real-time 3D rendering. Quotes can be sent directly to the customer, who then can place the order directly with the manufacturer. Booth #721. 954/568-3198, softtech.com









Ra Workshop



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Software

01





01

Smart-Builder

Smart-Toolbox is a glass job management system that makes it easy to quote, schedule, order and invoice. Smart-Toolbox has been purpose-built for the glass industry and understands glass job pricing. With integrations to the industry's most popular fabrication systems, machinery and accounting platforms, users can eliminate double entry. Smart-Toolbox can be integrated with Showers Online and the free Smart-Glazier App. Booth #1910. 628/226-2017, smart-builder.com

02-NEW AT GLASSBUILD

Glaziers Online

Glaziers Online is the latest software solution from Kimzey Software, the developers of GlassTrax. Glaziers Online is a software package designed for glazing companies of all sizes. The internet-based software allows users to access data and create quotes from anywhere. Features include: quote/order entry; job scheduling and tracking; integration with QuickBooks, Google Calendar, GlassTrax and more; a "send to fabricator" button to export orders directly to vendors; customer database management; template designer; and more. Booth #2504. 435/652-8330, glaziersonline.com



3X the Functionality

There is nothing more important than the voice of customer when it comes to product design. While the Corsair 2-panel gliding door brought a new level of style and performance to VEKA's door system portfolio, the market demands even more!

The Corsair gliding patio door is now available in a 3-track frame allowing for a 6-panel configuration with a max width of 21'

Customizable for new construction or replacement, the Corsair can be designed for up to a 6-panel configuration, standing 96" tall. This saddle-style door delivers performance with a 1.25" IG capacity and a DP50 class rating with impact capability.

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See us at GlassBuild, booth 1021.

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Services & Tools

01





01

Blackwater Technical Services Inc.

Blackwater Technical Services Inc. offers ISO 17025 certified laboratory testing. The company specializes in product certification testing of building envelope and fenestration systems, for products such as windows, doors, curtain walls, window walls, railings, structural wall panels and hurricane protection products. Booth #2506. 561/508-2830, blackwatertesting.com

02

GED Integrated Solutions Inc.

WinTrax intelligent logistics system uses RFID technology to track window assemblies through the production process to shipment. Manufacturers can see real-time product location as window assemblies with uniquely encoded tags pass through gateways at each production stage. Additionally, the new WinTrax handheld locates lost windows. Booth #1739. 330/963-5401, gedusa.com

03

National Fenestration Rating Council

NFRC provides a wide range of educational resources intended to empower people to identify windows, doors and skylights that can help make their homes and buildings more comfortable and energy-efficient while also contributing to the green and healthy building movement. Booth #2415. 301/589-1776, windowratings.org

03





04

EDTM Inc.

The Glass-Chek Elite identifies laminated glass in a window and measures the thickness of the laminate inner-layer. The graphical display illustrates the window's profile. The instrument also detects the presence and location of low-emissivity coatings, and can tell if the coating is a hard or soft coat, as well as the number of silver layers used to make the coating. Booth #1103. **419/861-1030**, edtm.com

05

Argon Filling Systems

The Argon Check Analyzer is a handheld, rapid feedback gas fill analyzer that provides an accurate reading of initial fill percentage. The sample probes provide point-of-fill readings to quickly determine manufacturing accuracies. Real-time reading and small sample size provide a single reading accuracy that should not require another fill cycle after testing. The analyzer offers an easy user interface with one-touch control. Booth #1115. **612/597-0014, argonfillingsystems.com**

05



Image: Constraint of the set of the

Trending → COLOR → PERFORMANCE → DESIGN FLEXIBILITY → LARGER SIZES

"Window designs have been focused on aesthetics and performance," says Steve Dillon, marketing director, Veka Inc. Dillon, who anticipated a renewed interest in technology after COVID halted its surge, also says, "Installation has to be a key consideration when designing a window system that focus[es] on all aspects of a window's life cycle, from fabrication to installation to long-term performance."

Aesthetically speaking, light and privacy control are important for homeowners, according to Roger Finch, national marketing manager, ODL. He says consumers in today's market look for switchable glass on doors and windows and decorative door glass that trend toward clean, simple designs. "Motorization is gaining in popularity and consumers are seeing increasing options in patio doors and windows for light and privacy control," he adds.

Door panel sizes continue to increase. As size increases, door and window performance also need to increase to meet national standards, says Drew Anthony, marketing manager, Anthony Innovations. Manufacturers are tasked with creating solutions to accommodate the increased weight and performance requirements. "Increased panel size will continue to be the main point of design trends," he predicts. "However, minimalist sightline systems, life and slide, and automation of sliding door panels are

"Flexibility is key across all of our product areas," says Greg Koch, vice president of sales and marketing, Deceuninck North America, including window systems that can be configured in a variety of ways, laminated and sized for different window openings. "It's important to create flexible systems that can be used for a multitude of project types and meet numerous buyer preferences."

Of course, market demand ultimately drives product development. "Product development is the sum of multiple drivers," says Marco Patermann, Manufacturers Representative North America, skai Exterior of Continental Surface Solutions.

"Depending on the objective and situation, it can vary in each case. We are inspired by the demands from the market, the tendencies in design, color and texture."

David Harris, product manager – exterior solutions, American Renolit Corp., says black film on a window's exterior and interior is a "really solid trend and does not show signs of slowing for the foreseeable short-term."

Harris also noticed increasing interest in lamination in the past few years, which he said "boomed" during the pandemic. "It has been garnering a lot more attention and we continue to see an expanding range of new users." Some customers, he says, have more than 40 percent of their sales go out with laminated color, a marked increase from several years ago when up to 90 percent of all windows sold were white. "The continued solid growth and acceptance of both product and [laminating] process is really exciting," he savs.

"There is a lot of interest in color right now," agrees Koch. "Color can be extruded, laminated, painted components before the system is assembled, or painted on the entire system after it's welded and cleaned. Manufacturers and installers are finding success with dark colors that naturally absorb heat by using ventilation holes to release heat, adequate reinforcement to hold its shape and to allow for cooling of window systems."

Hardware & Components

01-NEW AT GLASSBUILD

AmesburyTruth

01

The Pinnacle Block & Tackle Balance System uses a pawl locking feature designed to eliminate dependence on specific pocket geometry for the balance to lock properly. The design allows for a direct pivot bar interlock with the steel channel, which the company reports aids in achieving a higher load rating, provides more manufacturing tolerance, requires less space inside the jamb pocket and alleviates the need for multiple t-lock variations. It can be installed with a twist and turn in or out of the jamb. Booth #1321. **704/978-3246**, **amesburytruth.com**



02



01-NEW AT GLASSBUILD

Anthony Innovations

The GiantQuad roller has an 1,100-pound capacity that can accommodate doors up to 2,200 pounds. A 3-inch wheel diameter is designed to ensure smooth operation, and precision bearing components further reduce operating force. The company reports the roller is AAMA 906-18 certified. Booth #911. 747/258-5873, anthonygroup.net

02-NEW AT GLASSBUILD

Caldwell Manufacturing

The Enginuity system can automate hung or slider windows and patio doors without interfering with sight lines, according to the company. Available in surface mount and concealed, the automation system comes with built-in safety features, UL approval and smart home compatibility. Booth #1903. 585/352-2870, caldwellmfgco.com

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Adhesives, Coatings & Sealants



01-NEW AT GLASSBUILD

H.B. Fuller | Kömmerling

Isomelt DM15 warm melt matrix is a single-component, desiccant matrix for use with Vitro's Intercept warm-edge technology. Functioning as a desiccant and hot-melt adhesive, Isomelt DM15 reportedly has good drying capacity and adheres well to Intercept coil stock. It is available in gray and black and has an application temperature from 194F to 248F. Booth #3422. 651/236-1645, hbfuller.com

02-NEW AT GLASSBUILD

Novagard

NovaFlex Qwik-Set Glazing Sealant is a two-component silicone neutral-cure sealant designed to rapidly build adhesive and elastomeric strength for bedding and glazing of glass. It allows for high unit throughout, low pumping viscosity and void-free filling of the sealant joint. The sealant is designed to resist natural weathering, including extreme temperatures, UV radiation, and rain and snow. Booth #1114. **216/881-8111**, **novagard.com**

01

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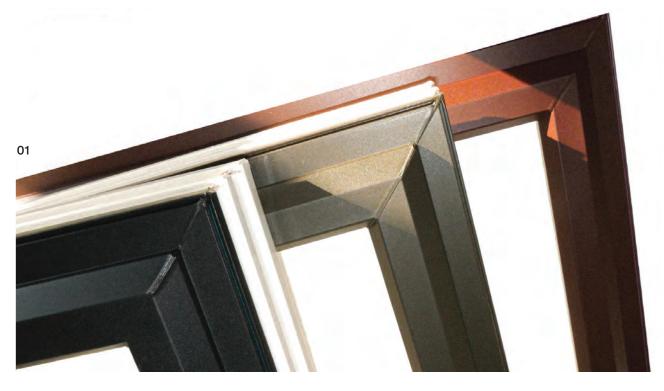
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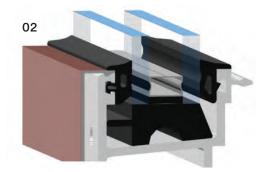
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For a FREE sample kit email: ISG-NorthAmerica@cooperstandard.com See us at GlassBuild America, booth 1713!



Adhesives, Coatings & Sealants





01-NEW AT GLASSBUILD

Nucoat North America

The VL3 line of coatings consists of water-based coatings for windows and doors that meet the AAMA 615-20 standard for superior performing organic coatings on plastic profiles as a one-component system; no hardener or crosslinking additive is required. The coatings are designed to be heated up to above 200 F with no visible damage to the surface or loss of adhesion. They are available in matte, silk, texture and metallic. Booth #2215. 614/598-4332, nucoat.com

02

Tremco Construction Products Group

Tremco extruded rubber products has more than 20,000 profiles in its portfolio, and the design engineering team can help create a new one. The company's line of transition and sealant solutions are designed to prevent air and moisture infiltration and maintain the building envelope. Booth #1523. 440/292-6522, tremcosealants.com

(NOT PICTURED)

Cooper Standard ISG

The company's engineering team creates rubber and plastic sealing solutions for entry doors, residential windows, interior wall systems, skylights, garage door systems, storefronts and curtain walls. The team uses Finite Elements Analysis to optimize products to meet tight tolerances and deliver high-performing products, according to the company. Booth #1713. 330/339-3373, cooperstandard-isg.com

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BOOTH #2115

Window and Door Systems + Design

01

Deceuninck North America

Innergy Architectural Products is a line of fiber-reinforced polymer parts custom designed for curtain wall systems, windows, door and storefront systems. Components are designed to fit into existing commercial fenestration products, and include pressure plates, structural thermal struts, reinforcements and curtain wall components. The company reports Innergy AP parts deliver up to 900 times more energy efficiency when compared to traditional materials like aluminum. Booth #1603. 513/539-5505, deceuninckna.com

02

Veka Inc.

The Corsair door is now available in a two- and three-track option to allow for large openings. It is customizable for new construction or replacement use in two-, three-, four- and six-panel configurations up to 8 feet high. Corsair has a 1 ¼-inch IG capability and DP50 class rating. Booth #1021. **724/452-1000, vekainc.com**

03-NEW AT GLASSBUILD

Quanex Building Products

Quanex added its inset handle option to its 1350 patio door screen series that will allow customers to order the model with an inset handle and choose from locking and nonlocking options. These options are also intended to provide added safety and security. Configurations include standard color options and various mesh options, including BetterVue and UltraVue. Booth #2519. 800/233-4383, quanex.com



01



WINDOW & DOOR DESIGN

Window and Door Systems + Design



01-NEW AT GLASSBUILD

Continental

Skai Mattex has an extreme matte surface gloss level of 2, meant to replicate the look and feel of powder-coated aluminum. The grain structure is designed to make the surface scratch-resistant. It is also sealed with PVDF layers that have a low surface tension and show no gloss development during welding or bending. Booth #819. 540/550-4596, skai.com

02-NEW AT GLASSBUILD

American Renolit Corp.

Renolit added more Exofol FX Black exterior films to its standard stock range. The line now has five different black options with different hues and surface embossings. The black films are in addition to the standard offerings of other colors such as architectural bronze, gray, clay, almond and more. All the films are acrylic/PVDF. Booth #1505. 616/581-2156, renolit.com





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WINDOW & DOOR DESIGN

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01



01-NEW AT GLASSBUILD

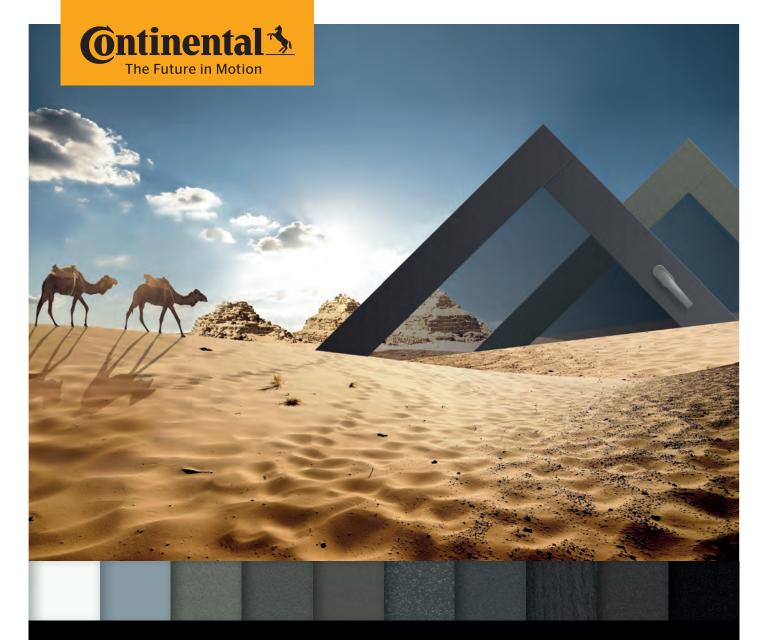
Blink Blinds + Glass

Blink ⁷/₈-inch Custom Blinds + Glass are available in custom sizes up to 18 square feet. They are compatible with two-panel sliding patio doors, casement windows, awning windows and sliding windows that accommodate ⁷/₈-inch IGs. Booth #1223. 615/230-4359, blinkodl.com

02

Chelsea Building Products

Chelsea inoview is a window system designed to maximize thermal performance of up to .14 U-value without IG or foam filling. Its multi-hollow profiles are intended to enhance thermal, structural, water, air and sound performance. The system is available for residential, light commercial, remodeling, new construction and coastal impact markets. Lamination options are available. Booth #1403. 412/826-8077, chelseabuildingproducts.com



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Continental is once again setting an example with skai[®] mattex. The attractive, matte-sandy surface adds noticeable value to construction elements. It looks and feels like powder-coated aluminum. The innovative product is also impressive from a technical point of view: skai[®] mattex is resistant to scratching and chemicals and is easy to clean. Equipped with proven cool colors technology and available in current trendy colors, it is the first choice for exterior films, even in extreme climates.



See us at GlassBuild, booth 819.

www.skai.com/exterior

Exhibitor List

Exhibitors as of July 12. Companies representing the residential fenestration industry are highlighted in blue. Visit GlassBuild.com for the most upto-date listing.

Booth	Exhibiting As
2421	A+W Software
2810	Accurate Lock & Hardware Co. LLC
3142	Airtho- Modular Process Isolator
1714	Aldora Aluminum & Glass Products Inc.
1411	Allyourhardware
2405	Alumax Bath Enclosures
1345	Aluro
1505	American Renolit Corp.
1321	AmesburyTruth
911	Anthony Innovations (NA) LLC
1514	AquaSurTech OEM
1115	Argon Filling Systems Inc.
1805	Arizona Shower Door Inc.
2907	Arkema Inc.
1913	Armor-Guard Protective Coatings Inc.
1548	Ascentium Capital
743	Ashton Industrial
1614	ASSA ABLOY Opening Solutions
606	ATAS International Inc.
2253	ATech Machine Inc.
1845	AutoMak Assembly Inc.
843	Bailey Specialty Cranes & Aerials
2508	Banner Solutions
1943	Bavelloni America Inc.

Booth	Exhibiting As
3631	Benteler Glass Processing Equipment
1040	Better Vacuum Cups Inc.
641	Billco Manufacturing Inc.
2506	Blackwater Technical Services Inc.
1223	Blink Blinds + glass
2824	Bottero S.p.A.
3124	Bovone Diamond Tools S.r.l.
3637	Bromer
3116	BSI Group America
2141	Burkle North America Inc.
1921	C.R. Laurence
1903	Caldwell Manufacturing Co.
2809	Cardinal Paint and Powder
1015	Casma - All Door Closers
2123	Casso-Solar Technologies LLC
1403	Chelsea Building Products LLC
806	ClearShield Technologies LLC
2919	Cline Aluminum Doors Inc.
221	CMS North America Inc.
819	Continental
1251	CoolTemper USA
1713	Cooper Standard ISG
2514	Coroplast Tape Corp.
1610	Creative Millwork

Booth	Exhibiting As
1515	Crimsafe North America
1603	Deceuninck
2910	Decoral System USA Corp.
2731	DeGorter Inc.
3431	DeMichele Group
2131	Diamon-Fusion International
3008	Door & Window Market [DWM] Magazine
2003	Door Controls USA Inc.
517	dormakaba USA Inc.
813	Dreamwalls Innovative Glass Products
403	Dri-Design Inc.
1940	Duespohl Maschinenbau GmbH
3139	Eastman Machine Company
1103	EDTM Inc.
2531	Elumatec North America Inc.
1331	Emmegi USA Inc.
1014	EnduroShield
2231	Erdman Automation Corp.
623	Ergo Robotic Solutions LLC
1349	EZ Scaffold
1541	F. Barkow Inc.
2602	Faulkner Fabricating Inc.
3625	Fenestration & Glazing Industry Alliance
2221	FeneTech Inc.

Booth	Exhibiting As
3241	Ferro Dip-Tech
803	FHC Frameless Hardware Company LLC
810	Flexijet North America
431	Fom USA
231	Forel S.p.A. / Forel North America
2421	Friedman Corporation
915	FrontLine Bldg. Products Inc.
819	FUX Maschinenbau und Kunststofftechnik Gmbh
1739	GED Integrated Solutions Inc.

Booth	Exhibiting As
1402	GGI
1303	Glass Coatings & Concepts
711	Glass Lamination of America LLC
1550	Glass Machinery Direct
1415	Glasslam
2202	Glassopolis Specialty Glass
1510	glasstec 2022 / Messe Dusseldorf
2807	Glass-Technology International
2504	GlassTrax and Glaziers Online

Booth	Exhibiting As
2650	Glaston America Inc.
3018	GlasWeld Scratch Removal
3016	Global Security Glazing
2409	Grabo / Nemo Power Tools Ltd.
1831	Groves Inc.
1205	Guardian Glass
2404	Gulf Rubber Industries LLC
1511	Gunther Mirror Mastics
3422	H.B. Fuller Kömmerling



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Exhibitor List

Booth	Exhibiting As
1047	Haffner North America
2911	HANS Blinds Between Glass
1031	Hegla Corp.
2725	Helios Quartz America Inc.
1731	HHH Equipment Resources
1010	Horst Klaes GmbH & Co. KG
1315	HP3 Software Inc.
2413	Hydro Extrusion North America
1613	Hygrade Metal Components
3121	IGE Glass Technologies
3322	IGE/Forvet
2315	IGT Glass Hardware
2712	Indital US, Ltd.
3131	Integrated Automation Systems
417	Interglass
2804	Interlayer Solutions Inc.
2543	Intermac America
2843	IUPAT
2915	JEI Structural Engineering Design Calcu- lations
802	JLM Wholesale Inc.
1346	Joe's Refrigeration Inc. / CleanRoom Solutions
3007	Jordahl USA Inc.
1531	Jordon Glass Machinery
731	Joseph Machine Co.
713	Jura Films North America LLC
2431	Keraglass Industries S.r.l.
1516	Keystone Certifications Inc.
941	Kleiberit Adhesives USA Inc.

Booth	Exhibiting As
3010	KMR Research
709	Laminators Inc.
1202	Laser Products Industries
1213	Leading Edge & Deltarack USA
1931	Lisec America Inc.
2509	LiteSentry LLC
1115	Loeffler Supply LLC
2904	M3 Glass Technologies
3238	Machines and Wheels Inc.
1617	Mainstreet
2408	Mapes Panels LLC
2831	Mappi America Inc.
2441	Matodi
2512	McKeegan Equipment & Supply
1746	Mecal USA Inc.
905	Millet Glass Industry
714	Morse Architectural
1823	MyGlassTruck
2415	National Fenestration Rating Council
3625	National Glass Association (NGA)
1718	North American Contractor Certification
1114	Novagard
2215	NuCoat North America LLC
2613	Orchard Lock Distributors LLC
1003	Orgadata / LogiKal
2043	Oz Machine
511	Ozone India
2311	Palmer Products Corp.

Booth	Exhibiting As
2717	Paradigm
617	PDS IG Equipment LLC
1849	Perfect Score Technologies
1623	PH Tech Inc.
2421	PMC Software
1712	Podium
715	PrefSuite - Preference North America Inc. (PrefNA)
912	Press Metal North America
1544	Prodim USA
808	Profile Laminating - DMOC
2513	Protectapeel
1811	Q-railing - North America
3305	Quality Enclosures Inc.
2519	Quanex Building Products
923	Quattrolifts USA Ltd.
3439	Quick Fabrication
2715	RA Workshop Software
1448	Ray-Bar Engineering Corp.
2812	RiteScreen
2507	Rochester Specialty Products
1406	Rockwell Security Inc.
2103	SAF - Southern Aluminum Finishing Co.
2417	SAFTI FIRST Fire Rated Glazing Solutions
1731	Salem Fabrication Supplies
2815	Satinal USA Inc.
2402	Saw Trax Mfg. Co. Inc.
2209	Screenco Manufacturing Ltd.
1512	SEVASA

Booth	Exhibiting As	Booth	Exhibiting As
814	Sika Corp.	1455	Strainoptics
1307	Smart Logistics Inc.	913	Stretch Solutions LLC
1910	Smart-Builder Glass Software	2503	Strybuc Industries
2321	Smartlift US Inc.	3115	Sullivan Hardware
721	Soft Tech Group	2204	SWM Intl.
2109	Softsolution North America Inc.	2307	Tag Railing Inc.
2406	Soudal	2513	TBP Converting Inc.
1444	Spider by BrandSafway	3017	Techno Rubber Industries
2711	Sprayway Inc.	1639	Tecnoglass Inc.
602	Spray-X LLC	2353	Tenon Beijing Equipment - TSS Sales & Service
712	Stainless Structurals America	2705	The WeaveX Co.
2615	Standard Bent Glass Corp.	1523	Tremco Construction Products Group

Booth	Exhibiting As
24	Trojan Architecural Coaters
1044	Trucent
613	TRUE Contractor Software
703	Tsubaki KabelSchlepp
2115	Ultrafab Inc.
2017	Unelko Corp Invisible Shield
423	Unruh Fab Inc.
1247	US Centrifuge
3006	USGlass Magazine
1021	Veka Inc.
2908	Vetrilite LLC
707	Vicone High Performance Rubber



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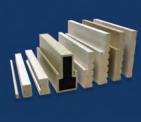


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Exhibitor List

Booth	Exhibiting As	
1841	Viprotron North America	
1231	Vision Hardware Inc.	
1719	Vitro Architectural Glass	
2606	Wagner	
2203	Walker Glass Company Ltd.	
1353	Weldco Sales Inc.	
3625	Window + Door magazine	
631	Winlet	
1631	Winpro	
2421	Winsys	
1009	Wood's Powr-Grip Co. Inc.	
2309	Wrisco Industries Inc.	
1948	Xinglass America LLC	

ITA PAVILION

2923	Italian Trade Agency (ITA)
1547	Adelio Lattuada S.r.l.
2823	ADI SRL / IGP Inc.
3124	Bovone Diamond Tools S.r.l.
2723	Diamant SAS
2837	Faraone
3023	Horizon SRLS
3122	Italcarrelli SpA
2937	Mazzaroppi Engineering S.r.l.
1445	Oemme S.p.A.
3030	Optima S.r.l.
2931	Rollmac
2731	Schiatti Angelo S.r.l.
2822	Schiavo Glass Machinery SGM S.r.l.
3025	Skill Glass
3031	Triulzi Cesare Special Equipments SR

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All	Glass (Suqian) Limited.
An	hui Yinrui Intelligent Technology Co.,Ltd.
	ijing Hanjiang Automatic Glass Machine uipments Co., Ltd.
Be	ijing Jeffoptics Co.,Ltd.
Be	ijing Northglass Technologies Co., Ltd
Ch	iina Liaoning North Glass Machine Co., d.
Fa	ngding Technology Co., Ltd
Fo	shan Mingstar Intelligent Materials Co., d.
Go	oldstar Hardware Co., Ltd.
Gu	angdong Enkong Machinery Co., Ltd.
Gu	ilin Champion Union Diamond Co., Ltd.
На	aining Lijialong Pile Weather Strip Co. Ltd.
На	angzhou jinglass Machinery Co., Ltd.
	ardwood Door Control Tech (Ningbo) , Ltd.
Hu	iainan Rongshunxiang Glass Co., Ltd.
Jia	angyin Haida Rubber And Plastic Co., Ltd.
Jir	nan Weili Machine Co., Ltd.
Jir	nan Wondec Machinery CO., Ltd.
Jir	nzhou Fortune Spring Glass Co., Ltd.
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Qiı	ngdao Kingdom Glass Co., Ltd.

Qingdao Laurel Glass Technology Co.,Ltd

Rider Glass Co., Ltd.

Rizhao Huaye Glass Co., Ltd.

SGU Technologies
Shandong Paneu Glass Co., Ltd.
Shandong Taishan Huayue Glass Co., Ltd.
Shandong Jinjing Science & Technology Stock Co., Ltd.
Shanghai Refine Machinery Co., Ltd.
Shanghai Zhihe Industrial Co., Ltd.
Shixing Glass (Fujian) Co., Ltd.
Southtech (Guangdong) Glass Technology Co., Ltd.
Sun Design Hardware Factory Ltd.
Tengzhou Fenghua Glass Co., Ltd.
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Tengzhou TechHi Glass Co., Ltd.
Unex Building Complex Co., Ltd.
Wuning Honghui New Material Co., Ltd.
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This year **RENOLIT** celebrates our 75th anniversary! We look back with pride on a company history full of great milestones and successes. Above all, it is the people at **RENOLIT** who have driven our company to become what it is today. Therefore, we would like to thank all of our employees as well as our loyal customers and our partners throughout the world for the trust and cooperation. Celebrate with us and learn more about our history starting as a two man business to becoming one of the world's market leaders.

We welcome you take a journey with us at 75yearsof.renolit.com Contact us at exterioramerica@renolit.com See us at GlassBuild, booth 1505.



ON THE MOVE

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Weather Shield Windows and Doors named Robert (Bob) Foote president of the company

as part of a planned succession transition.

Foote will lead the organization's dayto-day operations and report to Weather Shield's owners, Mark and Kevin Schield, who will continue to be engaged in the business leading strategic planning and vision setting.



named CEO of Ultrafab. DeMello joined Ultrafab as a product manager in 1996, became vice president of sales,

Alan DeMello has been

marketing and product development in 1999, and has been president since 2009. He's also served on the board of directors since 2009. Tom Horton, who previously held the joint titles of CEO and chairman. will now serve as Ultrafab's board chairman.

Masonite International Corp. appointed Richard Leland as vice president, finance and treasurer. In this role, Leland will be responsible for all treasury and investor relations activities, as well as the corporate business planning and analysis function.

Quanex Building Products has invested in its North American marketing team. Earlier this year, Cristina Murray was hired as the new North American director of marketing. Carrie Scheetz was promoted to marketing manager, with a focus on the NAF business. Kelly Woodward joins the team as the new marketing manager, supporting NACC as well as internal

communication efforts. Marcus Barnhart was promoted to marketing creative services project manager with a role focused on driving creative strategy throughout the organization, and Jocelyn Faenza joins the team as the new digital marketing manager.



Laura Weil has been nominated for the position of 2nd vice-president on Fenestration Canada's executive committee. In

Renee Chesler has joined

the AmesburyTruth

executive team as vice

national accounts. In this

new role. Chesler will lead

president of sales -

board of directors, Weil has been chair of the events committee for the past several years.



Chesler

the company's initiatives to enhance its relationships and strategic partnerships with key national customers, as well as oversee the strategic account directorship within the organization.



Markowski



Dangelo

FeneTech named John *Markowski* to the newly created position of director of implementation services, where he will be responsible for the collective operations of the Applications Groups and the Customer Care Group. FeneTech also promoted Alex Dangelo to group manager of the applications team.



Nicolici



Harkema

Florence Nicolici, **Fenestration Glazing** and Industry Alliance

meetings manager, retired in May after 36 years of service. Nicolici began her tenure at what was then the American Architectural Manufacturers Association in 1985. when she started her role

addition to being part of the as technical assistant. Florica Vlad, FGIA meetings and events planner, became the meetings manager upon Nicolici's retirement.

> FGIA also promoted Kathy Krafka Harkema from U.S. codes and regulatory affairs manager to the newly created position of U.S. technical operations director as of Aug. 1. Krafka Harkema will retain her work in the regulatory monitoring and reporting realm but cede some codes work to International Code Council and Florida code consultant, Jen Hatfield. Also, Rich Rinka, FGIA's technical manager, fenestration standards and U.S. industry affairs, will now focus predominantly on technical document development and industry organization collaboration.



Quinn

PGT Innovations named Ryan S. Quinn as the new in-house general counsel. He will identify and manage legal issues for all departments, as well as

oversee corporate governance and business policy. In addition, Quinn will handle contract negotiations, advise the board of directors on legal matters and assist with compliance reporting and public policy.



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Remodeling Strength Continues // Gains Will Accelerate, Remain Elevated Through Mid-year 2022

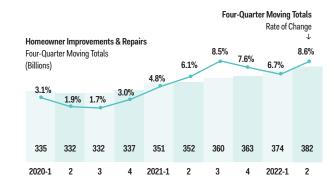
Market Data

Annual gains in homeowner improvement and maintenance spending are set to accelerate in the second half of the year and remain elevated through mid-year 2022, according to the Leading Indicator of Remodeling Activity by the Remodeling Futures Program at the Joint Center for Housing Studies of Harvard University. The LIRA projects annual growth in home renovation and repair expenditures will reach 8.6 percent by the second quarter of next year.

Leading Indicator of Remodeling Activity – Second Quarter 2021

OUTSIDE

VIEW



Single-family starts



increase in overall housing starts in May. Source: U.S. Department of Housing and Urban Development and the U.S. Census Bureau

Residential units shipped



shipped compared to 2019 levels. Source: Window & Door Manufacturers Association's 2021 U.S. Market Study for Window & Patio Door, Architectural and Entry Doors

more total residential units were

New home sales



decline in new home sales in May, with prices jumping 18 percent on a year-over-year basis. Source: U.S. Department of Housing and Urban Development and the U.S. Census Bureau



June 2021 window and door stock index increase

3.1%

June 2021 S&P 500 increase

Construction data from the Commerce Department reported a 3.6 percent increase in housing starts to a seasonally adjusted annual rate of 1.572 million units, which was a lower level of growth than economists were expecting, resulting in underperformance for the window and door stock index. While starts are still 50.3 percent higher than last year, high material prices are still making their way through the system and acting as a governor on the production levels. Still, record low inventory will support high levels of residential repair & remodel activity while the new construction market continues to catch up to demand and supply shocks COVID-19 caused. Source: Lincoln Financial

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