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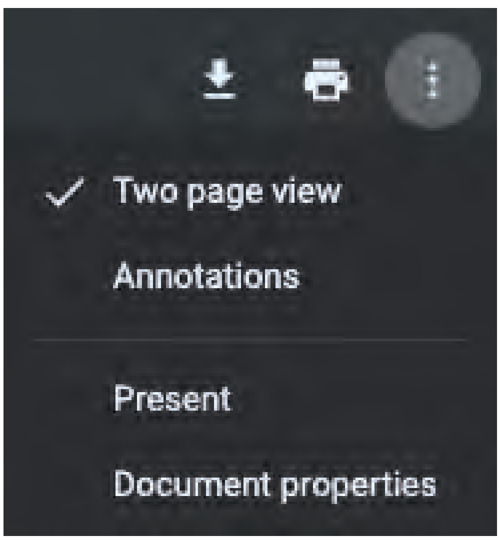

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WINDOW+ DOOR

2025

THE FORECAST ISSUE

THE INDUSTRY MOVES FORWARD WITH PURPOSE AND OPTIMISM FOR 2025, ACCORDING TO THE ANNUAL INDUSTRY PULSE REPORT AND 2025 FORECAST


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A Community Mindset

How one company prioritizes philanthropy and encourages its employees to do the same

BY LAURIE COWIN

A new year causes me to dually reflect on the past and look ahead to the future. Although I love reminiscing about memories and experiences, I also firmly believe the experiences and lessons of the past help us create a brighter future if we're willing to learn from them.

When I heard of former U.S. President Jimmy Carter's passing, I immediately thought of his tireless work to help others even through his final years. Carter is a prime example of a person in a position of power—in this case, a past president—to create a brighter future for those in need.

In the past couple of years, I've noticed industry companies prioritizing community stewardship to better the areas in which they work and live—a trend that this year's Industry Pulse Survey reflects. Last fall, I had the chance to talk with Eliza Chlebek, Andersen Corp.'s vice president of communications and community. Andersen participated in last fall's 38th Jimmy and Rosalynn Carter Work Project in East St. Paul, Minnesota, which coincided with Carter's 100th birthday.

Chlebek shares some of the project's details and, at a larger level, why community philanthropy is such a big part of Andersen's culture at every level of the company. Chlebek estimates Andersen has supported Habitat for about 30 years, with much work being done in the Twin Cities, where a strong Habitat affiliate is based.

Andersen also engages at the international level with Habitat for Humanity International and supports its Advancing Black Homeownership initiative, which aims to break down the barriers to housing for black families who, historically, have had more obstacles to accessing affordable housing.

Andersen was one of the lead sponsors for the Jimmy and Rosalynn Carter Work Project and represented 150 of the 4,000 volunteers on-site throughout the week. In addition, the company donated more than 600 windows for 30 total housing units, including single-family homes, duplexes, triplexes and fourplexes, all of which are affordable housing.

"We had a team out who actually works in our 100 Series manufacturing plant in Bayport," Chlebek remembers. "They got to install some of the windows they make, which was a special opportunity for them. A lot of our leaders were out. It was a great opportunity to invest in affordable housing for our community and give back through philanthropy and volunteerism, and raise awareness for these types of affordable housing developments and the need for more housing stock and variety."

Chlebek says Andersen's philanthropic mindset has been part of the company since its founding and is "integral to our culture." "We create space for our people to engage in volunteerism throughout the year, from meal packing and volunteering at food banks to birthday bags that we give out at homeless shelters and a variety of activities that enable our people to give back. ■

WINDOW+DOOR

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News

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Assa Abloy Acquires Premier Steel Doors and Frames

Assa Abloy acquired Premier Steel Doors and Frames, a U.S. manufacturer of hollow metal doors and frames, metal building door systems, and aluminum windows.

Premier was founded in 1964 and has some 90 employees. The main office and factory are located in Monroe, Louisiana.

Boise Cascade Purchases Florida Door Shop

Boise Cascade Company purchased the assets of the Parksite door shop in Lakeland, Florida. Parksite currently has 22 locations, and this transaction involves the Florida door shop only. The remaining Parksite locations and products are not part of this agreement and will continue to be owned and operated by Parksite.

The Parksite Florida door shop offers a selection of premium entry and decorative glass doors featuring Therma-Tru PrismaGuard premium finish options. Boise Cascade will continue operations there and plans to expand the offerings to include Simpson and interior flush and molded doors.

Kodiak Building Products Acquires Liberty Doors & Windows

Building materials distributor Kodiak Building Partners acquired Colorado-based Liberty Doors & Windows. Terms of the transaction were not disclosed. Kodiak said that Liberty Doors & Windows will retain its brand and local identity, with the current management team overseeing daily operations.

Liberty Doors & Windows provides doors, windows and millwork across southern Colorado and the Mountain region. It grew under the leadership of Ted Willoughby and Tim Gentrey, eventually relocating to a 45,000-square-foot facility in Colorado Springs.

Wayne Door Acquires Miceli Glass

Wayne Door acquired Miceli Glass. As part of this acquisition, Wayne Door will expand its product offerings to include an array of glass services, from custom installations to repairs for both residential and commercial clients.

Miceli Glass, which has served Ohio for decades, specializes in custom glasswork, storefront installations, and glass repair for residential and commercial properties. The team will join Wayne Door, which the company says will allow for an easy transition and continuity of service for Miceli customers. Wayne Door will also continue to operate Miceli Glass' current locations.

Western Window Systems Unveils New Design Studio

Western Window Systems, part of the Miter Brands portfolio, unveiled its new design studio in San Diego, California.

The design studio will serve as a collaborative hub for architects at any stage of their projects. With access to the latest tools, product samples and knowledgeable staff, architects will have everything they need to bring a project to life, whether a high-end custom home or a multifamily project.

The new space features many Western Window Systems' products, including popular options such as the Classic Series 300 minimalist multi-slide door, Classic Series 600 multi-slide pocket door and the new Series 8000 Vantage line.

FlexScreen Partners with Great Day Improvements and Thompson Creek Windows

FlexScreen announced a new licensing agreement with Great Day Improvements, a home remodeling company in the U.S. Under the licensing agreement, Great Day Improvements will have the ability to produce FlexScreen for all applicable window orders across its family of brands, which includes brands like Apex Energy Solutions, Leafguard, Champion Windows and more.

FlexScreen also announced a licensing partnership with Thompson Creek Window Company. This partnership ensures Thompson Creek's customers will benefit from enhanced functionality and a streamlined appearance for windows.

People

National Glass Association

Harris

president and CEO *Nicole Harris* is retiring on June 21, 2025. Harris has been with the NGA for 35 years, 11 of those years as president and CEO. One of Harris' major legacy milestones with the NGA is the NGA-GANA combination

of 2018, resulting in a new, and more impactful trade association for the glass and glazing industry.

"I am very proud of what we've accomplished together. The NGA is at its strongest in its 76-year history and executing daily on its purpose, vision, mission and strategic goals at the highest levels of energy and excellence," says Harris. "By every measure, the National Glass Association is ready for whatever comes next."


Videtto

Pella Corp. appointed *Emily Videtto* as president and chief operating officer, reporting to CEO Tim Yaggi. While Videtto will continue to oversee sales and marketing, general management, and innovation, her expanded responsibilities will include manufacturing, engineering and supply chain.

Deceuninck North America appointed *Terrence Ceulemans* to serve as its new president. Ceulemans replaces Joren Knockaert, outgoing president, who is transitioning to a global role as chief corporate planning officer for the Deceuninck Group in Belgium. Ceulemans has served for decades in operational and strategic roles, having spent the last 30 years at 3M Company.


Koenis

Rehau appointed *Robert Koenis* as executive vice president of window solutions for the North American region. Reporting directly to Carsten Heuer, CEO of Rehau Window Solutions, Koenis will oversee the business division's strategic direction and spearhead growth initiatives for the company's window, door and hardware product lines.

Phantom Screens appointed *Andreas Kaufmann* as its new chief marketing officer. Kaufmann joins Phantom's senior leadership team and will oversee its marketing and product management teams, including the company's Lower Mainland distributorship marketing initiatives and marketing of its subsidiary, Rolltec Rolling Systems Ltd.

Gentry

Quaker Window Products Co. announced that *Charles "Chip" Gentry* joined the company as chief legal officer. Gentry will oversee the company's legal department, working closely with General Counsel Marty Miller. Together, they will drive local, regional and national strategies to support Quaker's product development and market expansion efforts.

Wengerd

ProVia announced two key promotions within the company's corporate leadership team. *Phil Wengerd* stepped into the role of vice president of innovation and strategy and will lead ProVia's newly created innovation team. This team will be responsible for identifying, developing and launching new products and services, along with building and growing innovation capabilities.

Calhoun

Jake Calhoun was promoted to vice president of marketing and will lead the product management and creative and design teams along with product marketing, content development, social media, advertising, public relations and oversight of the ProVia brand and positioning in the marketplace. ■

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Product testing identifies any gaps in performance and allows manufacturers to discover the "why" and look for solutions for better formulations.

Product Testing: Where the Lab Meets Real Life

Real-world testing for real-world reliability

BY JON HAUBERG

In today's modern construction environment, specifiers face a diverse and challenging checklist when selecting building materials that meet the demands of performance and aesthetics.

From ensuring safety and compliance with evolving building codes to verifying performance and enduring visual appeal, each consideration plays a crucial role. And as expectations rise, so does the need to assess how each product will influence the thermal performance and structural integrity of the building.

At the same time, the fast-paced construction industry places pressure on manufacturers to accelerate time to market for new products, helping them secure a competitive advantage in the market.

Consider the downside: Nearly 30,000 new products are introduced across industries each year, and 95% of them fail, according to an article published by Forbes. While new products often require weeks, months or even years of researching and planning, those initiatives are only one part of the overall equation for product development and commercialization. Once a prototype is in place, real-world product testing becomes essential, allowing manufacturers to gather critical insights on how the product will perform in a real-life scenario.

It is not just about meeting the regulations, either. It means delivering products that specifiers, builders, owners and occupants can trust. Through rigorous product testing, companies can identify and address potential defects or challenges before the product reaches the consumer, ensuring safety and satisfaction.

When it comes to window systems for both residential and commercial construction, real-world testing ensures compliance with the most stringent energy codes and sets the standard for performance, safety and reliability.

Field testing versus lab testing

Product testing for windows and doors generally falls into two main categories: lab testing (to AAMA standards) and real-world exposure testing. Lab testing focuses on evaluating performance metrics such as air and water leakage, impact resistance, structural integrity and other critical attributes. These tests are conducted in a highly controlled environment that regulates factors like light, temperature, humidity and other variables. These processes ensure consistent conditions but may

not fully replicate the uncertainty of outdoor environments.

This is where real-world testing comes in.

Using this method of testing exposes the window and door systems to outdoor environments, including extreme heat, cold, UV exposure and other weather-related factors.

This is why Deceuninck North America utilizes both testing methods for many of its window and door systems. The organization conducts AAMA testing on-site in its testing lab. In addition, compound samples are sent to a third party for cell class testing, which assesses and categorizes a PVC material's properties such as impact resistance, tensile strength, stiffness, density and heat tolerance. These tests are conducted to ensure a material's durability and performance in a range of potential environments.

After this initial testing, the extrusions undergo additional UV and weatherometer testing in a dry chamber for an extended period; many materials are tested for more than 10,000 hours in accelerated testing chambers. This simulates the effects of sunlight and heat to evaluate the extrusion's durability and long-term performance. Deceuninck extrusions also go through wet and dry cycles in a Q-Lab Ultraviolet machine for additional accelerated weather testing that simulates the effects of sunlight, rain and dew on materials. Additional in-lab tests evaluate color stability, gloss and other aesthetic qualities, while also comparing extrusions against competitor products.

Finally, in-lab testing includes putting extrusions in temperature chambers that vary between hot and cold swings to measure thermal expansion and contraction. The material compounds are also tested for processibility to ensure that they can be extruded efficiently for consistent production and eventual performance once installed as a final window system. Impact testing is also conducted on the extrusions at high and low temperatures, which includes testing a fully assembled window to determine its capacity to resist projectiles—such as 4-inch by 4-inch lumber—launched at hurricane-force speeds.

The true test: Arizona test huts

Darker color window frames and extrusions are becoming increasingly popular, yet they bring challenges in fade resistance and managing expansion and contraction. Addressing these considerations early in the innovation and manufacturing process is crucial to aesthetic and structural longevity. Darker colors tend to show more dirt, but how does the product hold up in extreme weather conditions such as in Arizona—one of the driest, hottest climates in the U.S.?

To further understand this and as an added layer to lab testing, Deceuninck North America constructed a testing hut that resembles a real home north of Phoenix, Arizona, more than 30 years ago. This structure is equipped with full window assemblies.

Fast forward to the 2020s, and a second hut was constructed to put an all-new product line, Eclipse, to the test. Eclipse is a black solid color PVC extrusion that combines aesthetics and performance developed in response to increasing market demand for dark-colored profiles. The slightly larger hut in Arizona is outfitted with Eclipse windows and patio doors. Much like its sister hut, this hut replicates a real home with air conditioning kept at 72 degrees Fahrenheit, exterior wall insulation and a standard roofing system. It also includes windows with similar dark-colored laminates for comparison purposes.

Eclipse has delivered exceptional performance, standing up to the elements for two summers. Temperatures are measured via thermal couples that Deceuninck installs on the windows, and the window system has endured temperatures as high as 111 degrees. In these temperatures, the material itself reached a surface temperature of up to 145 degrees. In addition to Eclipse, Deceuninck's bronze profile was installed in a testing hut in early 2020, bearing five summers in a scorching, dry climate while satisfying its expected performance.

By putting the company's windows through this form of outdoor testing, scientists and researchers at Deceuninck can gather extensive data for a more holistic view of window and door system performance. This approach benefits the organization, customers and the industry as a whole.

The Deceuninck research and development team travels to Arizona to measure any potential color change or degradation in the installed systems. In addition, the team will occasionally remove units for closer examination with special instrumentation. This is needed because changes in the window systems have been negligible to date and have not been visible to the human eye upon initial inspection.

Raising the bar

Backing window and door systems with comprehensive lab and real-world product testing gives buyers, builders and owners peace of mind. However, it also informs future innovation for manufacturers looking to push the industry forward. Product testing identifies any gaps in performance and allows manufacturers to discover the "why" and look for solutions for better formulations, tooling and manufacturing processes.

With a combination of cutting-edge lab testing and rigorous real-world scenarios for further data gathering and analysis, organizations remain committed to ensuring that products exceed industry standards. ■

Jon Hauberg is director of product research and development at Deceuninck North America. Hauberg has been with the organization for 35 years and has been a driving force behind research, new product development, innovation, product testing, and much more.

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Vinyl and Glass Recycling Is a Part of Sustainability

Recent regulatory oversight of material transparency underlines a need for raw material recycling

BY NORAH DICK

In recent years, regulatory bodies have shown more interest in building material sustainability, material transparency and now, recyclability. Window and door manufacturers and organizations are working to create guidelines that those across the industry can use to comply with increasingly stringent requirements.

Improving material transparency, recycling

The current version of Leadership in Energy and Environmental Design, or LEED—the sustainability certification program created by the United States Green Building Council—requires Environmental Product Declarations for building materials. These EPDs, sometimes referred to as a "nutrition label" for products, provide a means for manufacturers to measure the environmental impact of their manufactured product in terms of carbon emissions through a third-party verified Life Cycle Assessment, or LCA. This report of the LCA's measurement is the EPD.

The stakes are increasingly high to create EPDs, says Kevin Seiling, vice president of engineering new business development at Veka. Speaking to Window + Door's Editor Laurie Cowin at GlassBuild, Seiling says that while EPDs are required by LEED in the U.S., the International Green Construction Code also increasingly uses LEED standards, and state and city governments in the U.S. are rolling out their

"It's in everyone's best interest to consider EPDs for their products."

—Kevin Seiling, Veka

own requirements for transparency. As a result, "it's in everyone's best interest to consider EPDs for their products," he says.

Post-consumer recycled vinyl can improve EPDs

Another increasingly important part of sustainability is recycling. Seiling explains that LEED incentivizes manufacturing companies to use more recycled content as it improves carbon footprint. "If you're in the LEED program or you have an EPD, and you add post-consumer recycled content, in LEED version 5 you get credit for it," he says. He further notes that LCAs and EPDs receive credit for post-consumer recycling in the form of reduced material usage.

However, the U.S. still produces very little post-consumer recycled vinyl material. Seiling wrote a grant requesting that the Vinyl Institute fund a market study on using vinyl window material that could potentially be recycled. "The results are very encouraging because hundreds of millions of pounds of vinyl windows are coming out of openings," he says.

Recyclers must also consider the age of the window, says Seiling, because only windows made after 1997 are sure to be lead-free. The operator type of window also factors into determining the amount of material available.

The coalition plans to create a pilot recycling program for post-consumer vinyl material based in the Midwest.

What to know about glass recycling

For those fenestration manufacturers that fabricate glass, there's a different set of considerations for recycling. Demand for recycled glass material is high, giving scrap glass generators an opportunity to find a better environmental and economic alternative to discarding glass in a landfill.

A wide variety of architectural soda-lime glass products can be recycled. Annealed, tempered and low-emissivity glass can be recycled with virtually no restrictions. Technology has evolved so that historically harder-to-recycle glass products—such as laminated glass, back-painted glass, mixed tints and mirror—have also become routinely recycled.

The glass recycling supply chain begins with a glass fabricator shipping its glass scrap to a recycling facility. The recycler mechanically cleans, crushes and screens the glass to create a uniform material. This material is generally sold in bulk to an end user or manufacturer where it is melted for use in a derivative product, such as glass containers, road grade, fiberglass, reflective highway paint, landscaping products, countertops and coastal restoration materials.

Occasionally, a glass recycler grinds the material to a fine powder to sell for use as a filler or an abrasive. Quality specifications and the value of the recycled glass scrap can vary based on the market, end customers and fabricators.

Finding a recycler, and understanding contaminants

The first step in building a successful recycling program is finding and communicating with a local, knowledgeable glass recycling company. Due to the weight of glass, the proximity between the glass fabricator, the recycler and the end user is important. Glass fabricators can establish a working relationship with the nearest glass recycling company, which can help to lower freight costs and drive the highest value for the recycled material.

Most glass scrap generated by an architectural glass fabricator can be recycled if attention is given to avoiding cross-contamination. Before shipment, fabricators can work with their recycler to define the best way to segregate their scrap to ensure positive value and acceptability.

Glass recyclers can process most contaminants, such as small amounts of metal, aluminum or plastic frames; plastic films; temporary protective film; refractory or rocks; caulk; rubber gaskets; and more. Lead-based paints, desiccants, and hazardous or heavy metal materials are potentially unacceptable contaminants. Mixed-glass compositions like borosilicate and glass ceramic must be segregated out from soda lime glass. It is important to communicate with the glass recycler to understand what types of glass and what levels of contamination are acceptable for recycling. ■

Listen to the full episode of WindowCast with Kevin Seiling.

See NGA's recycling and sustainability resources.

See the latest Product Category Rule for Fenestration Assemblies.

GlassBuild Goes Big in Dallas

9,400+ gather for innovation, solutions, learning and more

BY NORAH DICK

The National Glass Association welcomed more than 9,400 registrants to GlassBuild America, held from Sept. 30 to Oct. 2, 2024, the largest edition in 16 years. Attendees experienced a massive show floor at the Kay Bailey Hutchison Convention Center in Dallas, where 535 exhibitors showcased their products and services, including 115 first-time exhibitors.

"We anticipated an event in Dallas that put renewed emphasis on the innovation and advancements of the glass, glazing and fenestration industries, as well as provided fresh solutions for the challenges at hand, particularly labor, and this year's show more than delivered," says Nicole Harris, NGA president and CEO. "Exhibitors and attendees alike came ready for the business-building and knowledge-gathering they rely on at GlassBuild, and it showed throughout the event."

NGA focuses on helping the industry build a next-gen workforce

NGA has made workforce development a primary initiative, and that commitment was demonstrated in several ways at this year's GlassBuild.

STEM HIGH-SCHOOL STUDENTS LEARN ABOUT GLASS AND FENESTRATION

One of the major labor issues remains a lack of next-generation workers. Industry workers are retiring, with not enough people to replace them. NGA

GLASSBUILD AT A GLANCE

- 535 exhibiting companies
- 200,000 net square feet
- 9,400+ participants
- 115 new exhibiting companies
- Participants from 49 states, as well as Canada, Mexico and 57 other countries

is working to bridge that gap head on. As part of that initiative, this year's show welcomed 50 students from local Plano ISD Academy High School to learn about the glass and fenestration industries.

Students toured the show floor, learning about the industry and supply chain directly from industry professionals, accompanied by Jenni Chase, vice president of workforce development for NGA. "During a conversation with two high-school-age girls, they asked me what curtain wall means," she says. "I was able to answer their questions and show them examples on the show floor. The opportunity to engage with this age group in a setting that shows them first-hand the career opportunities available made such an impact on us and the students."

MAIN STAGE SPEAKERS EMPHASIZE IMPORTANCE OF MENTORSHIP, SAFETY AND COLLABORATION

Main Stage speakers also provided insights into how to keep next-generation talent, emphasizing the importance of mentorship and training.

In the Main Stage session "Building the World We Want to See: Building the Next Generation" Emily Pilloton-Lam, founder and executive director of the nonprofit Girls Garage, underlined the importance of tapping into the talents of young people, and helping them develop their skills. She spoke about her experience teaching high school in North Carolina, where she created a one-year program that taught students to construct community projects, including a farmers' market in an agricultural town. Students fully designed and researched the project and presented ideas to the town. "This project came together like a homework assignment," says Pilloton-Lam. "They were out every day, building the project together. It was incredible, everyone wanted to see this come to life."

Nicole Calhoun, a leadership consultant, shared similar insights during the third annual Women in Glass + Fenestration breakfast. The session is designed to offer insights and strategies for encouraging more women to enter, and stay, in the glass and fenestration industries. Calhoun says that mentorship is a key part of that and is beneficial for both employer and employee. "Mentorship involves more than just giving advice," says Calhoun. "It requires fostering support and creating a constructive relationship. Connect with different people that can fill the role."

If the industry wants to recruit a diverse range of people and women, then the demographics of mentors also need to reflect that, says Calhoun. "Develop and promote inclusive mentorship programs," she says. To attract and retain women employees, "focus on specific things that impact women."

She also recommends providing development opportunities for employees. "Companies can offer resources such as training and leadership development programs for women, as well as career coaching."

Beyond mentorship, it's also important to ensure that work is a safe place, physically and mentally. Addressing the importance of recognizing how mental health issues and addiction affect employees, Dave Argus of Karas & Karas Glass and Cal Beyer of SAFE Workplaces discussed recovery-safe workplaces at the GlassBuild Main Stage.

Podcast studio debuts

New to this year's show floor was the GlassBuild Podcast Studio, where Editor Laurie Cowin recorded six episodes of Window Cast with industry members. Listen to conversations with John Burns Research and Consulting, Miter Brands, ODL Inc., Quanex, Veka and Vinylmax.

The session was joined by employees of Karas & Karas, Jared and Devon Hesek, who shared their successful experience with the company's program for helping people recover from addiction.

"These guys gave me a chance to do something with my life. I'm grateful for that every day. Programs like theirs break the stigma that if you make a couple of mistakes in your life, then you're done," Jared says. "They came to my celebrations, treated me with respect and gave me no special treatment."

Forecast sees "great opportunity" for residential

Chris Beard, director of building products research, John Burns Research and Consulting, took the Main Stage at GlassBuild America to discuss economic trends for the commercial and residential markets.

Beard sees great opportunity for the residential side, including normalizing inflation and appreciation of home sales. He notes an immigration surge contributes to employment growth and household formation, making it even more important for the industry to eat into the housing undersupply, which JBREC estimates is about 1.5 million units. Remodeling, meanwhile, is in a stage of pent-up demand. Many homeowners are deferring big-ticket remodeling projects that require financing until financing becomes cheaper. Consumer sentiment, though rising, remains low compared to 2015-2019. "Growth won't be great until sentiment improves," he predicts.

Housing affordability is a notable headwind and what Beard describes as the dark cloud looming over the industry. A reported 67% of production designers lower a product's finish quality to reduce costs in a house. Growing volumes and declining revenue also reflect the industry solving for affordability. Ultimately, Beard says, "We may have reached the bottom in residential fenestration. We're optimistic going into next year."

See p. 40 for the full 2025 forecast. ■

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A Balancing

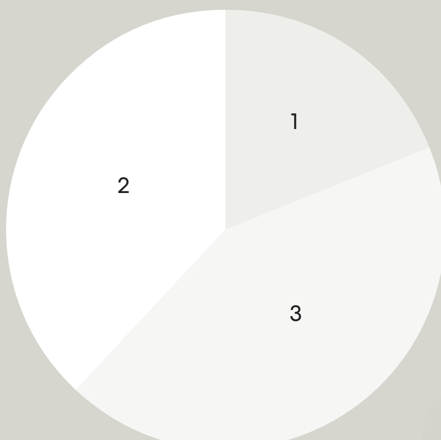
Despite a lower-than-projected 2024 for many, the industry is hopeful going into a new year, according to the annual Industry Pulse Report

BY LAURIE COWIN

Editor's Note: All charts and data points are sourced from Window + Door's Industry Pulse Survey unless otherwise noted.

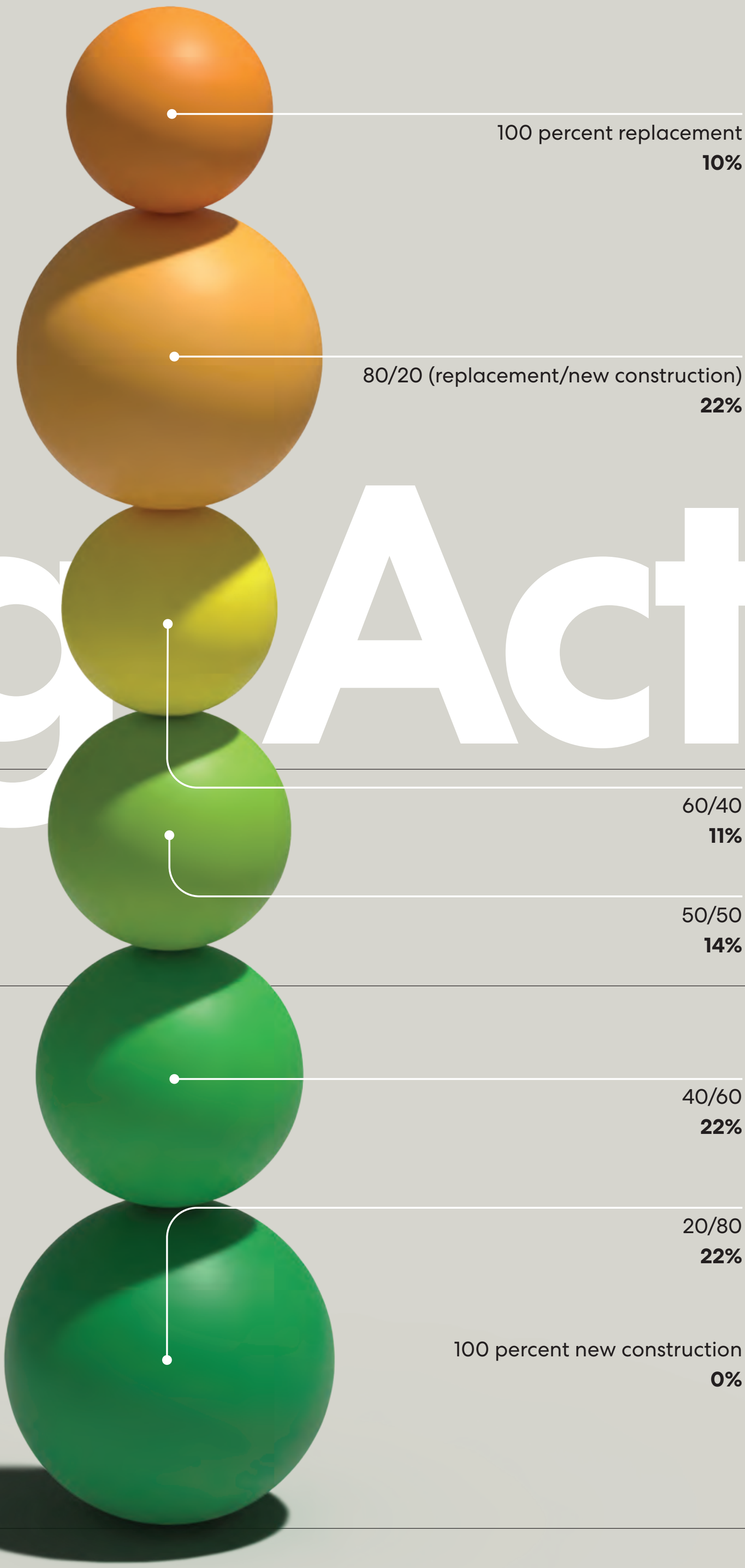
Meet the participants

THIS YEAR'S SURVEY RESPONDENTS



1. Supplier **19%**
2. Manufacturer **43%**
3. Dealer, distributor or installer **38%**

HOW MUCH OF YOUR BUSINESS WAS REPLACEMENT VERSUS NEW CONSTRUCTION IN 2024?



gAct

Market fluctuation has dominated the fenestration industry so far this decade. The pandemic plunged the market into unknown low territory, followed shortly after by unsustainable demand. Supply chains couldn't keep up and sent companies scrambling to meet their orders. Now that supply chains have largely normalized, inflation and affordability loom heavily on the industry. Labor continues to be a struggle.

Despite the ups and downs, one thing has remained consistent: the industry's determination to persevere and adapt to the ever-changing tides.

"The fenestration industry has demonstrated remarkable adaptability, shifting focus toward efficiency, innovation, and sustainability," says Greg Koch, vice president of sales and marketing, Deceuninck North America. "Many companies have streamlined operations, optimized product portfolios, and strengthened customer relationships to weather economic uncertainties. Additionally, there's been a notable emphasis on technology adoption—such as advanced data analytics and digital tools—to drive efficiency and improve decision-making in a volatile environment."

This year's Industry Pulse survey and report, strengthened with information from the Window & Door Market Survey in partnership with John Burns Research and Consulting, is a barometer of where the industry is, where it's going, its challenges and its opportunities. Read on for a comprehensive look at sales, materials, products, labor, automation, production and more.

Sales + Markets

Commentary from this year's survey indicates a mixed bag of growth, both in 2024 and predicted for 2025. One respondent wrote they are "getting back to increasing activity. It may not happen fast enough to show up in 2025 sales, but 2026 should be a year of growth."

Affordability continues to hamper the market, reflected with low record numbers of first-time homebuyers and a rising median age for first-time buyers. Rising interest rates have added 9 years to the median homebuyer age; the first-time buyer age rose 5 years and the age of repeat buyers rose 6 years. Further, homebuying activity is at a 30-year low, according to the National Association of Realtors. There are also more homes for sale as of this writing than at any time in the past four years.

New homes are also becoming simpler in design in response to affordability. Chris Beard, vice president of building products research, John Burns Research and Consulting, shared in a December webinar that the firm estimates each new single-family home will have three fewer window units in 2027 (18) compared to 2015 (21).

Despite affordability concerns, household formation and an anticipated remodeling increase may balance it all out. U.S. home equity averages around $400,000 per owner household, fueling large remodeling growth. JBREC's most recent American Housing Survey reflects that around 10% of doors and windows remodeling is financed with home equity, which the firm views as a boon.

Plenty of external factors will influence the actual numbers, though. "It depends on interest rates, builder confidence and inflation," says one manufacturer. "If everything falls into place, we should see a 5-10% growth in 2025." Other external factors noted by survey respondents include consumer confidence, tariffs and other regulations and inflation.

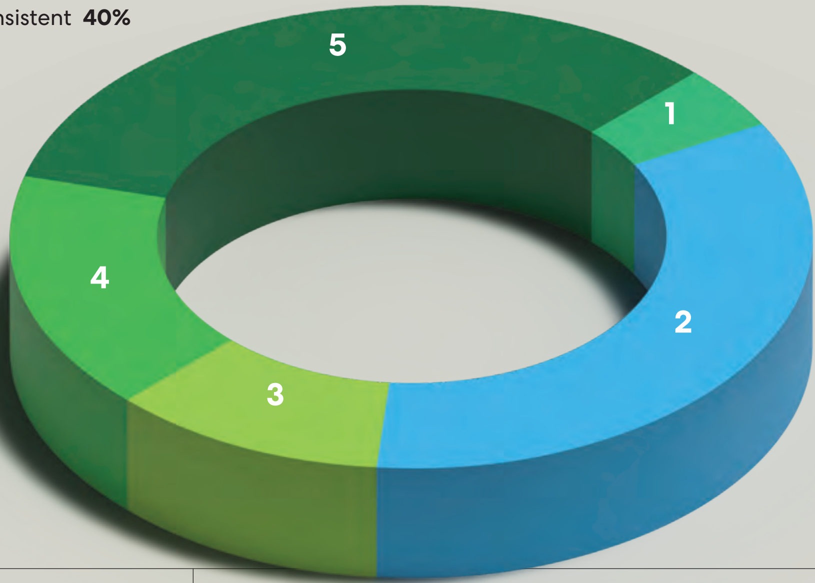
"Despite economic challenges, our sales performance in 2024 was solid, with growth driven by our focus on sustainable solutions and customer collaboration. We are planning for continued growth in 2025, especially as demand for energy-efficient and customizable products remains strong," says Koch. "However, the economy continues to pose challenges, including fluctuating material costs, stubbornly high mortgage interest rates and tighter budgets in construction and remodeling sectors. We're addressing these challenges by enhancing supply chain resilience, optimizing operations, and offering solutions that provide long-term value to our partners."

GED representatives shared that the company continues to achieve year-over-year growth despite industry challenges. "We remain optimistic and anticipate a rebound in 2025 and 2026 as market conditions evolve," says Joe Shaheen, vice president of sales, GED Integrated Solutions. That said, growth doesn't happen without evolving alongside market conditions. "Market shifts are prompting industry-wide introspection and a redoubled focus on core values, which for us means an increased commitment to customer-centric strategies," he continues.

"With a new administration coming in, we are looking for improvement in the economy," says Gary Hartman, vice president of sales and marketing, Chelsea Building Products, who anticipates 5 to 10% growth this year. "Demand is there; we just need interest rates and costs to come down to spur consumption."

HOW DID PROFIT MARGINS IN 2024 COMPARE TO THE PREVIOUS YEAR?

1. Increased greatly **4%**
2. Increased moderately **31%**
3. Decreased greatly **10%**
4. Decreased moderately **15%**
5. Stayed consistent **40%**



54%

of sales were lower than projected in 2024.

84%

expect sales to increase moderately or greatly this year.

50%

of companies reported YOY revenue increasing in 3Q24. †

63%

of companies expect to raise prices in 2025. †

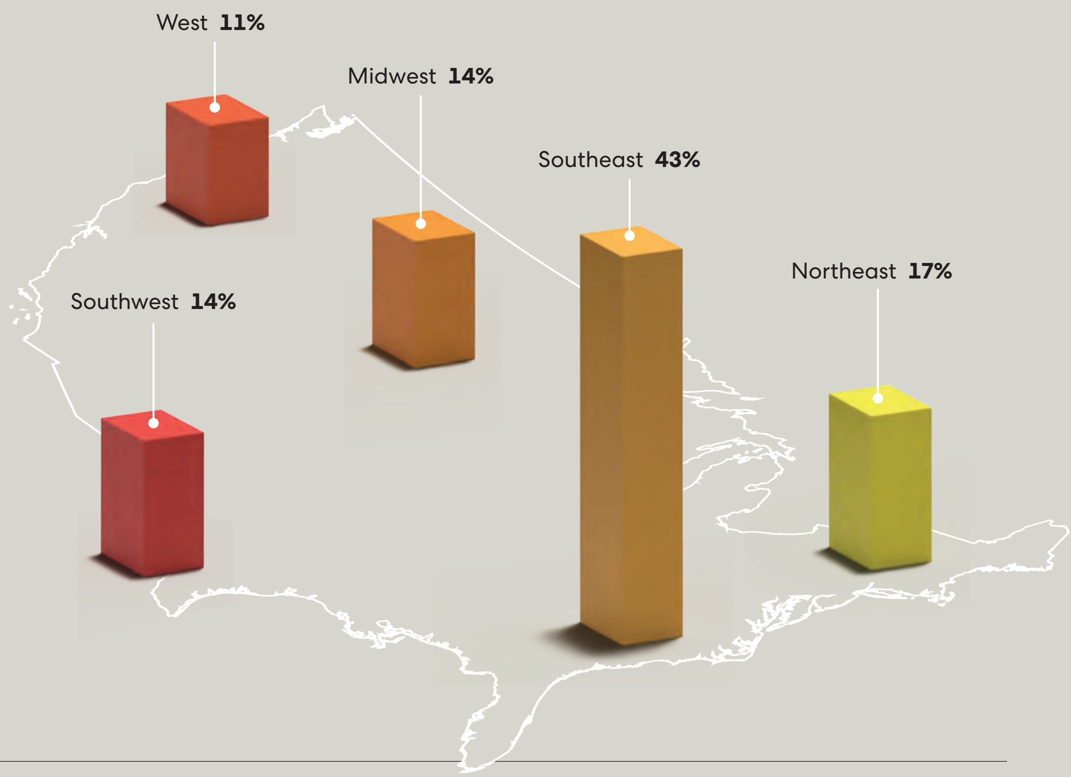
24%

of home sales were first-time homebuyers. This is a record low number, indicative of ongoing affordability challenges.

25%

of window and door companies report growing volume in 3Q24.

WHICH GEOGRAPHIC AREAS DO YOU EXPECT TO SEE THE MOST GROWTH IN 2025?



† Source: JBREC Window & Door Market Survey

Products

Whereas location, location, location is the name of the game in real estate, perhaps in building products it is demand, demand, demand. Companies had across-the-board responses as to what drove products demand—those that accentuate living spaces, impact windows, efficiency, aesthetics—but most came down to the same thing: consumer demand.

Windows have the ability to define a home and create a welcoming space. Christine Marvin, chief marketing and experience officer at Marvin, speaks to the power of the window: “Windows are the focal points of our homes, which leads to a unique opportunity for homeowners to get creative with the shapes and sizes of their outdoor view,” she says. “Unique window designs have the power to redefine a home’s architecture, blending aesthetics with functionality. The strategic placement of windows and doors shapes how spaces interact with light and the surrounding environment. Unique window designs not only redefine a home’s architecture but also impact how a space feels, blending aesthetics, functionality and emotional design to create environments that inspire comfort and foster a connection with the environment.”

Nicole Willits, product strategy and sustainability at Pella Corp., observes three emerging leaders in energy efficiency and smart home integration: climate control, advanced windows and doors, and streamlined window installation for maximum efficiency. For example, some new technology allows for tinting and obscuring glass and can allow for automatic and manual control, all of which helps maintain consistent temperatures and improve home efficiency.

Willits also notes several consumer preferences in window and door design and functionality.

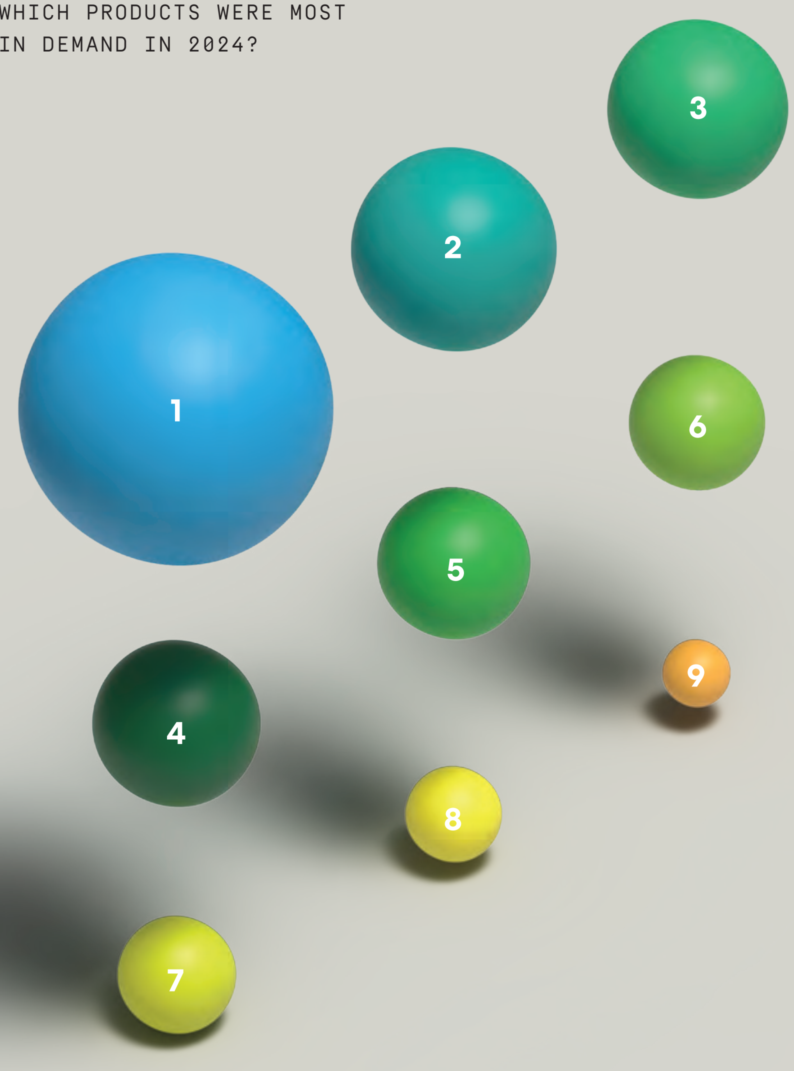
- **Warming up with soft tones and rich finishes:** The dominance of high-contrast color palettes is being lessened by warming blacks with hues of bronze, brown, and charcoal and softening whites with linen and eggshell. Homeowners are choosing richer interior stain options that emphasize woodgrains with natural finishes and darker provincial and walnut tones, continuing the emphasis on warmth through materials.
- **Prioritizing light:** When choosing windows and doors, homeowners are prioritizing light and access to outdoor areas. The largest view with the thinnest frame to create the most light-filled areas remains preferred for window and door sizes.
- **Reimagining window halls for modern living:** Creative takes on window halls, such as glass enclosures or window-encased bump-outs for offices and playrooms, highlight homeowners' growing desire to fully embrace and enjoy every part of their home.
- **Grilles as a canvas for architectural expression:** Grilles continue to be a way to highlight a home’s architectural style or a homeowner’s personality and have moved into more dynamic territory than years past. Simple patterns have given way to more traditional grid layouts, as well as those that are more personalized through decorative, dimensional or finish options.
- **Doors as bold personal statements:** From dramatic curves and arches to Dutch doors, doors can make a statement for a home. Many homeowners are selecting doors to showcase their personality, honor their home’s architectural style, or incorporate colors and glass designs that add a personal touch of joy to their spaces.

Performance and innovation also continually drive product improvement, particularly with Energy Star 7.0 and an emphasis on sustainability. The alphabet soup of sustainability-related terms includes EPDs, LCAs and PCRs (environmental product declarations, lifecycle analysis and product category rules) but are becoming more commonplace in the industry.

Although most survey respondents indicate they don’t plan to have EPDs, those that do consider them to be important. Benefits include marketing to the sustainability demand, appealing to architects and staying ahead of market requirements. “EPDs are critical because they improve transparency and level the playing field, allowing buyers to easily compare products’ environmental impact,” says Josh Jensen, YKK AP, president, residential.

Sustainability, energy and production efficiency, and product performance drive Deceuninck North America’s R&D efforts, says Koch. “We are advancing material science to enhance durability and recyclability, particularly in the development of circular economy solutions. We’re also investing in smart home integration and modular product designs. These efforts are complemented by investments in operational excellence, such as upgrading our manufacturing technology to enhance efficiency and reliability.”

WHICH PRODUCTS WERE MOST IN DEMAND IN 2024?



1. Vinyl windows **21%**
2. Energy Star-rated products **9%**
2. Multi-panel doors **9%**
3. Fiberglass windows **7%**
3. Aluminum windows **7%**
4. Fiberglass entry doors **6%**
5. Steel entry doors **5%**
5. Traditional patio doors **5%**
6. Wood windows **4%**
6. Hybrid/clad windows **4%**
6. Impact-resistant fenestration **4%**
7. Other **3%**
8. Interior doors **2%**
8. Pivot doors **2%**
8. Smart home technology **2%**
8. Security products **2%**
9. Composite entry doors **1%**
9. Wood entry doors **1%**
9. Automated windows/doors **1%**

55%

offered new products in 2024.

77%

plan to offer new products in 2025.

WHERE WILL YOU FOCUS PRODUCT DEVELOPMENT DOLLARS THIS YEAR?

Energy efficiency **32%**

Functionality **25%**

Aesthetics **19%**

Technology/smart functions **15%**

Other **8%**

WHAT TECHNOLOGIES ARE YOU CONSIDERING OR IMPLEMENTING TO ENHANCE ENERGY EFFICIENCY?

Gas fill **22%**

Triple pane **21%**

Fourth-surface low-E **7%**

Thermally broken aluminum **11%**

Skinny triples **9%**

None **9%**

Concealed hardware **5%**

Dynamic glass **4%**

Other **2%**

Aerogel **1%**

DO YOU HAVE EPDS FOR PRODUCTS?

Yes **11%**

No, we do not plan to **63%**

No, but we plan to **6%**

No, but we're thinking about it **20%**

Opportunities + Challenges

OPPORTUNITIES

- Increased sales
- Higher-end products
- Product development
- Coastal products
- Market expansion
- Stable economic environment
- New home builders
- Greater market share
- Structural performance
- Multifamily and senior housing
- Handyman services
- Security glazing
- Retail
- Lower interest rates
- Niche market growth

CHALLENGES

- Employee recruitment and retention
- Economy
- Raw material costs
- Codes
- Energy Star 7.0
- Training
- Personnel
- Pricing pressure
- Single-family growth
- Effectively entering new geographic areas
- Competitors
- Housing sales
- Tariffs
- Interest rates
- Inflation

Mergers & Acquisitions: Industry Perspectives
2024 was another busy year for mergers and acquisitions in the fenestration industry. Companies share some insights about the changing landscape.

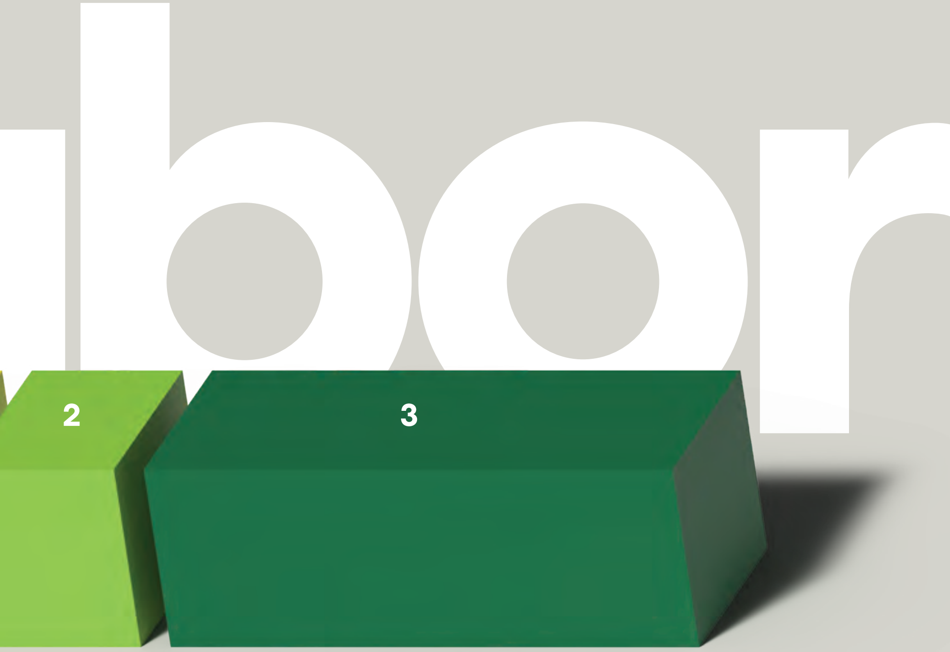
What challenges have arisen from the industry's M&A activity?

- It's very challenging to have new reps that do not know the product line.
- There's more business in fewer hands, but opportunities have arisen for key suppliers.
- It will become increasingly difficult for small, independent manufacturers to compete in a market controlled by very large competitors.
- With mergers in our industry, we get more products to offer, which has been a benefit.
- Mergers seem to be increasing prices.
- Fighting larger competition is a challenge.
- Consolidation creates a lack of competition and raises prices.
- It has shrunk the available manufacturer options for products.
- Inconsistent lead times are consistent.
- There is less competition and higher prices.
- Supplier reduction results in cost disadvantages and offerings.
- There are more strategic partnerships.
- Smaller fabricators will find it increasingly difficult to compete with consolidated industry giants.
- Every merger is a challenge and an opportunity. Getting people on a single team to work together efficiently is a challenge. Getting two companies to work together is a little bigger challenge.
- Long-term relationships are coming into question.
- There are opportunities to standardize and update. But there is the loss of some very good friends in the industry.

HOW DID YOUR STAFF LEVELS CHANGE IN 2024?

Labor has reclaimed its No. 1 spot as the most significant business challenge. Companies shared myriad recruitment and retention tactics. Deceuninck, for example, invests in workforce development and creating a supportive workplace culture. "We've enhanced our employee training programs to upskill our workforce and provide clear career progression pathways," says Koch. "Additionally, we're fostering retention through initiatives that promote engagement, such as recognition programs, competitive benefits, and a strong emphasis on work-life balance. We're also leveraging automation in key areas to reduce dependency on labor-intensive processes."

Capitalizing on automation and technology has dual benefits in today's workforce. First, it can help reduce dependency on manual labor. Second, its use can help attract and retain a younger workforce who grew up amid technology and expect it in their workplaces. "Manufacturers need to recognize they are recruiting in a competitive environment," says Don Busiek, general manager, windows,



1. Added staff **37%** 2. Eliminated staff **14%** 3. Stayed the same **49%**

WHAT BENEFITS DO YOU OFFER YOUR EMPLOYEES?

Medical insurance **17%**

401(k) **14%**

Bonuses **14%**

Dental insurance **13%**

Vision insurance **11%**

Maternity leave **9%**

Tuition reimbursement/training **8%**

Profit sharing **6%**

Paternity leave **6%**

Other **1%**

doors and glass solutions, Cyncly. "A good technology experience makes their business a great place to work, so they can recruit and retain talent."

Other survey respondents shared the following strategies.

- Money in the form of pay raises and bonuses. Liberal treatment of employees concerning attendance, coffee and lunch breaks along with a softer management approach showing more empathy for their problems.
- Competitive wages and benefits along with a wide range of employee-centered cultural and company engagement activities.
- Ensure the philosophies match and understand employees' motivations to be at the company.
- Skills testing up front to determine subsequent training necessary. Regular 'check-ins' to find out how employees are feeling.
- Employee engagement is the most effective tool to retain. Offering all employees a variety of training opportunities including job training, leadership, DISC training, team building, etc. A combination of hard and soft skills that encourages lifelong learning and improvement.

Training, work-life balance and money rank as the top retention strategies, as well as other benefits such as providing a truck for company use, expenses, employee ownership options and clear paths for advancement. Recruitment strategies include word of mouth, referrals, working with the state unemployment office and using temp services.

Companies offer myriad training opportunities in hard and soft skills. These can include product knowledge, safety, better positions, computer skills, installation, structural and thermal performance, team building, technical training on machinery, refresher training, field training, sales training and OSHA training.

One company has a five-person training department that develops and puts out new training each week that encompasses all aspects of jobs. Another annually allots and funds 40 hours of training to each employee to pursue professional development.

WHAT IS YOUR BIGGEST STAFFING CHALLENGE?

Hiring **49%**

Retaining **25%**

Training **16%**

Other **10%**

5% increase in YOY direct labor costs †

Source: JBREC Window & Door Market Survey

Production, Investments, Technology

"The most exciting development in the glass and fenestration industry is the rapid integration of smarter technologies in companies of all sizes. Automation, IoT-enabled devices and advanced software solutions are transforming production and operational efficiency," according to Dennis Tieg, Clarity COO; Sebastian Dick, manager, Clarity Innovations; and Chris Kammer, sales and marketing coordinator, A+W. "This production and operational evolution not only streamlines workflows but also enables manufacturers to meet growing demand for customized, high-performance glass and window products."

The A+W team further predicts a steady increase in digitization across the glass and window industries. "For smaller companies, we see they are increasingly transitioning away from spreadsheets to integrated software for the first time, while medium-sized manufacturers are seeking to upgrade their software solutions, replacing older or less capable solutions with more robust systems," they say.

"Technological advancement never stops, and it is exciting to see how the industry continues to apply those new technologies to make better products, more efficiently and effectively than ever before. Automated equipment for window and door fabrication continues to elevate the manufacturing process," say the sales and marketing teams at Quanex.

A forward view

Several survey respondents spoke of the demand for integrated machinery and software systems. Cyncly's Busiek notes that while integration with saws and welders has been commonplace for years, integration now goes beyond that into automated insulating lines. GED's Shaheen agrees. "Demand remains strong for integrated machinery and software systems," he says.

Many companies plan to invest in themselves this year and add solutions for their customers. "We are dedicated to advancing technologies that enhance automation and reduce labor, ensuring our customers' operations are as efficient as possible," says Tim McGlinchy, executive vice president of engineering and R&D, GED Integrated Solutions. "We're launching new software solutions designed to enhance the interface between our machines and operational teams, improving both communication and workflow efficiency."

"Looking ahead, we are emphasizing predictive maintenance technologies, aiming to equip maintenance teams with advanced tools to optimize equipment performance and reliability," says Shaheen, who is optimistic about leveraging technological advancements and market strategies in 2025.

Artificial intelligence

Although many companies do not yet use AI, those that do note several areas in which it helps, including aggregating and condensing information, creating installation worksheets, dictating meetings, helping with product imagery and refining language for business correspondence.

Cyncly plans to increasingly incorporate AI and analytics into its products, shares Busiek. Although he says users indicate they're not ready for AI agents to act autonomously, they do want AI to assist them in understanding trends, creating forecasts and helping teams work faster and smarter.

At the company's User Conference in June 2024, top areas of interest to window and door manufacturers included the following:

1. Material management teams are looking for recommended product lead times based on production's completion rate. They want the analytics and AI to deliver better information, but not to automatically update those product lead times.
2. Production management teams want reports that highlight trends in changes to schedule templates. They would use these insights to identify the outlier changes the scheduling manager is making to existing templates, and to recommend adjustments.
3. Logistics departments are looking to understand changes to shipping route templates. They want to identify the outlier changes the logistics manager is making to existing shipping routes, and to recommend adjustments.

Ensuring systems and data structure are AI ready is critical before AI is effectively applied, says Laura Phillips, vice president of engineering, Pella Corp. "Being AI-ready takes intentional planning and execution of a robust data architecture," she says.

"AI, when applied thoughtfully, is the 'easy button' that helps the team succeed in a complex manufacturing environment," she continues. "We continue to increase investments in AI because of the positive impact the solutions have on our customers and our team members." AI has impacted Pella's operations in several ways, including vision systems that can help course correct before a problem occurs, digital twins and AI-powered chatbots to aid team member training and support.

"AI-powered tools help us deliver more personalized service, from tailored product recommendations to proactive

A slim majority, 52%, did not add production capacity in 2024. 64% plan to add production capacity this year.

issue resolution. These technologies are not just enhancing efficiency but also enabling us to better understand and anticipate our customers' needs," says Deceuninck's Koch.

Data analytics

The power of data cannot be underestimated either. The insights it offers can be a tremendous boon to business. "By harnessing data from various sources—such as production metrics, equipment performance and supply chain logistics—we can enhance efficiency, help to maintain our costs and improve product quality. By effectively analyzing customer data, we can gain valuable insights that inform strategic decisions and foster stronger relationships with our customers," says the sales and marketing team at Quanex.

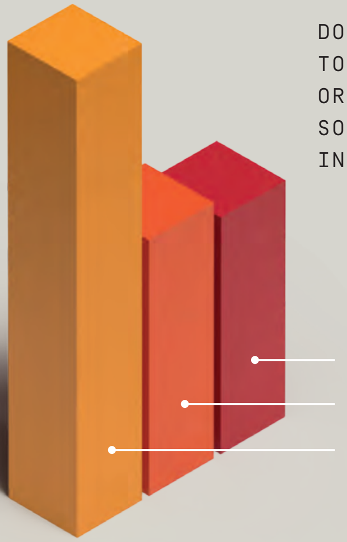
Koch shares that Deceuninck uses data-driven insights to "optimize supply chain management, forecast demand more accurately, and improve operational efficiency."

Leveraging technology also helps retain knowledge from the aging workforce and level the playing field. "It gives you a chance to capture and standardize tribal knowledge so it stays in your business, is applied consistently and can be used for automation wherever possible," says Busiek. "With better processes and insight, you can stay closer to your customers and meet their needs. This lets smaller companies punch above their weight against competitors, even as global competition rises."

Automation

Pella considers the four Ds when considering automation, says Phillips.

DO YOU PLAN TO IMPLEMENT OR EXPAND SOFTWARE USE IN 2025?



WHERE DO YOU WANT TO ENHANCE PRODUCTION?

Fabrication
Installation
Quality
Labor reduction
Loading and unloading
Throughput
Consistency
Efficiency

WHERE DO YOU PLAN TO FOCUS YOUR INVESTMENTS IN 2025?

Marketing **15%**

Expand production capacity **14%**

Training and education **13%**

Employee recruiting and retention **12%**

Machinery purchases/upgrades **10%**

Business management software **8%**

R&D and testing **8%**

Software integration **7%**

Lean manufacturing **7%**

Expand locations **6%**

WHAT DRIVES THE DECISION TO IMPLEMENT AUTOMATION?

Improve quality **31%**

Increase throughput **25%**

Address labor shortages **22%**

Replace outdated equipment **19%**

Other **3%**

15% of respondents use AI in their business.

Production

"We look at work that is difficult, dangerous, dirty or dull. Automating these jobs helps the team be more successful in serving our customers and improves employee safety and satisfaction. A few key principles we use to guide decision-making on automation include not automating bad processes and making sure the opportunity or problem to solve is clear. We try to avoid using automation as a hammer searching for a nail; rather, we focus on identifying clear problems to solve then apply holistic strategies on how to solve them that include the use of technology where it makes sense."

"Manufacturers are investing in more advanced machines, robotic materials handling, and autonomous logistics," says Busiek. "These machines and robots need to be orchestrated, raising the need for data integration across the full organization."

Because consumers expect products that meet their exact needs and information to be available at any time, manufacturers are tasked with customizing at scale and providing detailed communication throughout processes. "At the most mature, 'track and trace' enables manufacturers to track every order from the moment it's placed, through production, until it's shipped, installed, and beyond, and they can use this information to maintain an ongoing relationship with the consumer," says Busiek. "We see this spreading in the flat glass market already. There's opportunity for window and door manufacturers to follow suit."

Materials, Cos

Inflation and increasing material prices are causing some manufacturers to notice "value engineering" among their customers. Survey respondents noted it affects their businesses in several ways. Several note they are selling less expensive products in high-end homes, most notably using vinyl in homes where they'd typically use wood windows.

Some, however, note that part of the job is to give customers an option of the best value and it simply is part of working in this industry.

"Value engineering is about enhancing the product in a way that will also reduce the cost for today's builders and homeowners. For example, rather than outsourcing materials, producing those materials in-house to be able to reduce cost while also improving the quality of the product," says YKK AP's Jensen.

Persistently high mortgage and interest rates deter people from moving into new homes, especially those who locked in historically low rates several years ago. Most commentary in this year's survey note that these high rates cause homeowners to defer, but not cancel, their window and door replacement or home building plans.

Other companies have redirected some of their work to focus more on replacement versus new construction, commercial construction and multifamily housing, which one notes makes up the difference of the slow single-family business.

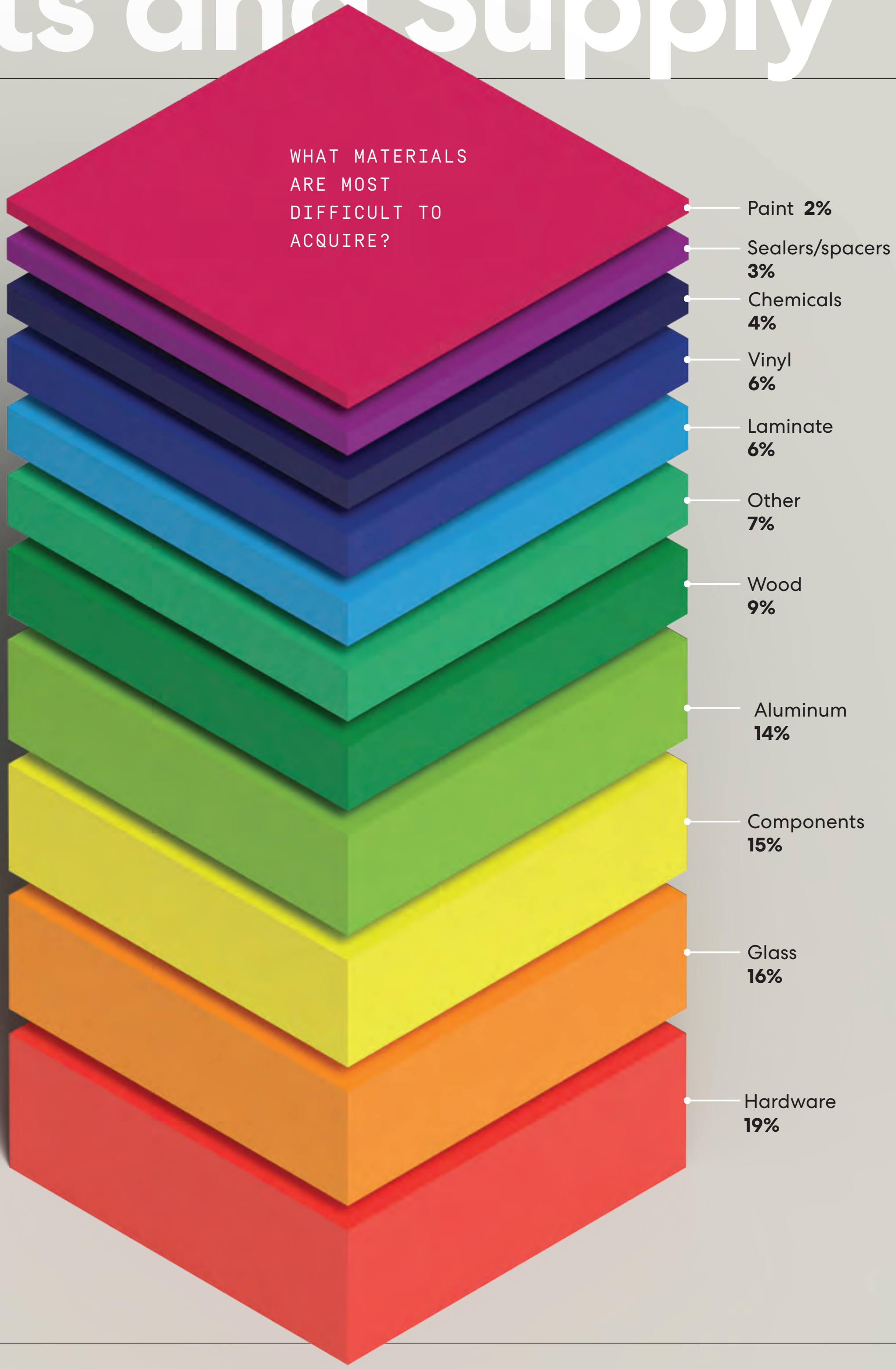
"We aren't seeing an issue in our markets across the Southeast," says Jensen. "While the rates haven't had a dramatic effect, what we do continue to see is high inventory on new construction and low inventory on existing homes."

> "We maintain good relationships with our key suppliers, which helps us get essential materials reliably."

Nationally, homebuilders think they can grow 2025 single-family starts by 15% (1.1 million single-family starts) before hitting supply disruptions, according to data from JBREC. Conversely, building materials dealers are still concerned about potential supply chain disruptions this year if single-family starts grow by more than 10%.

The sales and marketing team at Quanex shares some of their top tips for material procurement in a sometimes challenging landscape. "We maintain good relationships with our key suppliers, which helps us get essential materials reliably. However, global supply chain issues, including geopolitical tensions and lingering COVID-19 disruptions, can create problems for any company. Some materials can take longer to arrive, and others have fluctuating prices. We continue to keep a close eye on our inventory and are always looking for ways to reduce the risk of shortages. So, while we face challenges, we are taking steps to keep our material procurement process efficient and effective." ■

sts and Supply



79%

experienced material price increases in 2024. Of those, 89% reported increases of up to 15%.

3%

YOY inflation in material input costs.†

75%

of manufacturers report no extended material lead times.†

88%

expect a 10% YOY increase in shipments for full-year 2025.†

DO YOU ANTICIPATE MATERIAL PRICE INCREASES IN 2025?

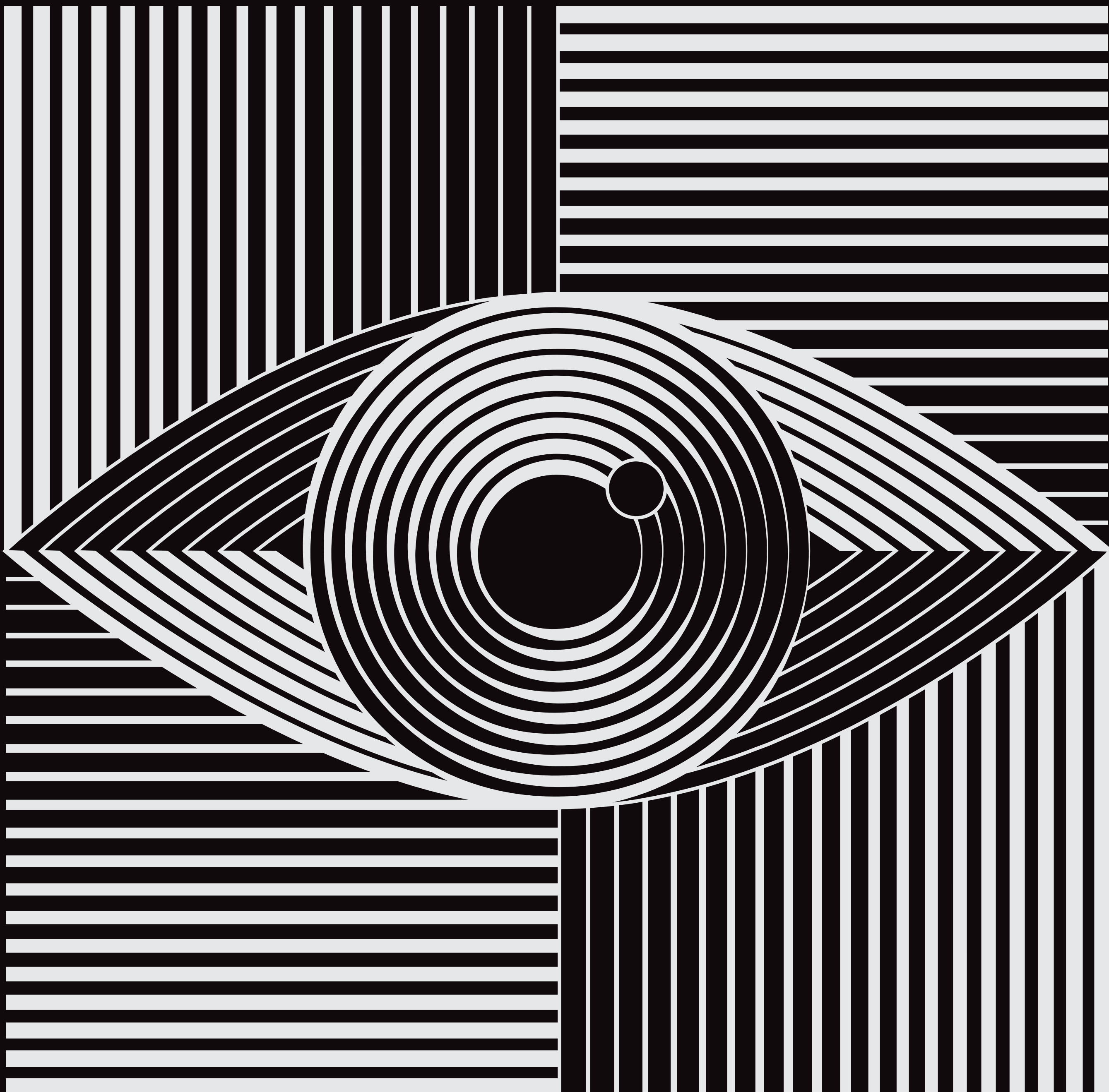
Yes **76%**

No **10%**

Unsure **15%**

Source: JBREC Window & Door Market Survey

The 2025 Forecast



THE LATEST CONSTRUCTION FORECASTS REFLECT A CHALLENGING 2024 FOR U.S. CONSTRUCTION, WITH REASONS FOR OPTIMISM IN 2025 **BY TARA LUKASIK**

Last year presented several significant challenges for the construction industry, including persistent difficulties in attracting and retaining talent, ongoing supply chain disruptions fueled by geopolitical tensions and global economic uncertainties, higher interest rates, economic uncertainty, inflationary pressures, and shifting regulatory hurdles in response to natural disasters and evolving building codes and environmental regulations. Despite these hurdles, construction spending crossed $2 trillion and maintained a balanced trajectory in the first half of 2024, according to a Deloitte analysis of data from the U.S. Census Bureau.

Macroeconomic perspectives and projections

Editor's Note: The following is based on forecast presentations from Dodge Construction Network's 2025 Annual Outlook, ConstructConnect's Fall 2024 Economic Outlook, Deloitte's 2025 Engineering & Construction Industry Outlook, and Connor Lokar's annual economic forecast keynote and Chris Beard's economic presentation from GlassBuild America 2024.

U.S. economy holding its own

"The reasons I feel most positive about 2025 really comes down to the fact that the Federal Reserve has started to cut rates," says Richard Branch, chief economist, Dodge Data & Analytics. "We had the 50 basis point cut from the Fed in September. We had another 25 basis points last week [in November]. We think the Fed will go again in December. That's a full 100 basis points of cuts this year. And we think there's another 100 basis point cut through the course of 2025. By the end of 2025, the Fed's funds rate will be at around 3%."

"We're projecting inflation will be back at 3% to 5% as we move through the rest of the 2020s," says Connor Lokar, senior forecaster, ITR Economics. "You need to make a plan in your business with how you're going to deal with higher inflation and interest rates."

Affordability remains a "dark cloud"

Chris Beard, director of building products research, John Burns Research and Consulting, sees great opportunity for the residential side, including normalizing inflation and appreciation of home sales.

Housing affordability is a notable headwind and what Beard describes as the dark cloud looming over the industry. A reported 67% of production designers lower a product's finish quality to reduce costs in a house. Growing volumes and declining revenue also reflect the industry solving for affordability. Ultimately, Beard says, "We may have reached the bottom in residential fenestration. We're optimistic going into next year."

> "THE LABOR MARKET HAS BEEN SOLID UP TO THIS POINT. WE CAN EXPECT IT TO CONTINUE TO BE SO."
>
> —RICHARD BRANCH, DCN

Lower rates to support growth in 2025

With the three major categories—residential, nonresidential and infrastructure—in totality, Dodge forecasts total construction starts will rise 9% in 2025, to $1.3 trillion.

"The thing we really need to look at is how lower rates are impacting the economy," says Branch. "We need to process that there's not going to be a massive uptick in construction or economic activity. It's going to take probably about 125, maybe even 150 basis points, in cuts before we start seeing a more consistent growth in the economy the construction market."

The state of the transition

"How is the election going to impact the forecast? Quite frankly, the truth of the matter is we just don't know," says Branch. "It's a mix of positive and negative for the construction sector." On the positive side, tax cuts could help the bottom line of construction tradespeople across the country. On the negative side, aggressive legislation on undocumented workers could possibly derail any growth potential in construction and manufacturing.

Ken Simonson, chief economist, Associated General Contractors of America, predicts that lessened federal regulations anticipated under the Trump administration could help some projects start sooner. At the same time, tariffs that President Donald Trump has said he will institute have the potential to cause "a huge spike in prices" and could likely trigger a trade war, says Simonson. "We'd see a lot of projects canceled or at least scaled back."

A Trump presidency with a Republican-led Congress should positively impact the overall construction economy, according to Michael Guckes, chief economist, ConstructConnect, who agrees that a relaxed regulatory environment will promote construction activity, along with lower taxes and the opening of federal lands to development. "These changes could free the construction industry of the regulations that have historically held it back from faster growth," Guckes says.

Geopolitical conflicts and trade tensions

Several geopolitical conflicts and tensions could impact the construction industry in 2025. From Middle East tensions impacting oil prices and transportation, agitation between the U.S. and China over trade policies that could disrupt supply chains and increase construction material costs, escalating trade tensions between the U.S. and the European Union, and the ongoing Ukraine-Russia and Israel-Hamas conflicts, many factors loom that could influence construction project timelines, budgets and availability of resources.

— The 200% tariff imposed by the U.S in March 2023 on aluminum and derivative products from Russia is still in effect.
— The Trump administration is calling for continued tariffs on Chinese products, between 60% and 100%.
— A tax of between 10% and 25% on every product imported from all U.S. trading partners (including Mexico, Canada and the European Union) is also under consideration.

Energy prices and geopolitical tensions are new risks added last year to the matrix that Dodge examines. Last year, Dodge predicted that geopolitical risk would remain intense, with tensions easing in the first three to six months of 2024. This year, Dodge is forecasting a "fairly stable geopolitical situation." "That's not saying things will get better or that they're going to get worse," says Branch. "Basically, there's no change from the situation now."

The high impact of imported materials

New tariffs on imported materials could lead to higher costs, says Guckes. "Certain proposed policies risk triggering higher construction costs," he continues. "Tariffs on imported construction goods, which would raise the price of these goods, may lead to a second spell of construction inflation."

"Supplies have been pretty ample, and prices have come down a lot over the past year," says Simonson. "But all that can be undone if President-elect Trump does impose across-the-board tariffs. When he did that for steel and aluminum—a 25% tariff on steel, 10% on aluminum—the domestic producers immediately matched those price increases. It's not guaranteed that all prices will go up as much as the tariffs, but you can count on extensive increases."

Facing the talent shortage

The construction industry continues to struggle with a significant talent shortage, with an average of 382,000 job openings each month from mid-year 2023 to 2024, marking the third consecutive year of increased vacancies.

The industry is also experiencing a

Residential construction

shift in skill requirements, with Deloitte projecting that 44% of infrastructure roles are expected to evolve in the next five years. The aging workforce is another concern; the National Center for Construction Education and Research projects the average age of trades workers will reach 46 by 2030. Younger generations, who have different expectations regarding work environments, are less interested in construction careers. In a 2024 workforce survey, the Associated General Contractors of America found that 50% of new construction industry hires fail to show up or quit shortly after starting.

Concern among contractors

"Quantity of qualified labor continues to be one of the greatest challenges that our industry is seeing and it's not going to be easily solved, especially if we think about some of the proposed policies by the new administration coming into office next year," says Guckes. "The construction workforce is very diversified; we benefit from people who come from all over the world. If, for any reason, that pipeline of people is pushed away, then we struggle with an additional supply issue. That means firms will struggle even more so to find enough qualified people."

The new administration's immigration policy will also be extremely important, but Trump's comments on the issue "have not been encouraging" for contractors, says Simonson. "Construction has always relied more heavily than other sectors on foreign-born workers. And if the border really gets shut down more, and if deportations are part of the mix, that's going to hit construction even harder than other sectors."

- Dodge projects residential construction starts to increase 5% for single-family, and 11% for multifamily in 2025.
- The current housing deficit sits at 1.5 million homes, according to data compiled by the National Association of Home Builders.
- Dodge predicts that some 2.5 million households will be created in 2024 and 2025, with housing supply improving, but not quickly enough.
- Property information provider CoreLogic predicts that home prices will continue to grow in 2025 (by 2.3%), but at a slightly slower rate than 2024.

"What's happening in the residential market is key to understanding what's going to happen in the nonresidential space," says Branch. "The demographics are fairly positive. We're looking at 2.5 million new households, created between 2024 and 2025, so much faster than what we saw just prior to the pandemic. And a lot of this new household formation is taking place in 'Sunbelt States' where there's a lot of pent-up household demand."

Single-family decelerating into 2025

But this growth couldn't come at a worse time, says Branch. "The housing market is woefully under-supplied; our measure of the shortage is around 1.2 to maybe 2.2 million units." Upward pressure on housing prices will keep younger and less-affluent Americans from the single-family side of the residential market, forcing them into the multifamily market.

"Single-family hit a trough back in early 2023 and has been rising steadily since then," says Branch. "Single-family units this year-to-date through September are up 18%. We expect the fourth quarter for single-family housing to be essentially flat. New home sales are up around 3% year-to-date for 2024. It looks like construction is a bit ahead of the market, and that's part of why we have single-family decelerating into 2025."

Multifamily starts accelerating into 2025

Multifamily construction has been in a slump for the past 21 months, and completions for multifamily have been trending down since then, but Branch sees multifamily starts accelerating into 2025. "If you look at the multifamily vacancy rate, it's gone up about 7,500 basis points over the last year," says Branch. "This is still a fairly robust (and tight) market. Add on crowding out of the market and continued affordability issues on the single-family side, I would offer it can safely absorb more."

Retail recovery is expected to continue into 2025, bolstered by mixed-use developments that combine multifamily housing with retail spaces. Growth in multifamily projects, particularly those incorporating retail at ground level, is supporting the retail construction sector's momentum moving forward.

"Multifamily planning projects actually troughed back in November 2023 and have been trending higher since," says Branch. "It takes somewhere around 17 months for a multifamily project to transit from planning to groundbreaking, so 17 months from November 2023 puts a trough in starts activity in early 2025. We

"SINGLE-FAMILY RESIDENTIAL CONSTRUCTION LEADS THE ECONOMY INTO RECOVERY, AND IT LEADS THE ECONOMY INTO DECLINE."

—RICHARD BRANCH, DCN

think the planning data is telling us that there could be fairly aggressive growth in 2025 multifamily."

Housing recovery in small markets

The other main storyline for residential construction concerns where it's happening. "We're seeing the strongest residential activity and growth in areas that are further away from dense, urban cores," says Branch. "Affordability is key. People are moving further away to find housing they can afford, supported by a continued growth in hybrid work options."

Residential construction grew 17% in small metropolitan regions with a population of less than 250,000, compared to just 3% in medium metro areas, 4% in large fringe metro areas, and -3% in large central metro areas with populations greater than one million, according to Dodge. In rural or nonmetropolitan regions, growth was 18% for counties in micropolitan areas with a population of at least 10,000 but fewer than 50,000 people, and 17% in counties outside micropolitan statistical areas.

Growth expected for residential remodeling

After a mild pullback over the previous year, spending for improvements and repairs on owner-occupied homes is set to expand once again by the middle of next year, 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 that annual expenditures for home renovation and maintenance will grow by 1.2% through the third quarter of 2025.

"A continued thaw in new home construction and sales of existing homes bodes well for an uptick in residential improvement and repairs next year," says Carlos Martín, director, Remodeling Futures Program. "Additionally, stronger gains in home values and thus home equity levels should boost both discretionary and 'need-to-do' replacement projects for owners staying in place."

"Annual spending for home improvements and maintenance is projected to grow from $472 billion today to $477 billion through the third quarter of 2025," says Abbe Will, associate director, Remodeling Futures Program. "A quick return to growth after a fairly modest downturn ultimately means that residential remodeling and repair expenditures are expected to approach past peak levels moving forward."

Beard, meanwhile, disagrees slightly, reporting that remodeling is in a stage of pent-up demand. Many homeowners are deferring big-ticket remodeling projects that require financing until financing becomes cheaper. Consumer sentiment, though rising, remains low compared to 2015 through 2019. "Growth won't be great until sentiment improves," he predicts.

Potential trends to keep an eye on

While builders are working to fix America's critical housing shortage—with the number of new homes expected to top 1.1 million in 2025 (a 13.8% increase from 2024)—homebuyers can expect them to be built slightly smaller, and be more affordable, according to Realtor.com's 2025 Housing Forecast. In 2022, the median new build was 2,128 square feet; that number fell to 1,965 square feet in 2024. Additionally, the number of new homes sold for less than $300,000 rose from 14% in September 2023 to 17% in September 2024.

Builders are also embracing and exploring new technologies, like modular and 3D-printed homes, to lower costs and speed up construction. In the case of 3D-printed homes, while installing windows and doors can be more complex than traditional construction, 3D printing techniques now allow for the direct integration of openings for windows and doors during the printing process, which simplifies installation. For modular homes, installing windows and doors is generally easier than in traditional stick-built homes. Modular homes are built in a controlled factory environment, ensuring precise measurements and accurate openings for windows and doors. Plus, many modular homes come with pre-installed window and door frames.

Finally, building for resilience and natural disaster mitigation should not be overlooked. While natural disasters can cause significant damage, they can also stimulate construction activity through rebuilding efforts. Windows, doors and roofs are often among the first components to be replaced following a severe weather event, with homeowners taking the opportunity to explore and upgrade their windows and doors to more energy-efficient or storm-resistant models with impact-resistant. Look for high-risk states such as California, Texas and Florida, as well as the Gulf Coast region, to drive growth in fenestration options that protect against heat, fire, storms and flooding. ■

State of the Market

OPEN DOOR FOR MERGERS AND ACQUISITIONS ACTIVITY EXPECTED IN 2025

By Andrew Petryk

After a year of ramped up deal activity in the window and door industry, including two marquee acquisitions to begin the year—PGT Innovations (Miter Brands) and Masonite (Owens Corning)—buyer appetite remains strong with mergers and acquisitions activity expected to continue to accelerate in 2025.

Today, both strategic participants and private equity firms are actively pursuing new opportunities with the expectation of strong earnings growth pushing them to pay healthy multiples for high-quality assets.

Building products M&A activity in the United States picked up meaningfully in 2024, with an over 30% increase in year-over-year deal volume. The heightened activity underscores the ongoing optimism in the sector, where both established industry players and investors are looking to enter the market at what they believe to be the start of a multi-year growth outlook. As we moved into the second half of the year, notable deals continued to take form. Window Nation, one of the largest window replacement companies in the U.S., announced in September 2024 it had acquired Florida-based Armorvue Window and Door. Pella Corp. completed the successful divestment of its two luxury businesses—Duratherm Window Company and Michael Reilly Design—in July 2024.

SEE ALL MERGER AND ACQUISITION NEWS ON WINDOWANDDOOR.COM/NEWS/MERGERS-ACQUISITIONS.

Promising outlook

The tides in the housing market haven't turned quite yet. Housing starts have remained stubbornly flat, existing home sales reached their lowest levels since October 2010 and mortgage rates are still above 6.5%. However, M&A activity in the window and door industry is not fueled by immediate market fundamentals, but by a promising long-term outlook for the U.S. housing market.

"After several years of frenzied activity during the pandemic, owners are now making upgrades and repairs to their homes at a steadier and more sustainable pace," says Carlos Martin, director of the Remodeling Futures Program at the Joint Center for Housing Studies of Harvard University.

A steady recovery in new home construction and existing home sales in 2025 will drive growth across both the new construction and repair and renovation markets.

Investors are seeing a runway for growth in 2025, driven primarily by:

- Concerted efforts to improve housing affordability, including administrative support to slash costly regulations and permit requirements that drive up home prices.
- Interest rate cuts and easing inflation continuing to put downward pressure on mortgage rates.
- An increase in historically low existing home sales releasing the pent-up demand in the repair and renovation market. Existing home sales are a key driver of repair and renovation activity as homeowners typically renovate homes prior to selling and right after moving in.
- The "lock-in" effect, whereby current homeowners with below market interest rates are disincentivized to move, easing and leading to higher turnover of existing homes as well as increased new home construction.
- Large stock of homes built during the housing boom that preceded the Great Recession coming into their prime remodeling age.

Looking ahead

We expect accelerated deal activity to continue in 2025 and outpace 2024 as investors are looking to buy high-quality assets before the market gets too crowded. High-quality assets today are receiving a scarcity value premium; however, if deal activity picks up to levels seen in 2021 and early 2022, this premium is expected to wane. That being said, we remain confident in a multi-year growth outlook in the housing market and believe many companies in the industry are well positioned to experience a long runway of earnings growth. ■

Andrew Petryk is a managing director and leads the industrials practice at Brown Gibbons Lang & Company, an independent investment bank serving the middle market. Contact him at 216/920-6613 or apetryk@bglco.com.

Products

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01

02

03

01. Kwikset

The Prava collection by Kwikset includes a handleset and lever, showcasing a contemporary design. Available in four finishes—satin brass, satin nickel, matte black and matte black with satin brass—the Prava collection also features a diamond knurling pattern. With advanced SmartKey Security technology and Microban antimicrobial protection included in select finishes, the Prava handleset and lever are designed to deliver security and convenience to homeowners.

800/327-5625 | KWIKSET.COM

02. Andersen Windows and Doors

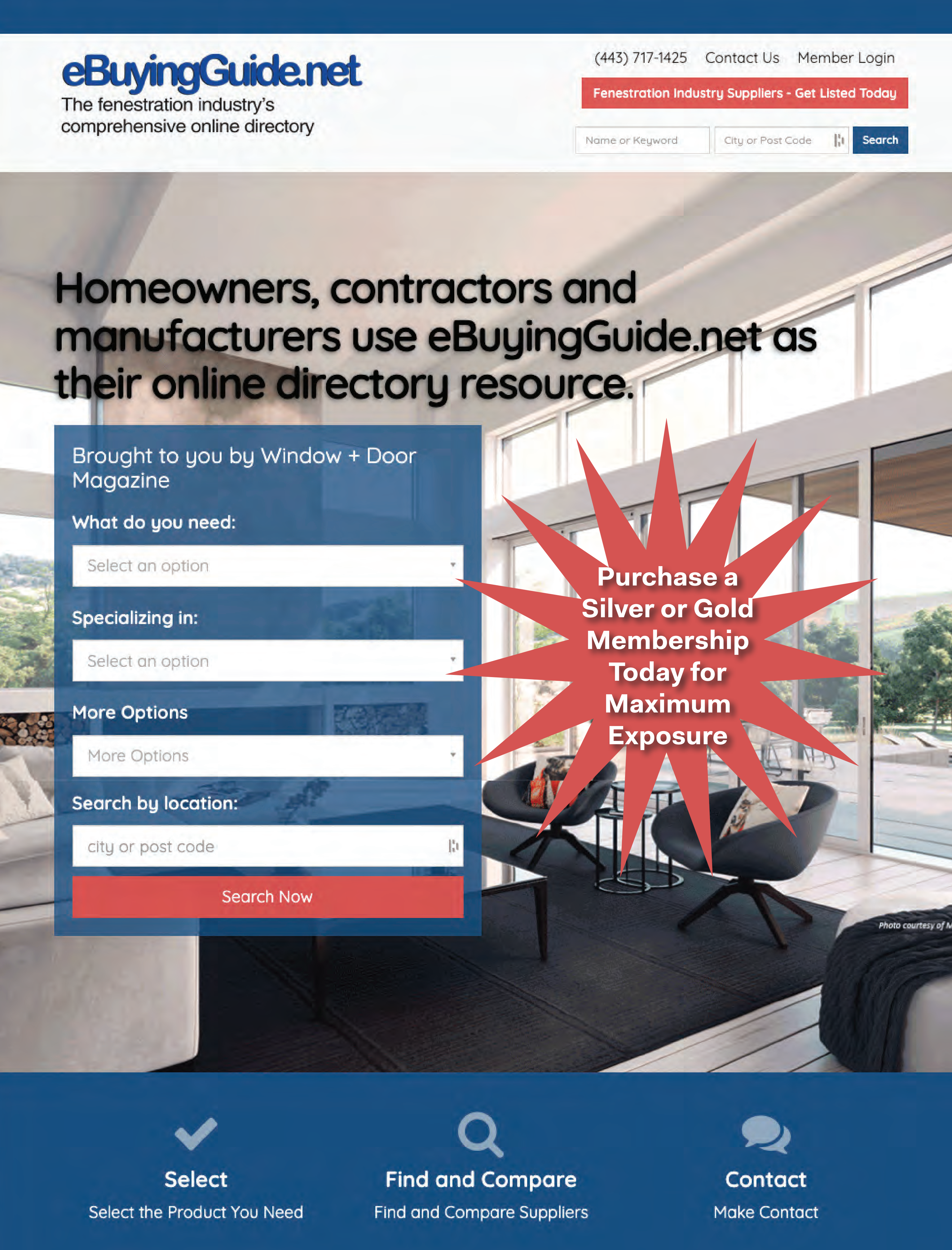
Andersen 400 Series windows with triple-pane glass offer various coating options for optimal insulation. Customers can choose from options like dual low-E4 enhanced or low-E4 enhanced with Heatlock technology. Crafted from wood with a Perma-Shield exterior cladding, Andersen's 400 Series windows combine timeless aesthetics with weather-resistant construction, making them suitable for New England's harsh climate, says the company.

800/426-4261 | ANDERSENWINDOWS.COM

03. Milgard Windows and Doors

Milgard's VX350 moving glass wall provides homeowners with a new option for expansive patio doors. The product is offered in up to four-panel configurations that stack or slide into pockets, with maximum panel sizes of 5 feet by 8 feet and openings that span widths up to 20 feet. The VX350 vinyl moving glass wall has narrow sightlines that provide views of the outside while bringing in natural light.

253/922-2030 | MILGARD.COM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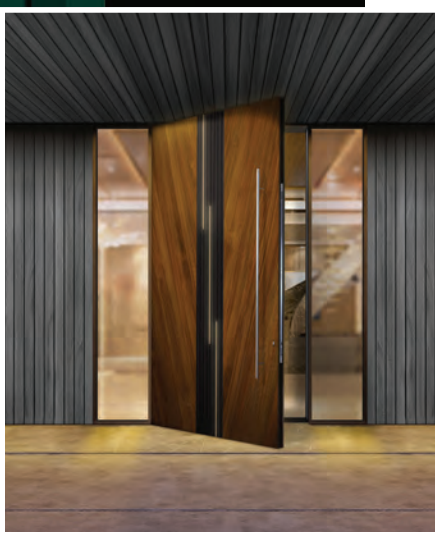
Schweiss Doors	10		schweissdoors.com
Stürtz Machinery, Inc.	9	330/405-0444	stuertz.com/us
Wakefield Equipment	11	440/899-5658	wakefieldequipment.com

FrameWork

VISIT WINDOW + DOOR ONLINE TO VIEW THE FULL WRITE-UPS AND IMAGES OF EACH WINNER.

Window + Door Award winner NuCoat North America VL 24 Coating Series for PVC.



Window + Door Award winner Panda Windows & Doors Odyssey Collection.

The 2024 Window + Door Awards Winners

BY RACHEL VITELLO

The 2024 Window + Door Awards winners exemplify innovative design, ease of use, durability, elegance, design flexibility and several other features customers increasingly seek. Judges reviewed entries in five categories this year to determine which products embody all of the above and answered a market need uniquely and effectively. Window + Door is proud to present this year's winners:

Most Innovative Entry Door
- Panda Windows & Doors — Odyssey Collection
- Honorable Mention: Glass-Craft Door Company — Big Fiberglass Door

Most Innovative Patio, Multi-Slide, Multi-Panel Door
- Alpen High Performance Products — Zenith Sliding Glass Door Series (Grand-line and Narrowline)
- Honorable Mention: Frameless Hardware Company — FHC G52 Bi-Folding Thermal Door System

Most Innovative Window
- Rehau — Artevo
- Honorable Mention: Western Window Systems — Series 7665 Pass-Through Awning Window

Most Innovative Window Component
- NuCoat North America — VL 24 Coating Series for PVC
- Honorable Mention: ODL Inc. — Blinds + Glass XL

Unique Innovation
- Miter Brands — Diamond Glass
- Honorable Mention: Deceuninck — Eclipse