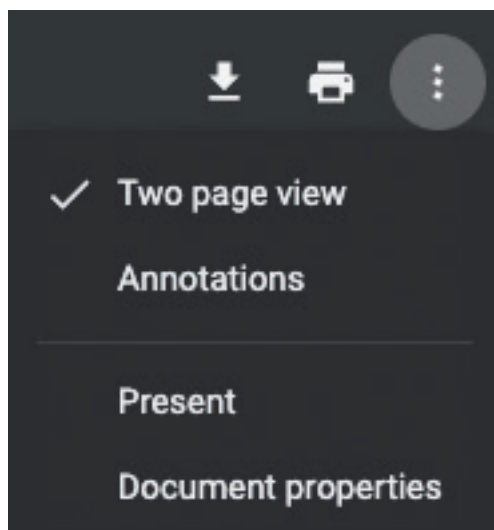


# WINDOW + DOOR

**Welcome to the digital edition of  
Window + Door!**

**To view the issue in a two-page format,  
click the triple dots in the upper right  
corner and select “Two-page view.”**





# WINDOW + DOOR

Automated Equipment

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Inside Energy Star

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Servant Leadership

P. 22

SALES INCREASE,  
SUPPLY STABILIZES,  
LABOR CHALLENGES  
MOUNT AND INNOVATION  
CONTINUES

THE TOP  
MANUFACTURERS  
LIST

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Residential fenestration coverage, from source to sale // windowanddoor.com // Vol. 31, No. 3 // May/June 2023

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Manufacturers mark another year of growth and increased demand while navigating material and labor constraints.  
*By Laurie Cowin*

#### 40. The List

North America's largest manufacturers of residential windows, doors, skylights and related products, based on sales volume.

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**On the Cover:** Marvin Windows and Doors reported a revenue of more than \$1 billion in 2022. See the full Top Manufacturers List starting on p. 40.





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- Implementing innovation for window and door products

## ➔ The Talk // Blogs of the Month

Catch up on all the latest industry "talk" at windowanddoor.com/blogs



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By Melissa Graham



**Keeping Teams Safe**  
By Angela Dickson



**Automation & Software**  
By Chris Kammer

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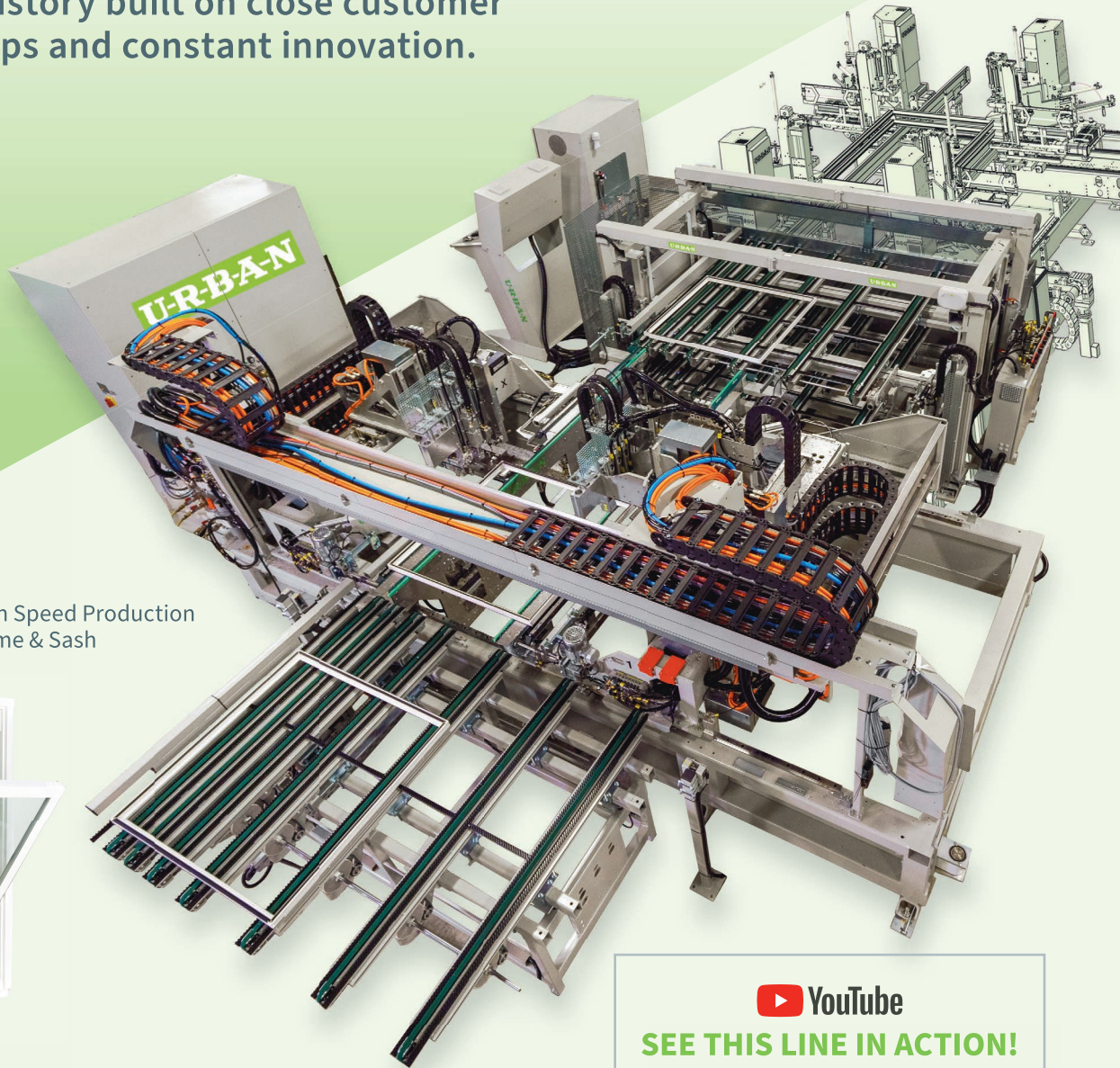
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## ODL Acquires Tru Tech Doors

ODL Inc. is expanding into exterior doors by purchasing Tru Tech Doors of Ontario, Canada. ODL Doors, built by Tru Tech, will be available to select U.S. and Canadian door glass customers. ODL looks to retain all Tru Tech employees and its current manufacturing facilities in Ontario, Canada.

“It is very exciting for ODL, Tru Tech Doors and our family of brands. Our strategy is to be the leading solutions provider for the door system; now, with the ability to manufacture doors, we have begun the journey of delivering that complete door solution to our customers,” says David Klein, president and COO, ODL Inc.

## Fenplast Expands Door and Window Portfolio

Fenplast acquired doors and windows manufacturer Portes et Fenêtres ADG (ADG Windows and Doors) in Terrebonne, Quebec, and a minority stake in aluminum windows manufacturer Solarcom, based in Beauceville, Quebec. Both acquisitions were made through Fenplast subsidiary Altek Portes et Fenêtres (Altek Windows and Doors). Solarcom specializes in manufacturing custom-made aluminum fenestration products for commercial and residential customers.

ADG, also a manufacturer of aluminum products, will continue its activities, namely producing fenestration products for the commercial and institutional sectors. The acquisition of ADG will enable Fenplast to strengthen its presence in these two sectors.

## Palmer-Donavin Acquires Diamond Hill Plywood

DHP has five distribution centers in Virginia, Tennessee and the Carolinas, serving customers throughout the Southeast. Employees who work at DHP will now be part of the Palmer-Donavin Employee Stock Ownership Plan. DHP locations will continue to operate under the Diamond Hill Plywood name.

## Platinum Equity to Acquire Jeld-Wen Australasia Window and Door Business

Platinum Equity announced the signing of a definitive agreement to acquire the Jeld-Wen Australasia windows, doors and related building products business from Jeld-Wen Holding Inc. for approximately \$461 million. The transaction is expected to close in the third quarter of 2023.

Jeld-Wen’s Australasia business is an Australian designer, manufacturer and distributor of windows and doors. It employs approximately 5,000 people and comprises 41 manufacturing locations across Australia, Malaysia and Indonesia. Its notable brands include Corinthian, Stegbar, A&L, Trend and Breezway.

## Koala Insulation and Wallaby Windows Join Empower Brands

Empower Brands, a multi-brand franchisor of commercial and residential services, announced that Koala Insulation and Wallaby Windows will join its growing brand portfolio. These additions to its portfolio are Empower Brands’ first since rebranding late last

year, bringing Empower to nine total brands under its umbrella.

“Koala Insulation and Wallaby Windows have already experienced exceptional growth, and the support and resources under Empower Brands will allow us to expand even further,” says Scott Marr, founder and CEO, Koala Insulation and Wallaby Windows.

## Interlock USA and Caldwell Manufacturing Combine Sales Teams

Interlock USA and Caldwell Manufacturing Company announced the combination of their sales forces into one joint team. The combined sales team will now represent the product portfolios of both Interlock and Caldwell, a first step in joining the two companies into one hardware solutions provider.

The unified sales team comprises 11 sales professionals. Led by Angel Tuanama, vice president of sales, they have the resources of ASSA ABLOY, the global parent company with 52,000 employees and operations in more than 70 countries.

## Cyprum Exits Investment in Endura Products

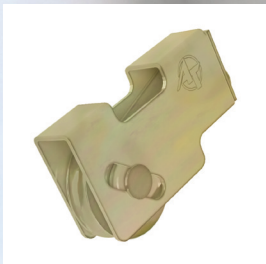
Cyprum Partners exited its investment in Endura Products following the company’s acquisition by Masonite International Corp.

Financial terms of Cyprum’s investment were not disclosed; however, the acquisition by Masonite, which closed in January, was reportedly valued at approximately \$375 million.

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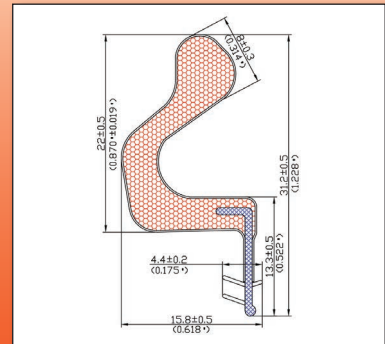
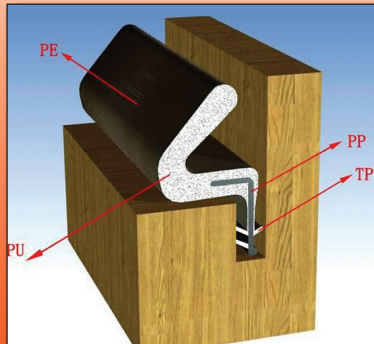
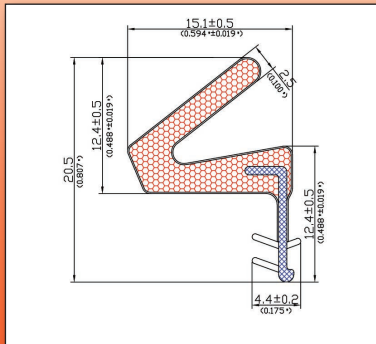


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## Getting the Most from Automated Equipment



By Joe Erb,  
John Ryba

The typical thinking is that robotics and automation replace the need for human input and labor in production. In some ways, this is true, in a marketplace where finding and retaining good labor continues to be a challenge, automation can alleviate some hiring issues.

But in many ways, the opposite is true. Getting the most from automation requires different thinking from real people and an evolved skill set different from what is traditionally associated with a typical shop floor worker. Here are some things to consider when implementing new equipment in your production process.

### Set people up for success

Modern manufacturing equipment typically arrives with many new features designed to grant operators and management a much deeper level

of insight into the production process and how it can be more efficient. For example, sensors throughout your machinery can help automatically adjust process conditions. They may also help generate data you can leverage for more effective operational decision-making; all controlled digitally via new software.

If you've recently installed new equipment in your facility, you might be familiar with some of these new digital technologies and control features. But there might be a learning curve for the team members tasked with operating this new equipment. It's on leadership to offer the appropriate training and support for all workers, and to match the right people to the right roles. For instance, you may find that younger workers flourish in a digitally controlled environment.

Another example: switching to high-speed



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## ➔ In the Trenches

automated equipment provides an opportunity to utilize warm-edge spacer technology, which is highly complementary to high-speed production. If you've traditionally used aluminum spacers, there will be a bit of a learning curve as you convert your insulated glass production process. Your supplier should be able to provide advice, support and training to help make a smooth transition.

Offering these kinds of opportunities can be an effective way for your organization to recruit, retain and engage talent, making a real difference for your operations. Building strong employee engagement is an effective way for a window and door company to put its best foot forward with today's market conditions. When people are engaged with

their work, production challenges are proactively solved, and you separate yourself from the competition. Positioning people where they can learn new things and grow professionally helps create engagement and cultivate new leaders. Even the most advanced manufacturing equipment cannot grant your organization automatic success.

### Some things never change

Along with new skill sets, however, some traditional skills will always be valuable in getting the most from your equipment. Some of those include:

**Organization.** Organization is critical at every stage of production. It's crucial to get the greatest return on investment from automated machinery. Especially true at the beginning of the process, a well-organized plant should know what raw materials they have on hand. Proper organization, where all materials are accounted for and inventoried, makes it easier and quicker for the manufacturer to feed raw materials into production, helping optimize the efficiency of your high-speed machines.

**Attention to detail.** Modern manufacturing equipment is highly precise and requires that all operators be attuned to detail throughout the fabrication process. For example, the quality benefits of automated equipment can be undone if you're not sending clean glass to your machines, so be sure your glass washing station is properly calibrated. It's not uncommon to see dirty water used or brushes barely contacting the glass in shops that haven't buttoned up every detail.

**Open-mindedness.** New equipment creates new opportunities for window and door manufacturers, so it's important for all internal stakeholders to keep an open mind once you're up and running. You'll also likely need to adjust some of your typical processes. If you're adding capacity to your line, raw materials ordering and fulfillment will also need adjustment. Work with your vendors to ensure you have what you need to maximize your new capabilities.

All these things make for a high-value employee, no matter the industry. On today's and tomorrow's plant floor, it's more important than ever that people are well rounded and equipped with the right skills to maximize the potential of modern equipment. ■

---

Joe Erb is Quanex national account manager, and John Ryba is Quanex technical services manager.

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# Inside Energy Star 7.0

*Industry associations assist manufacturers with new reporting requirements*

Energy Star, a voluntary labeling program administered by the U.S. Environmental Protection Agency, creates opportunities for residential window, door and skylight manufacturers. The Energy Star label is one of the most widely known consumer symbols, recognized by 90 percent of U.S. households.

Program partners follow eligibility, certification, labeling and reporting criteria to validate compliance and to help ensure Energy Star products perform. Industry associations closely monitor Energy Star revisions, representing members' interests and providing comments for improvement. As Energy Star 6.0 gives way to 7.0, manufacturers must comply with version 7.0 requirements by Oct. 23, 2023.

Effective this year, the required process for 2023 data reporting will change.

The Window and Door Manufacturers Association and FGIA are offering Energy Star partners that are members of either association an alternative to submitting their unit shipment data directly to the EPA's contractor, global consulting firm ICF. A joint online portal is being developed to submit confidential data to Ducker Carlisle for aggregation. Only the total unit shipment data from all submittals for each product segment and each climate zone will be delivered to the EPA, along with a list of companies that submitted to verify compliance with the reporting requirement.

Energy Star partners will receive an announcement in early January 2024 with a March 1, 2024, submission deadline. Failure to submit data by the deadline will result in removal from the U.S. Energy Star website's certified products and partner lists. Partners that still have not submitted unit shipment data by May 1, 2024, may no longer certify additional product models as being Energy Star compliant.



By Janice Yglesias

## Reporting requirements have changed

All Energy Star partners are required to report their total certified units shipped each calendar year. Previously, this reporting was produced by global consulting firm Ducker Carlisle, which conducts fenestration market research for the Fenestration and Glazing Industry Alliance.

## Quick Look

### ENERGY EFFICIENCY REQUIREMENTS FOR

#### Windows

Climate Zone	U-Factor	SHGC
Northern	≤ 0.22	≥ 0.17
North-Central	≤ 0.25	≤ 0.40
South-Central	≤ 0.28	≤ 0.23
Southern	≤ 0.32	≤ 0.23

#### Doors

Glazing Level	U-Factor	SHGC
Opaque	≤ 0.17	No Rating
≤ ½-Lite	≤ 0.23	≤ 0.23
	≤ 0.25	Northern and North-Central ≤ 0.40
> ½-Lite	≤ 0.28	South-Central and Southern ≤ 0.23

#### Skylights

Climate Zone	U-Factor	SHGC
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North-Central		
South-Central	≤ 0.50	≤ 0.25
Southern		

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### Start now, file once

To clarify changes in Energy Star 7.0 reporting mechanisms, FGIA and WDMA co-hosted a webinar by Energy Star Program Manager Doug Anderson, who manages the Energy Star Residential Window, Door and Skylight Program and the Energy Star Most Efficient Programs for residential windows, sliding glass doors, and skylights/tubular daylighting devices. He encouraged Energy Star partners to set up data collection systems for 2023 and beyond and recommended identifying a designated contact for data collection and My Energy Star Account management.

Anderson offered insights on the Unit Shipment Data Submission Form:

- Currently, all Energy Star-labeled 6.0 and 7.0 products are counted the same. After Oct. 23, only Energy Star-labeled 7.0 products will be counted.

- Partners do not report shipments of products certified by another company, even if they are the original equipment manufacturer.
- Partners report where products are shipped by climate zone. Data is based on the product's destination when it leaves the manufacturing facility and a directory of ZIP codes in each climate zone is being provided by the EPA.
- Even if a partner did not ship to a certain climate zone or did not make a certain product type, the form still must be completed and submitted; simply, enter a zero in the data field.

Anderson emphasized Energy Star partners must only submit data via one of two options—either directly to ICF or through the FGIA/WDMA online portal. In addition to the total Energy Star-certified units shipped, the EPA reporting form asks for the total for all

units shipped to aid in calculating the program's market share.

### Version 7.0 in effect

Effective April 23, new product submittals will not be certified to Energy Star 6.0. However, existing Energy Star certifications will remain valid until Oct. 23. After this, they must meet version 7.0 to be Energy Star certified and labeled.

The FGIA continues to collaborate with its members and the EPA on the Energy Star program requirements. More information on the joint FGIA/WDMA data submittal portal for members will be available later this year. ■

Janice Yglesias is the executive director of FGIA overseeing the full organization. She can be reached at [jyglesias@FGIAonline.org](mailto:jyglesias@FGIAonline.org).

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## Navigating a Dynamic Market

*Buyers are still in the market, and they are fleeing to quality*



By Andrew Petryk

Window and door companies are navigating a dynamic market, one in which the macroeconomic challenges of a moderating economy and rising interest rates have tempered an almost breakneck trajectory in the U.S. housing industry.

We believe that, while real, the near-term housing market slowdown has been exacerbated by negative media coverage leading investors to largely sit on the sidelines for new building products M&A deals. Housing starts are at levels above historical averages and well above the previous downturn. While record-setting activity experienced in 2022 (high of 1.8 million) certainly helped drive robust revenue and profit growth, current activity levels leave plenty of opportunity for companies to generate healthy returns for investors. Additionally, while forecasted growth has slowed in the repair and remodeling market, it is still projected to be positive for all of 2023 as consumers continue to invest heavily in their home environment.

Operationally, company performance has held relatively steady through the first quarter of 2023 with companies heavily tied to the new construction market seeing a mild softening in new order bookings.

While attending the NAHB International Builders Show this February, we held conversations with leading window and door executives who revealed projected softening in 2023 revenue to a range of 5 to 10 percent, a smaller contraction than is currently being factored in by the investor community. With many companies experiencing flat to modestly growing first quarters in 2023, it will require a dramatic falloff over the next three quarters to see total performance contract more than 10 percent.

How are these forces impacting the capital markets and M&A activity broadly?

- Public company valuations are modestly down to flat. The BGL Window and Door Composite Index, which includes EPWN, JELD, DOOR, PGTI and NX, is up 1.08 percent year-over-year,

which compares to -5.61 percent for the S&P 500. Median EBITDA multiples have declined from 9.1x in the first quarter of 2022 to 7.9x today. M&A multiples are down as a result, with public multiples a barometer for private company transactions.

- Debt markets are evolving, particularly amid recent headlines surrounding Silicon Valley Bank and Credit Suisse. Leverage appetite is discerning, and pricing has increased. These factors, coupled with overall economic uncertainty, are tightening private equity funds' appetite for new transactions and leaving some sidelined in the current environment. Add-on acquisitions must meet or exceed a high bar and may require an existing credit agreement to be renegotiated, which can result in higher pricing and/or tighter covenants.
- Buyers are still in the market, and they are fleeing to quality. Incoming order activity, backlog trends and sustainability of earnings have become key diligence items for investors. Companies focused on the repair and remodel market versus new construction are in favor. We do expect that the second quarter of 2023 will be pivotal for companies to "prove" their resilience to weather another quarter of tempered market demand. Those that continue to perform will be in a strong position once inflation, interest rates and economic outlook begin to show signs of sustained improvement.

We anticipate the markets opening for M&A activity during the second half of 2023. A pipeline of deals is growing in building products, and there is going to be an advantage for buyers standing ready to capitalize and acquire high-quality companies at reasonable prices before the bidding war begins. ■

Andrew Petryk is a managing director and leads the industrials practice at Brown Gibbons Lang & Company. Contact Petryk at 216/920-6613 or [apetryk@bglico.com](mailto:apetryk@bglico.com).

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# Servant Leadership Serves Business Growth

*Focus on people to create business growth and a strong culture*



By Jeff Jackson

PGT Innovations has tripled its annual revenue over the past five years, reaching almost \$1.5 billion in 2022. To understand how we've accomplished this, you have to go back to the beginning. PGT Innovations' story began in 1980 when our founders designed a vinyl porch enclosure product on a napkin. The VinylTech business opened shortly after and began production with three employees and a close-knit culture.

Since then, the company has evolved its name, added brands, welcomed new team members, expanded across the U.S. and invested in tremendous innovation. One thing has always stayed the same: PGTI has maintained a family culture through a legacy of serving, leading and thriving.

## Growth through service

I'm often asked how our company plans for growth and makes informed decisions that benefit our business. For me, it all comes down to a core brand pillar that has been the cornerstone of our foundation at PGTI since day one—serving others.

Before my career in corporate America, I held various public service positions. In high school, I spent summers as a lifeguard. After that, I worked as a security guard and a police officer in Georgia, and I had wanted to work for the Secret Service but I fell back on my accounting degree and began a career in finance.

While the two paths may seem to veer in entirely different directions, the common theme on both journeys is an intrinsic desire to serve others. Whether it was lifeguarding, law enforcement or working at the helm of a publicly traded, billion-dollar window and door manufacturing firm, the most important thing that has always been my north star and what I believe is the secret to positioning any company—no matter how big or how small—for success is to focus on the people.

## Serving people first

That desire drives our decision to provide incredible benefits for our team members. Some of those benefits include on-site health clinics, fitness centers, a childcare center, leadership development training, financial wellness classes, adoption benefits, a scholarship program for dependents of team members, personal wellness programs and employee assistance programs. We offer “volunteer time off” benefits for folks who want to donate their time during work hours, match financial donations that our team members make to nonprofit organizations, maintain an internal mentorship program called Leading Ladies, and in 2018 we made all of our team members shareholders in our company, the first time many of our team members ever owned stock.

In 2021, we partnered with Florida Attorney General Ashley Moody on its Highway Heroes program, training 100 percent of PGTI truck drivers and several other departments on identifying and reporting signs of human trafficking on roadways.

Finally, our team members lead efforts to provide emergency relief supplies to communities devastated by severe storms—over \$1.5 million since 2016—to help residents realize that there are companies there to help them rebuild and that they are not alone.

While my dream of being a Secret Service agent never materialized, the motivation behind the dream remained and has steered my path. Three simple words have guided my career and continue to lay the path for substantial business growth and a strong company culture that has served PGT Innovations since day one: serve people first. ■

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Jeff Jackson is the president and CEO of PGT Innovations. He has been with the company since 2005.

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## Workforce Needs in the Age of Automation

*How automation can help companies combat the labor shortage, enhance safety and maximize resources*



By  
**Laurie Cowin**  
EDITOR

The skilled labor shortage has long been an obstacle for the industry. As the supply chain issues that dominated the past few years are easing, labor is again coming to the forefront of companies' top challenges.

David Kline, vice president of sales and marketing, Joseph Machine Co., and CEO Anthony Pigliacampo talked with Window + Door about the current workforce and how automation can help companies alleviate their workforce challenges and enhance safety on the manufacturing floor.

**Window + Door: Let's start with an industry overview. What are some trends in the window and door manufacturing industry that Joseph Machine is keeping an eye on?**

**David Kline:** The U.S. market continues to focus on higher efficiency designs using materials that are more difficult to fabricate, such as thermally broken aluminum and fiberglass extrusions. They are much more challenging to fabricate than PVC and are great places to apply automation. Another important trend is the continued focus on finding ways to make workers' jobs easier. The ergonomics of using equipment are more important than ever to enable workers of all shapes and sizes to be equally productive.

**WD: How has the workforce changed in the past five years? How do you anticipate it will change moving forward?**

**Anthony Pigliacampo:** The workforce is experiencing a significant shift due to the retirement of baby boomers and the impact of the COVID-19 pandemic. As a result, many workers have left the industry, leaving a shortage of skilled workers. To combat this, companies must attract and retain younger workers with different skills and work preferences. Companies will be forced to

automate to have acceptable working conditions and produce more with less. These trends are likely to remain the same.

**WD: Recruitment and retention are huge challenges. How are you targeting younger workers for a career in manufacturing?**

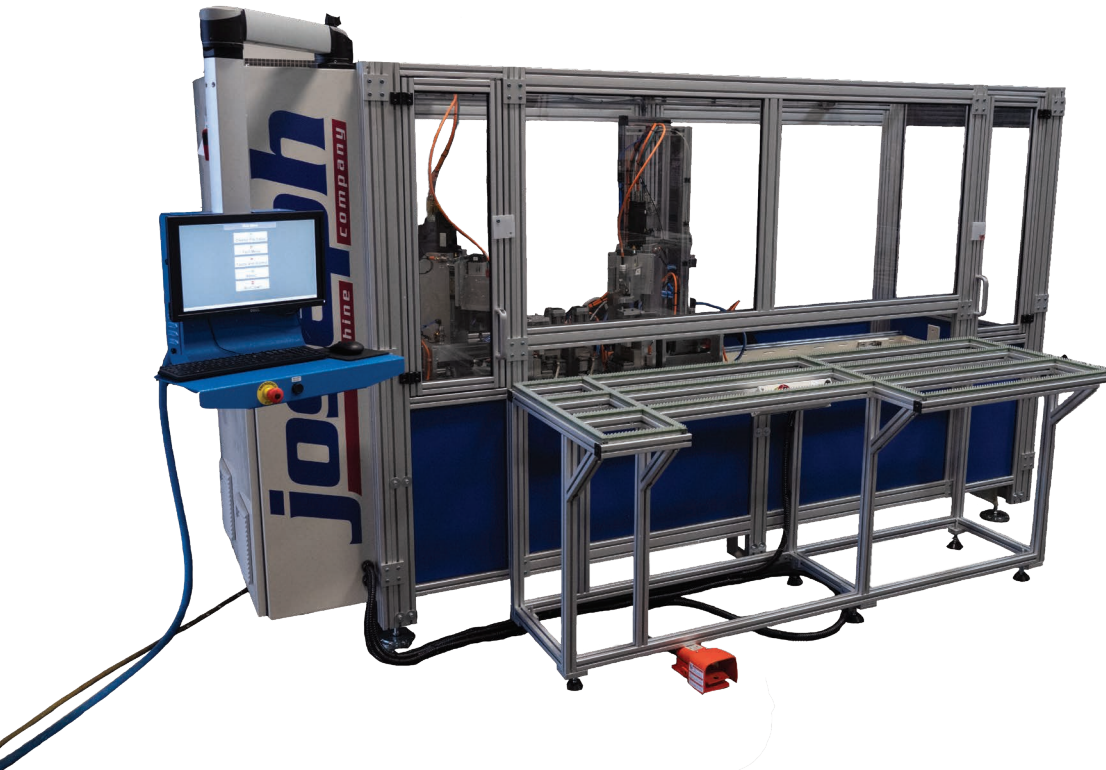
**DK:** This is a challenging problem in the U.S. College prep is seen as the 'only' path to success when, in reality, manufacturing can be both stimulating and financially rewarding. We spend a lot of time connecting with local and regional schools to help our company gain exposure, conducting tours for student groups, and hosting interns from local universities.

**WD: What key skills must today's labor force have?**

**AP:** Today's labor force needs to have a mix of technical and soft skills. Technical skills include proficiency in automation and digital technologies, such as computer-aided design (CAD) and programmable logic controllers (PLCs). Soft skills include communication, collaboration, problem-solving and adaptability. More automated equipment in plants means more digital fluency for workers is necessary. Troubleshooting machines is often handled on a screen now instead of with a toolbox.

**WD: Automation can be a great solution for labor needs. Another area that can benefit manufacturing facilities is safety. How have safety requirements and awareness evolved?**

**DK:** The biggest changes we see are industry-wide adoptions of standards to prevent injury, such as light curtains and cabinet interlocks to prevent



access to areas where cutters are still moving. These systems make equipment more complex; the software has also had to evolve to make troubleshooting easier. The equipment is much better at telling operators what sensors have tripped and how to reset them. We see customers focusing on safety across their entire factory, not just the complex fab centers. For example, we have seen a mass migration from chop saws to enclosed upcut saws. This change is driven purely by a desire for a safer environment.

**WD: What are the safety benefits of machinery?**

**AP:** The systems required to make a machine ‘safe’ often enable more data collection and can help operators understand if a machine is operating properly or not. Maintenance-induced errors can decrease because the machine can tell the operator exactly what sensor is tripped. Machines with added safety are often much less prone to operator-induced problems as well.

**WD: How has Joseph Machine positioned itself as a go-to machinery supplier for the industry?**

**DK:** Customer service and support is our number one focus. Our machines only make our customers money when they are functioning. We believe our service sets us apart. Further, as an engineering-focused company, innovation is in our DNA. We are always trying to develop solutions to make our customers’ businesses easier to run and more profitable. Our

Lock and Keeper insertion machine is a great example. It’s a small piece of equipment, but it helps make a repetitive, injury-prone job easier. Customers love that we help them solve those types of problems.

**WD: How do you continually support customers, from those just getting started with automation in their facilities to those with fully integrated automation in their processes?**

**AP:** Support comes down to resources. We have a large team of dedicated service technicians and personnel who are obsessed with solving our customers’ problems. We also have a 15,000-square-foot stock room of parts ready to send to a customer in need. Our large team of engineers are also incredibly helpful at solving complex customer service problems.

**WD: How does Joseph Machine differentiate itself from its window and door manufacturing industry competitors?**

**DK:** Being an American OEM allows us to offer service that is just not possible for companies based in Europe or Asia. We can support our customers in real-time. Our background as a custom equipment manufacturer also means we can better address our customers’ specific needs. We can understand the requirements and develop a solution perfectly matched to the need. ■





Photo courtesy of PGT Innovations

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A  
Y E A R  
O F  
Growth

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Companies expand their capacity as backlogs decrease and sales increase

BY LAURIE COWIN

The economic landscape of the past year has been tumultuous, requiring companies in the building products industry to ride the ebb and flow. The companies on this year's Top Manufacturers list do just that—navigate the economic waves at their highs and lows

while continuing to prioritize customer service and growth while trailblazing innovation.

This year's Top Manufacturers report examines the construction, building and manufacturing industries at large before diving into insights from the statistics from residential

fenestration manufacturers, compiled using data from survey companies completed in March of this year. The complete Top Manufacturers list starts on page 40 and is organized by company revenue. →





# The Big Picture

After much of 2022 saw decreased housing starts and low builder confidence, new housing construction figures are starting to creep back up. However, remodeling may be heading for a slowdown, according to industry forecasters. Economic concerns hamper both figures, and the manufacturing industry as a whole is also feeling the impact of a shaky economy, inflation and rising costs across the board.

## New construction

Builder sentiment was cautiously optimistic in April as limited resale inventory helped increase demand in the new home market even as the industry grapples with building material issues. The NAHB/Wells Fargo Housing Market Index registered a one-point gain in April to 45. Although any number less than 50 is considered negative, it's a significant gain from the November 2022 reading of only 33.

Overall, housing starts posted a decrease in March of 0.8 percent. The single-family

sector is improving 2.7 percent, but it's still 27.7 percent lower than a year ago. However, this is an improvement from February data, in which year-over-year figures were 31.6 percent lower than a year ago. "We expect choppiness for single-family construction in the months ahead, with the 2023 data posting significant year-over-year weakness before improving on a sustained basis," says NAHB Chief Economist Robert Dietz.

### KEY TAKEAWAYS

#### Builder sentiment

One-third of housing inventory is new construction, compared with historical norms of around 10 percent. This, combined with fewer listings in the resale market, is giving builders an edge.

#### Turning point ahead

"With builder sentiment climbing for four consecutive months and single-family starts continuing to move gradually higher from low levels since the beginning of the year, this

indicates that a turning point for single-family construction will occur later this year after declines in 2022," says Alicia Huey, chairman of the National Association of Home Builders

#### Supply, labor challenges

Supply-chain struggles and ongoing labor shortages continue to challenge builders.

## Remodeling

Remodeling, on the other hand, may be about to see a decline after more than a decade of continuous growth. The Leading Indicator of Remodeling Activity released by the Remodeling Futures Program at the Joint Center for Housing Studies of Harvard University projects that year-over-year homeowner improvements and maintenance expenditures will post a modest decline of 2.8 percent through the first quarter of 2024.

"Higher interest rates and sharp downturns in homebuilding and existing home sales are driving our projections for sluggish remodeling activity next year," says Carlos Martin,

project director of the Remodeling Futures Program at JCHS. "With ongoing uncertainty in financial markets and the threat of a recession, homeowners are increasingly likely to pare back or delay projects beyond necessary replacements and repairs."

### KEY TAKEAWAYS

#### A slower pace of growth

The NAHB/Westlake Royal Remodeling Market for the first quarter of 2023 posted an increase in the Future Indicators Index and a slight decrease in the Current Conditions Index. NAHB says these figures are consistent with their projection that remodeling will grow in 2023 but slower than in 2022.

#### Remodeling boons

Ageing-in-place may be a strong sector for remodeling in the coming years, predicts NAHB. The JCHS at Harvard University also notes federal incentives for energy-efficiency retrofits may buoy remodeling and prevent it from steeper declines.

## Manufacturing

The manufacturing industry's top concerns revolve around tax, trade, permitting and regulatory proposals, according to the National Association of Manufacturers Q1 2023 Manufacturers' Outlook Survey. Overall, the NAM Manufacturing Outlook Index rose four points from last December's reading, though it remains just below the historical average.

### KEY FINDINGS FROM THE SURVEY

#### Workforce struggles

Nearly three-quarters indicate attracting and retaining a quality workforce as a primary business challenge, with increased raw material prices and supply chain challenges as the next two biggest.

#### Tax burdens

More than 90 percent said higher tax burdens on manufacturing income would make it difficult to expand their workforce, invest in new equipment or expand their facilities. Almost 94 percent said regulatory burdens would similarly burden them.

#### Permit troubles

About three-quarters indicated permitting reform, which would simplify and expedite the approval process for new projects, would be useful in helping hire more workers, expand their business, and increase wages and benefits.

## THE TOP MANUFACTURERS INDEX

The Top Manufacturers list details North America's largest manufacturers of residential windows, doors, skylights and related products, based on sales volume

### More than \$1 Billion

Andersen Windows & Doors  
Cornerstone Building Brands\*  
Jeld-Wen  
Marvin Windows and Doors  
Masonite  
MITER Brands  
Pella Corp.  
PGT Innovations  
Velux USA\*  
Wintegra Windows Inc.  
YKK AP America Inc.

### \$500 Million to \$1 Billion

Associated Materials  
KÖMMERLING USA\*  
Starline Windows\*  
Therma-Tru Doors\*  
ProVia

### \$300 Million to \$500 Million

Harvey Building Products  
Novatech\*  
Sierra Pacific Windows\*  
Steves & Sons Inc.\*  
Woodgrain Millwork\*

### \$200 Million to \$300 Million

Champion\*  
Kolbe & Kolbe Millwork Co.\*  
ODL  
Polaris Windows & Doors\*  
Quaker Windows and Doors  
Weather Shield Mfg.\*

### \$100 Million to \$200 Million

All Weather Windows  
Boral Windows LLC\*  
Crystal Window & Door Systems  
Earthwise Group, LLC  
Elevate Windows and Doors  
Fenplast  
Lindsay Windows  
Loewen Windows and Doors

Lux Windows & Doors  
Midway Windows & Doors  
Plastpro\*  
Simpson Door Co.  
Trimlite  
Trinity Glass International\*  
United Window & Door Mfg. Inc.  
Vinylmax Windows  
Viwinco Inc.  
Wincore Windows and Doors  
Window Designs Group\*

### \$75 Million to \$100 Million

Air Master Windows and Doors  
Arcadia Custom  
Centra Windows  
Durabuilt Windows & Doors  
Hayfield Window & Door Co.  
Lincoln Windows & Patio Doors  
Regal Aluminum Windows & Doors Inc.  
Skyline Windows  
Thompson Creek Window Co.\*  
Wallside Windows  
WinDor\*  
Window Mart\*  
ViWinTech Window & Door Inc.  
Vytex Windows

### \$50 Million to \$75 Million

Builders FirstSource\*  
Castle Windows\*  
Conservation Windows\*  
Gerkin Windows and Doors  
LePage Millwork  
Mathews Brothers Co.  
Northeast Windows USA Inc.  
NT Window Inc.  
Premium Windows

### \$40 Million to \$50 Million

ATI Windows\*  
Croft LLC\*  
FrontLine Bldg. Product Inc.

GlassCraft Door Co.  
Hope's Windows Inc.\*  
International Window Corp.  
Okna Windows Manufacturing\*  
Solaris International\*  
Sun Windows Inc.  
The Coeur d'Alene Window Company\*  
Vector Windows

### \$30 Million to \$40 Million

All Weather Architectural Aluminum\*  
Comfort View Products  
Euroline Steel Windows  
Interstate Window & Door Co.  
Joyce Manufacturing Co. Inc.  
Madero\*  
Stanley Doors\*  
Taylor Entrance Systems\*

### \$20 Million to \$30 Million

Alpen High Performance Products  
Everlast Group of Companies\*  
Gilkey Window  
Ideal Window  
Inline Fiberglass Ltd.  
Moss Supply Co.  
Vinyl Kraft Inc.  
Winchester Industries

### \$15 Million to \$20 Million

Assura Windows and Doors\*  
Climate Solutions Windows & Doors  
KHPP Windows and Doors  
Klar Studio Inc.  
Thermal Windows Inc.  
Upstate Door

### Less Than \$15 Million

Coronet Window Company  
Glass-Rite  
Seaway Mfg. Corp.  
Stewart Brannen Millworks



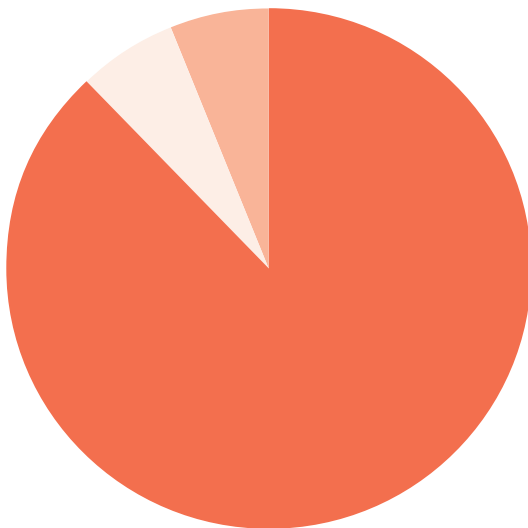


THE RESIDENTIAL FENESTRATION

# Market

Respondents to this year's Top Manufacturers survey shared insights about sales, production, product trends, labor, automation and more.

## Sales, production, investments



### How did your 2022 gross sales compare to 2021 gross sales?

This figure is on par with 2021 gross sales, of which 87 percent of companies noted were higher. This year, however, a small number of companies indicated lower sales, as opposed to no companies experiencing lower sales in 2021.

- Higher—88%
- Lower—6%
- Same—6%

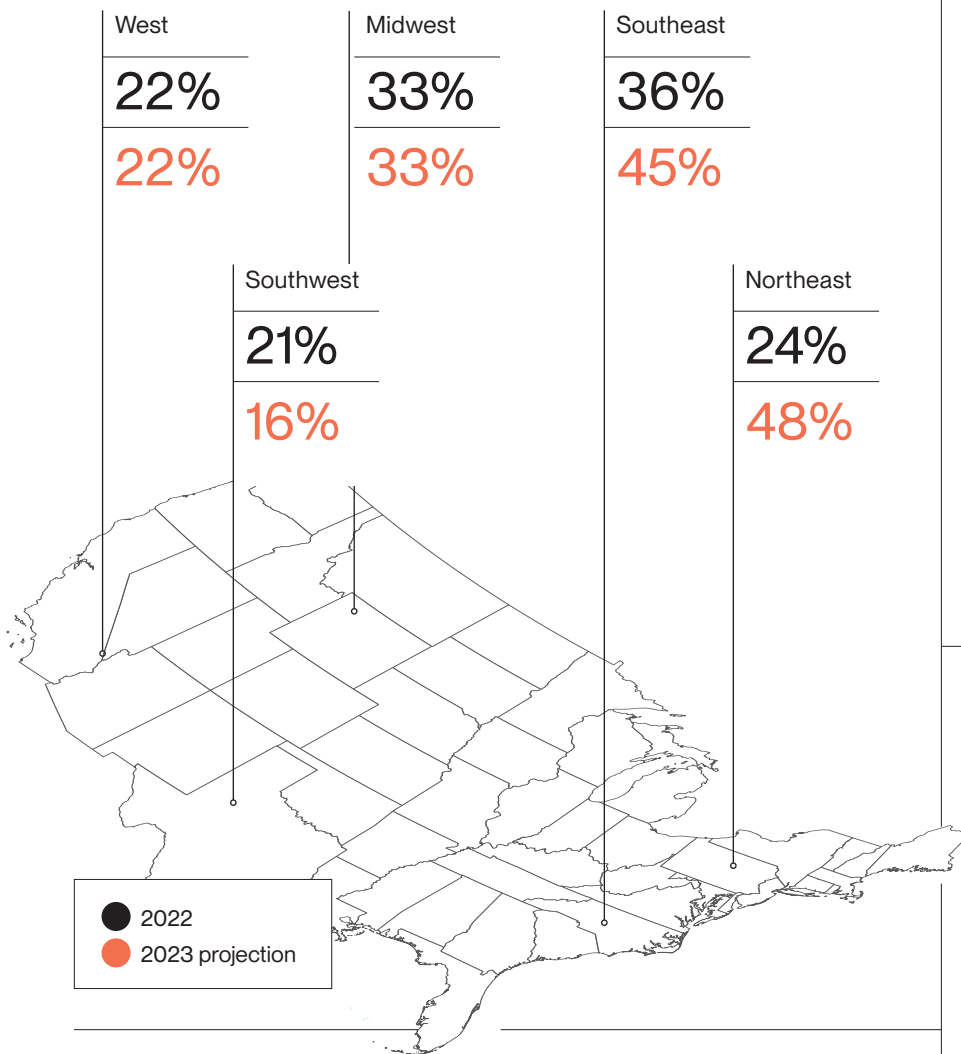
# 91%

of companies note they have experienced measurable, significant growth over the past five years. Some of the growth areas include new manufacturing locations, investments in equipment and machinery, new products, expanded workforces, extra shifts, acquisition activity, and more.

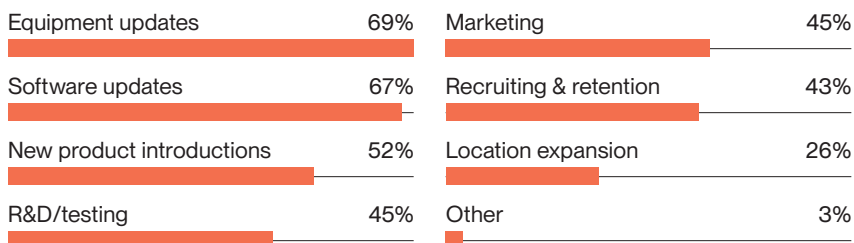
# 88%

of companies added production capacity in 2022.

In which geographic markets did you see the most growth in 2022?



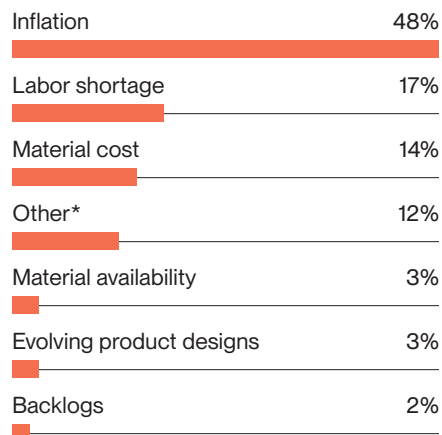
Where will you invest in your business in 2023?



(Respondents could select more than one answer)

## Challenges, opportunities

What will be major headwinds in 2023?



\*Includes interest rates, housing affordability, consumers being priced out of the market, market slowdown, rising energy prices

What is your biggest business opportunity?

Respondents overwhelmingly indicated that expanding into new markets and geographic territories will be a big business opportunity in the coming year. Other business opportunity includes:

- Adding manufacturing locations
- Geographic expansion
- Thin glass IG automation
- Acquiring new customers
- Door systems
- Energy Star Version 7.0
- Customization options
- Strong customer relationships
- Growing dealer network
- Higher-end jobs
- Triple-pane windows
- Hiring good employees
- Impact-rated products



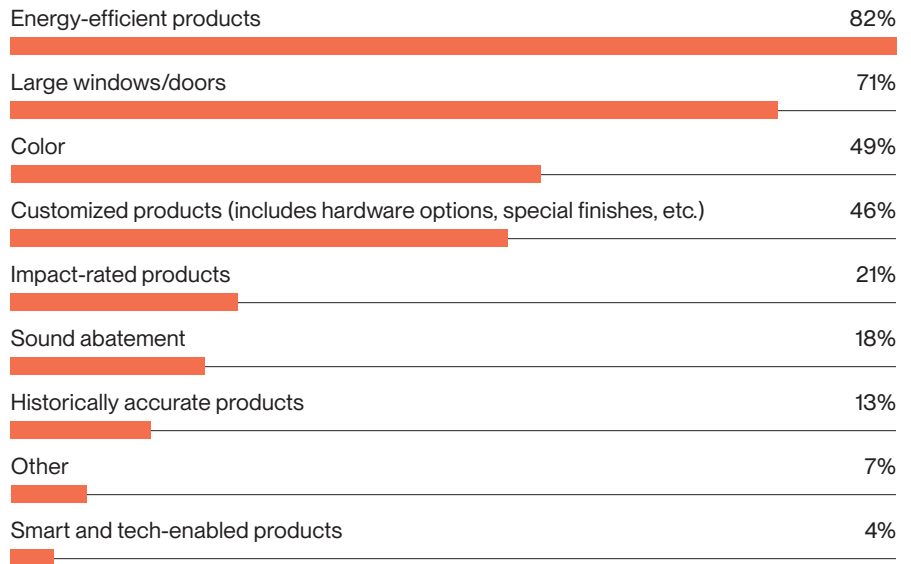


# Products

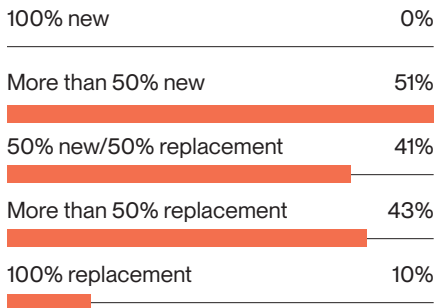
As in past years, many manufacturers cite vinyl windows and patio doors as their primary products. This figure aligns with what Window + Door reported in the 2023 Industry Pulse survey, where vinyl windows were the top-most-demanded product by nearly three times as much as the next product category.

Much product development is happening on the energy efficiency side, especially as Energy Star Version 7.0 is set to take effect in October, which is causing many companies to evaluate their energy-efficient portfolio and decide where and how to upgrade as necessary.

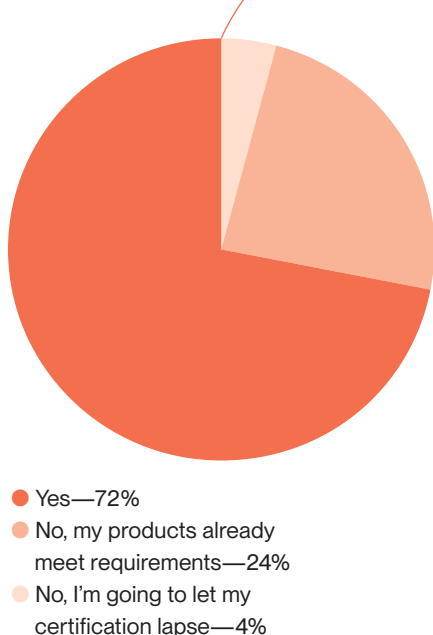
## What are the top three features in products your customers are requesting?



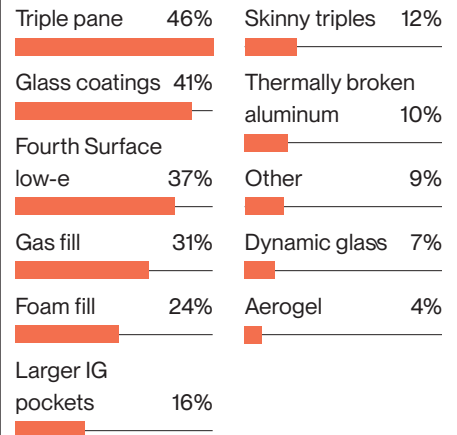
## What percentage of your products are new construction versus replacement?



## Do you plan to update products as necessary to meet Energy Star guidelines?

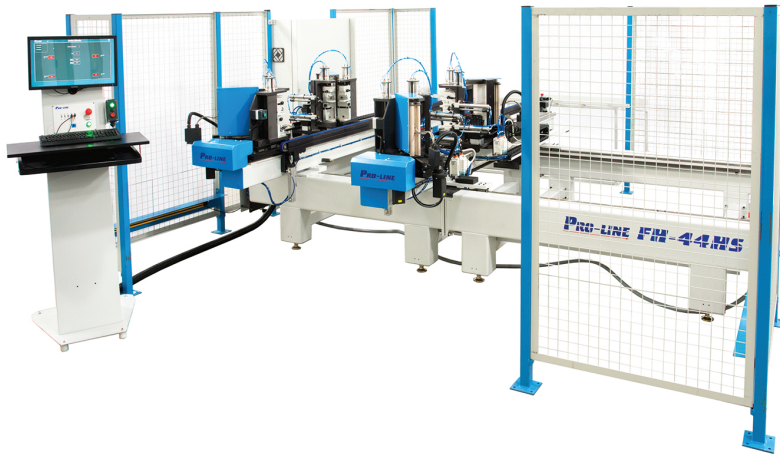


## If yes, what technologies are you considering to enhance energy efficiency?



## **PRO-WELD FH-44HS**

*Frame or sash welding, servo controlled parallel welding*



## **PRO-WELD FH-88**

*Sash Sized Welding, small footprint with "true" double stacking*



## **PRO-WELD TH-21**

*Twin Head Welder, touch screen interface, large capacity*

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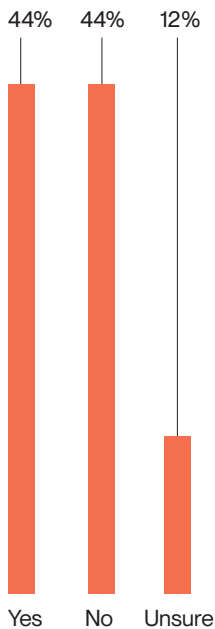




## Supply chain and materials

The pandemic upended the supply chain. This year's survey indicates it is beginning to stabilize compared to the past couple of years. Although inflation, availability of some materials and prices challenge manufacturers, many can work around these challenges through diversifying supply bases, maintaining solid relationships and having hard-working supply teams to mitigate difficult situations.

### Are you experiencing increased demand compared to last year?



What are some reasons behind your answer?

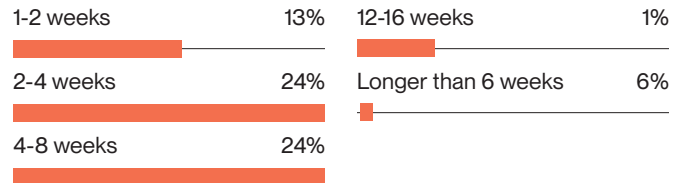
**Yes:** Growth, reach, reallocation from replacement to new construction, pent-up demand, expanded product offerings, product performance, increased demand for energy-efficient and customized products, opportunity to convert commercial buildings to residential, growing customer base, luxury market growth, and expansion into new regions.

**No:** Interest rates, available credit, economic conditions, post-COVID slowdown, less advertising, inflation, weather conditions, shrinking inventory, lack of steady relationships and market activity being down.

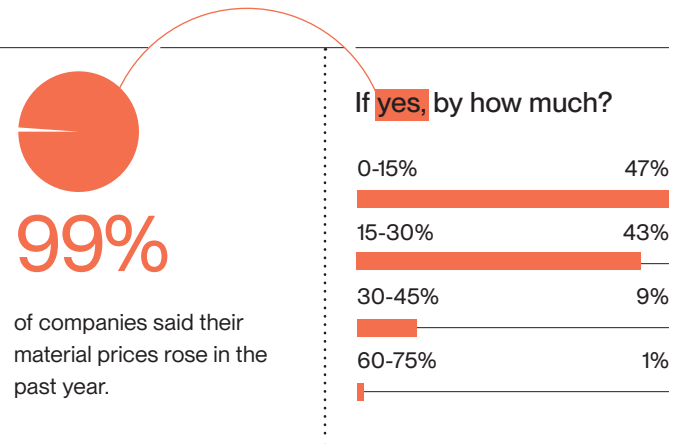
**60%** have made changes to their supplier partners

Of those that made changes, the most oft-cited reasons included price increases, lack of supply, material delays, diversification, sourcing new materials and the need for more innovative partners. Those that didn't change supplier partners indicated strong relationships. "Over the years, we have built strong relationships with our supply partners, and during the supply chain challenges, we worked with them instead of abandoning them," writes one respondent. "This strategy has paid off for us."

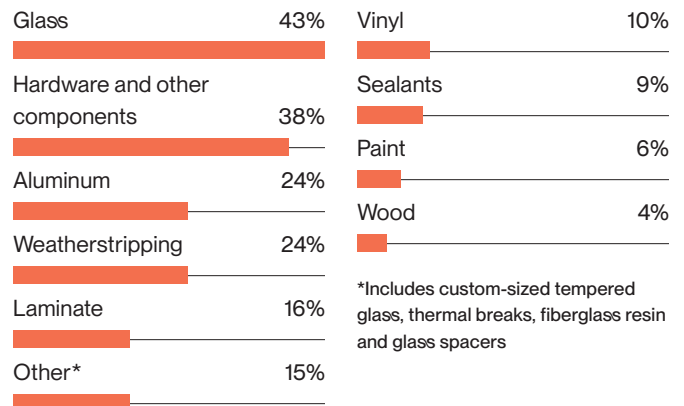
### How deep is your backlog?



Just over 70 percent of respondents reported their backlogs were shorter in 2022 compared to 2021 and about a fifth indicated the backlogs are about the same as the previous year. Only 6 percent said their backlogs are longer—a marked drop from last year's report in which nearly half of companies indicated their backlogs were increased.

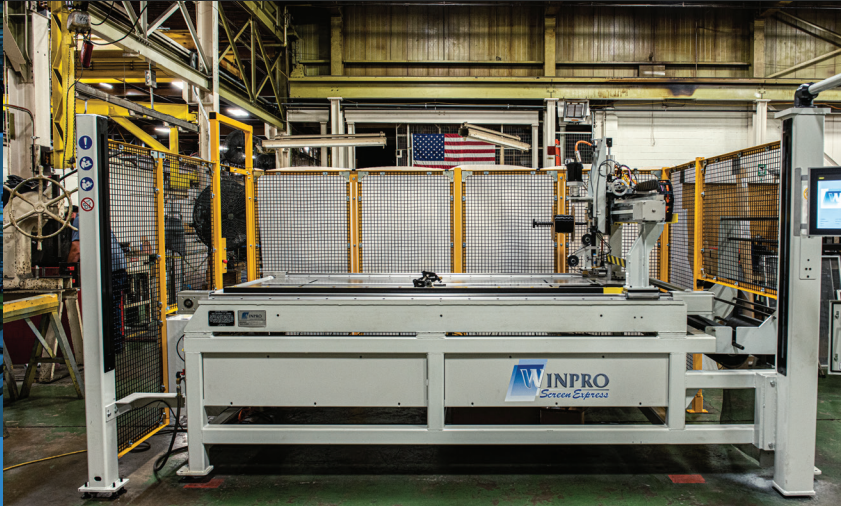
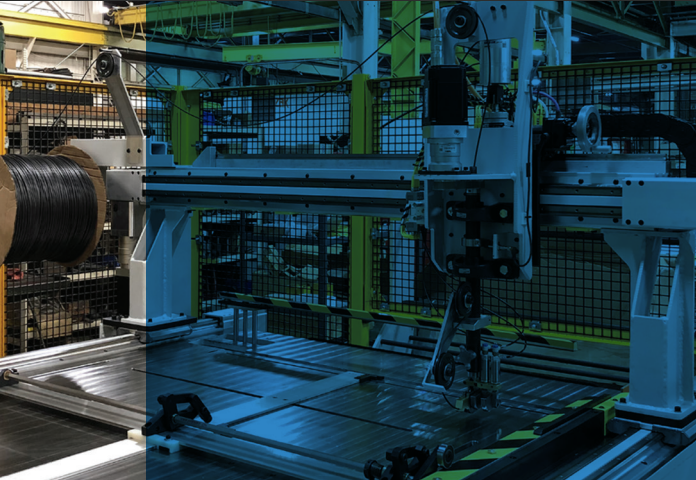


### Which materials are most challenging to source?



\*Includes custom-sized tempered glass, thermal breaks, fiberglass resin and glass spacers

# Innovative Manufacturing Solutions for the Fenestration Industry



## Features & Benefits:

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- Minimal amount of floor space required
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- Consistent quality provided by programmable machine motion, eliminates hourglass effects
- Works well with extruded or roll formed screen frame



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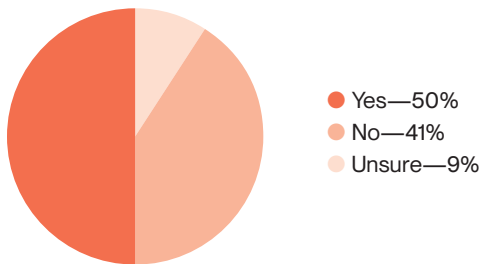




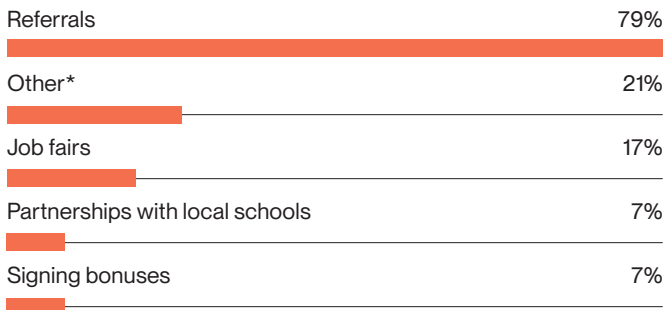
## Labor

The skilled labor shortage continues to be a mighty obstacle for companies and perhaps this year is replacing the supply chain as companies' top challenge.

### Did you have more difficulty finding workers in 2022 compared to 2021?

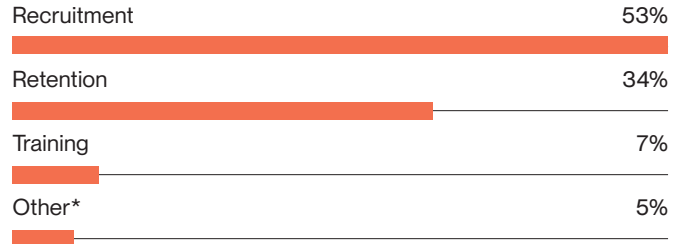


### What are your most effective employee recruitment strategies? (Respondents could select more than one answer)



\*Includes agencies, social media, job boards, open interviews and location signage

### What is your biggest labor challenge?

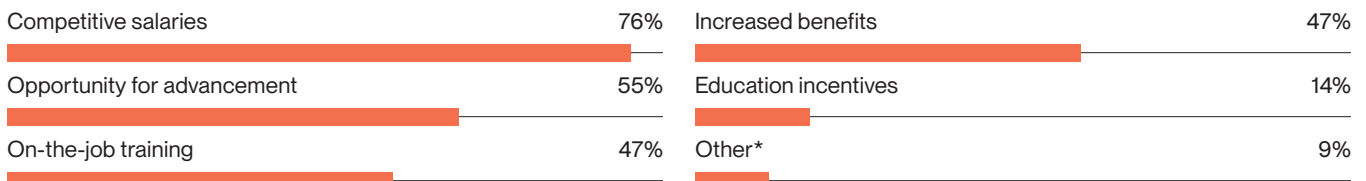


\*Includes bilingual communications and wage expansion

Top challenges when training new employees include a lack of desire to learn new skills, language barriers, a changing demographic, difficulty in employee attendance reliability and soft skills. Finding the correct trainer and having a sufficiently long training window is important but difficult to come by. "Developing a strong enough training program and resisting the urge to just throw people onto the floor" is one challenge, writes one manufacturer. The custom nature of fenestration products also adds to training challenges. New hires often are also new to a manufacturing environment, so not only do the employees need to learn fenestration specifics but they also need to learn about manufacturing in general. Adaptability to change is also a factor. "Getting them used to the fast-paced production line and adapting when our processes change is a challenge," one respondent writes. "We are continuously improving our processes and it can be hard to keep up." Training also expands beyond hard skills. "Our company culture is very important to us, so a challenge or growth opportunity is ensuring there is equal exposure and understanding to culture and organizational values at every level," writes one respondent.

**84%** of companies plan to hire workers in the next year.

### What are your most effective employee retention strategies? (Respondents could select more than one answer)

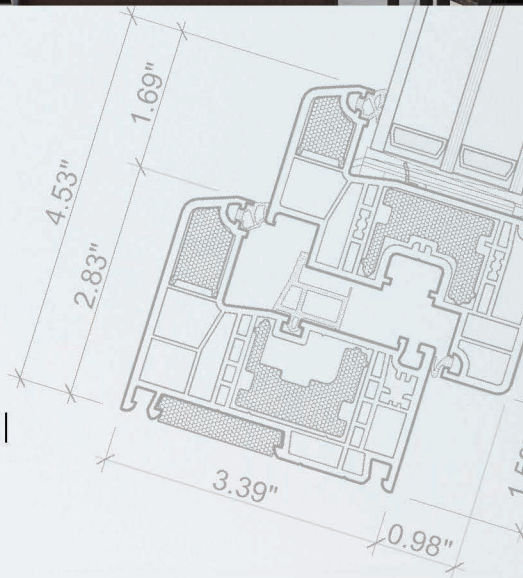


\*Includes flexible work shifts, good company culture and European employment rules such as maternity leave, holidays, health insurance, etc.

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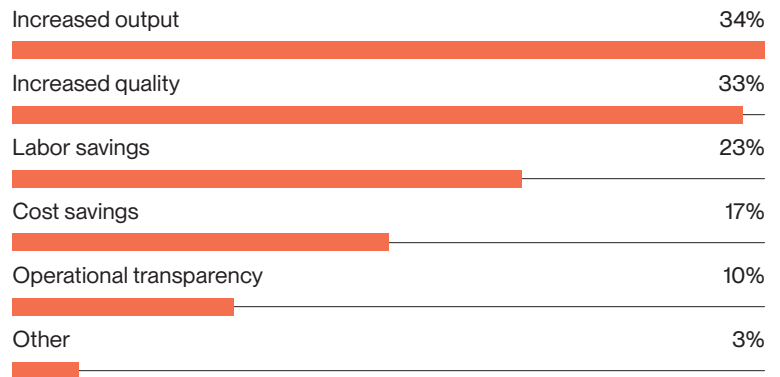


# Automation

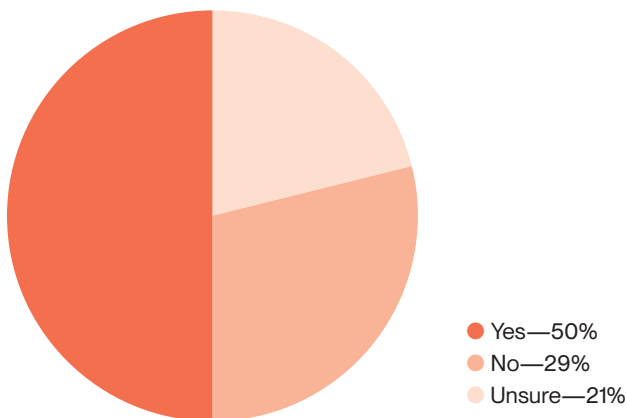
# 84%

of respondents employ automation in their factories. This figure holds steady with the 2021 and 2022 Top Manufacturers reports, in which 83 and 84 percent of companies, respectively, indicated they use automation.

## If yes, what are the biggest benefits?



## Do you plan to add automation in the next year?



Planned automation includes screen line, cutting for frame and sashes, glass, assembly, saws, cranes, welders, cleaner and IG manufacturing, among others. Some companies are also exploring automation for oversized products, which will better support employees. Yet others plan to add automation through shipping and scanning processes.

# 33%

brought more operations in-house in 2022. Although the majority did not bring operations in-house in 2022, those that did cite significant benefits such as more IGU production, screens and painting. One respondent invested in an additional laminating machine for more capacity, yet others added glass tempering capabilities. "It was already a challenge to get tempered glass," writes one respondent. "As codes become more strict, tempered glass will be spec-ed more often."







THE TOP MANUFACTURERS

# List

**MORE THAN  
\$1 BILLION**

## **Andersen Windows & Doors**

Bayport, Minn.  
andersenwindows.com  
800/426-4261

**PRODUCT LINES:** Wood, composite, vinyl-clad wood windows, aluminum and fiberglass windows, entry doors, and patio doors sold under the Andersen Windows and Doors, Renewal by Andersen, Heritage, MQ and Weiland brand names

Subsidiaries include Renewal by Andersen, MQ and EMCO

## **Cornerstone Building Brands\***

Cary, N.C.  
cornerstonebuildingbrands.com  
888/624-8677

**PRODUCT LINES:** Acoustic windows; aluminum patio doors, sliding doors and windows; aluminum-clad doors and windows; composite windows; impact-resistant aluminum doors and windows; impact-resistant doors; impact-resistant vinyl patio doors and windows; impact-resistant windows; insulating glass units; multi-panel doors; multi-slide pocketing doors; patio doors; sliding doors; vinyl casement patio

doors and windows; vinyl doors, entry doors, multi-panel patio doors, patio doors, replacement doors and windows, sliding doors and windows; and wood patio doors and windows

Brands include Ply Gem Windows & Doors, Silver Line Windows & Doors, Simonton Windows & Doors, Atrium Windows & Doors, American Craftsman Windows & Doors, Great Lakes Window and Ply Gem Canada, Cascade Windows

## **Jeld-Wen**

Charlotte, N.C.  
jeld-wen.com  
704-378-5700

**PRODUCT LINES:** Vinyl windows, composite windows, clad windows, wood windows, vinyl patio doors, aluminum patio doors, multi-panel vinyl doors, multi-slide pocketing aluminum clad doors, fiberglass entry doors, steel doors, wood doors, interior doors.

Subsidiaries include La-Cantina, VPI, MMI, ABS, Dana, Swedoor

## **Marvin Windows and Doors**

Warroad, Minn.  
marvin.com  
888/537-7828

**PRODUCT LINES:** Aluminum and fiberglass doors, wood and wood-clad windows, wood and wood-clad doors, fiberglass windows and doors, interior doors, entry doors, impact-resistant windows and doors, impact-resistant garage doors, fiberglass skylights, aluminum and fiberglass Skycove, smart skylights

Subsidiaries include Infinity from Marvin Replacement Windows, TruStile Doors and SIW Windows & Doors

## **Masonite**

Tampa, Fla.  
masonite.com  
813/739-1828

**PRODUCT LINES:** Residential doors - flush and molded interior/fiberglass, composite and steel exterior

Subsidiaries include Endura Products



Photo courtesy of NT Window





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## MITER Brands

Harrisburg, Pa.  
miterbrands.com  
717/365-3300

PRODUCT LINES: Vinyl Windows, vinyl patio doors, aluminum windows, aluminum patio doors, fiberglass windows, fiberglass patio doors

Subsidiaries include MI Windows and Doors, Milgard Windows and Doors

---

## Pella Corp.

Pella, Iowa  
pella.com  
641/621-6859

PRODUCT LINES: Wood/clad windows, fiberglass windows, vinyl windows; Wood/clad, fiberglass, vinyl and aluminum patio doors; Wood, fiberglass and steel entry doors

Subsidiaries include Custom Window Systems, Reilly Windows and Doors, Bonelli Windows and Doors, Duratherm Windows Corporation, Win-Dor, Avant Windows, Burris

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## PGT Innovations

North Venice, Fla.  
pgtinnovations.com  
941/480-1600

PRODUCT LINES: Aluminum & vinyl windows (single hung, double hung, casement, picture, horizontal roller and architectural windows); aluminum and vinyl French doors and sliding glass doors; custom metal garage doors; porch enclosure products

Subsidiaries include CGI, PGT Custom Windows and Doors, WinDoor, Western

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Window Systems, Eze-Breeze, CGI Commercial, NewSouth Window Solutions, Eco Window Systems, Anlin Windows & Doors

---

## Velux USA\*

Greenwood, S.C.  
veluxusa.com  
803/396-5700

PRODUCT LINES: Residential skylights, tubular skylights, commercial dome skylights, structural framed skylights, barrel vault skylights, polycarbonate panels, modular commercial skylights, flashing systems, electronic controls and blinds

---

## Wintegra Windows Inc.

Abbotsford, British Columbia, Canada  
wintegra.ca  
778/981-0309

PRODUCT LINES: Tilt & Turn Windows, casement windows, lift & slide doors, exterior swing door, French patio door

---

## YKK AP America Inc.

Atlanta, Ga.  
ykkap.com  
678/396-6724

PRODUCT LINES: Vinyl windows, vinyl patio doors

Subsidiaries include Erie Architectural Products

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## \$500 MILLION TO \$1 BILLION

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### Associated Materials

Cuyahoga Falls, Ohio  
associatedmaterials.com  
216/696-0229

PRODUCT LINES: Vinyl windows

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### KÖMMERLING USA\*

Huntsville, Ala.  
kommerling.us  
800/330-2239

PRODUCT LINES: Lift & slide patio doors, tilt-and-turn windows, balcony doors, residential doors, large fixed lights

KÖMMERLING is a profine Group company

---

### Starline Windows\*

Surrey, British Columbia, Canada  
starlinewindows.com  
604/882-5100

PRODUCT LINES: Aluminum window wall, unitized curtain wall, patio doors, sliding sealing doors, patio doors and swing doors; vinyl windows, patio doors, sliding sealing doors, patio doors and swing doors; entry doors

Subsidiaries include Starline Installations Ltd.

---

### Therma-Tru Doors\*

Maumee, Ohio  
thermatru.com  
800/843-7628

PRODUCT LINES: Fiberglass and steel entry doors, impact-rated

---

fiberglass doors, door system components

Subsidiaries and sister companies include Larson, Fiberon, Fypon, Solar Innovations, MasterLock, American Lock, SentrySafe, Moen, House of Rohl, Perrin & Rowe, Riobel, Victoria Albert, Aqualisa, Rohl and Shaws England

Therma-Tru's parent organization is Fortune Brands Innovations

---

### ProVia

Sugarcreek, Ohio  
provia.com  
330/852-4711

PRODUCT LINES: Steel doors, fiberglass entry doors, aluminum storm doors, vinyl windows, wood-clad windows, vinyl patio doors, vinyl siding, manufactured stone veneer, metal roofing

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## \$300 MILLION TO \$500 MILLION

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### Harvey Building Products

Waltham, Mass.  
harveybuildingproducts.com  
800/822-0437

PRODUCT LINES: Vinyl windows, vinyl doors, wood clad windows, fiberglass entry doors, steel entry doors

Subsidiaries include Harvey Windows & Doors; Thermo-Tech Premium Windows and Doors; SoftLite Windows and Doors; Northeast Building Products Windows and Doors

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### Novatech\*

Sainte-Julie, Quebec, Canada  
grouenovatech.com  
844/986-8001

PRODUCT LINES: Steel and fiberglass entry doors, vinyl patio doors, door glass, vinyl frames, injection-molded frames, louvers  
Subsidiaries include RSL Inc.

---

### Sierra Pacific Windows\*

Red Bluff, Calif.  
sierrapacificwindows.com  
800/824-7744

PRODUCT LINES: Aluminum-clad doors and windows, bi-fold doors and windows, curtain wall, impact-resistant doors and windows, multi-panel doors, multi-slide pocketing doors, pivot doors, sliding doors; vinyl casement windows, doors, patio doors, replacement doors and windows; sliding doors, windows, window wall, wood patio doors and windows; wood-clad windows and doors

Sierra is part of Sierra Pacific Industries

---

### Steves & Sons Inc.\*

San Antonio, Texas  
stevesdoors.com  
800/627-5111

PRODUCT LINES: Barn doors, bi-fold doors, entry doors, fiberglass entry and patio doors, glass exterior and interior doors, interior doors, patio doors, pre-hung doors, steel doors, wood entry and patio doors

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Photo courtesy of PGT Innovations

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### Woodgrain Millwork\*

Fruitland, Idaho  
woodgrain.com  
888/783-5485

PRODUCT LINES: Wood-clad, wood, aluminum-clad, composite and vinyl windows; wood-clad and vinyl patio doors; wood-clad, wood, aluminum-clad, and fiberglass entry doors via the Windsor Windows & Doors, Ashworth, and Monarch Windows and Doors brand names

Subsidiaries include Huttig Building Products

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### \$200 MILLION TO \$300 MILLION

### Champion\*

Cincinnati, Ohio  
championwindow.com  
877/424-2674

PRODUCT LINES: Vinyl windows; steel and fiberglass entry doors; vinyl patio doors

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### Kolbe & Kolbe Millwork Co.\*

Wausau, Wis.  
kolbewindows.com  
715/842-5666

PRODUCT LINES: Wood, vinyl and aluminum windows and patio doors; wood and fiberglass entry doors

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## **ODL**

Zeeland, Mich.  
odl.com  
800/253-3900

**PRODUCT LINES:** Door glass inserts with high performance plastic frame, impact door glass inserts with aluminum frames, enclosed blinds (aluminum) patio doors, enclosed blinds IGs, fiberglass doors, steel doors

Subsidiaries include Verre Select, Robover, and Tru Tech Doors

---

## **Polaris Windows & Doors\***

Austintown, Ohio  
polariswindows.com  
216/926-6151

**PRODUCT LINES:** Vinyl windows and patio doors; steel and fiberglass entry doors

Polaris is part of Modern Builders Supply

---

## **Quaker Windows and Doors**

Freeburg, Mo.  
quakerwindows.com  
800/347-0438

**PRODUCT LINES:** Aluminum windows, vinyl windows, wood windows, aluminum sliding doors (multi-slide, pocket, corner), aluminum swing and lock box doors, vinyl sliding and swing doors, wood sliding and swing doors

---

## **Weather Shield Mfg.\***

Medford, Wis.  
weathershield.com  
800/222-2995

**PRODUCT LINES:** Wood, aluminum-clad wood, aluminum, vinyl-clad wood, fiberglass, fiberglass-clad wood windows and patio doors

---

## **\$100 MILLION TO \$200 MILLION**

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### **All Weather Windows**

Edmonton, Alberta, Canada  
allweatherwindows.com  
780/451-0670

**PRODUCT LINES:** Vinyl windows, clad windows, fiberglass and steel entry doors, patio doors, multi-panel vinyl doors

---

### **Boral Windows LLC\***

Atlanta, Ga.  
boralwindows.com  
469/862-5178

**PRODUCT LINES:** Vinyl and aluminum windows and aluminum patio doors

Boral Windows' parent company is Westlake Building Products

---

### **Crystal Window & Door Systems**

Flushing, N.Y.  
crystalwindows.com  
718/961-7300

**PRODUCT LINES:** Vinyl windows, vinyl sliding patio doors, advanced uPVC windows and doors, aluminum windows, aluminum hinged terrace and sliding patio doors, aluminum window wall systems

Subsidiaries include Crystal Pennsylvania Window & Door

Systems; Crystal Pacific Window & Door Systems (Crystal California); Crystal Illinois Window & Door Systems (Crystal Chicago)

---

### **Earthwise Group, LLC**

Liberty Township, Ohio  
earthwisewindows.com  
513/755-6707

**PRODUCT LINES:** Vinyl windows, vinyl patio doors

Subsidiaries include Advanced Window Products, D&W Windows, Dasan Glass & Windows, Eastern Architectural Systems, Energy Shield Windows, Home Guard Industries, JetAlum, Mercury Excelum, RJT Industries, Sprouse Windows, Synergy Windows, Western Window

---

### **Elevate Windows and Doors**

Grand Prairie, Texas  
elevatewindows.net  
469/490-1100

**PRODUCT LINES:** Vinyl windows, vinyl patio doors

---

### **Fenplast**

Candiac, Quebec, Canada  
fenplast.com  
514/990-0012

**PRODUCT LINES:** Vinyl windows, hybrid windows (Alu-PVC), vinyl patio doors, hybrid patio door (Alu-vinyl), steel doors, aluminum windows.

Subsidiaries include Fenêtres Lajeunesse, Altek windows and doors

---

## **Lindsay Windows**

North Mankato, Minn.  
lindsaywindows.com  
507/625-4278

**PRODUCT LINES:** Vinyl casement windows, multi-panel patio doors, patio doors, replacement doors, replacement windows, windows, and fiberglass entry doors

Subsidiaries include Lindsay Windows Minnesota, Lindsay Windows Missouri, Lindsay Windows Georgia, Lindsay Windows Illinois, Lindsay Windows Washington and Lindsay Windows California

---

## **Loewen Windows and Doors**

Steinbach, Manitoba, Canada  
loewen.com  
431/305-0888

**PRODUCT LINES:** All windows in casements, double hung, and fixed. All doors in swinging, sliding and pivot styles

---

## **Lux Windows & Doors**

Calgary, Alberta, Canada  
luxwindows.com  
403/276-7770

**PRODUCT LINES:** Aluminum-clad wood windows & doors, hybrid windows and multi-panel sliding doors, and vinyl windows and patio doors; entry door systems, bi-parting and folding door systems, fiberglass entry door systems

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## **Midway Windows & Doors**

Chicago, Ill.

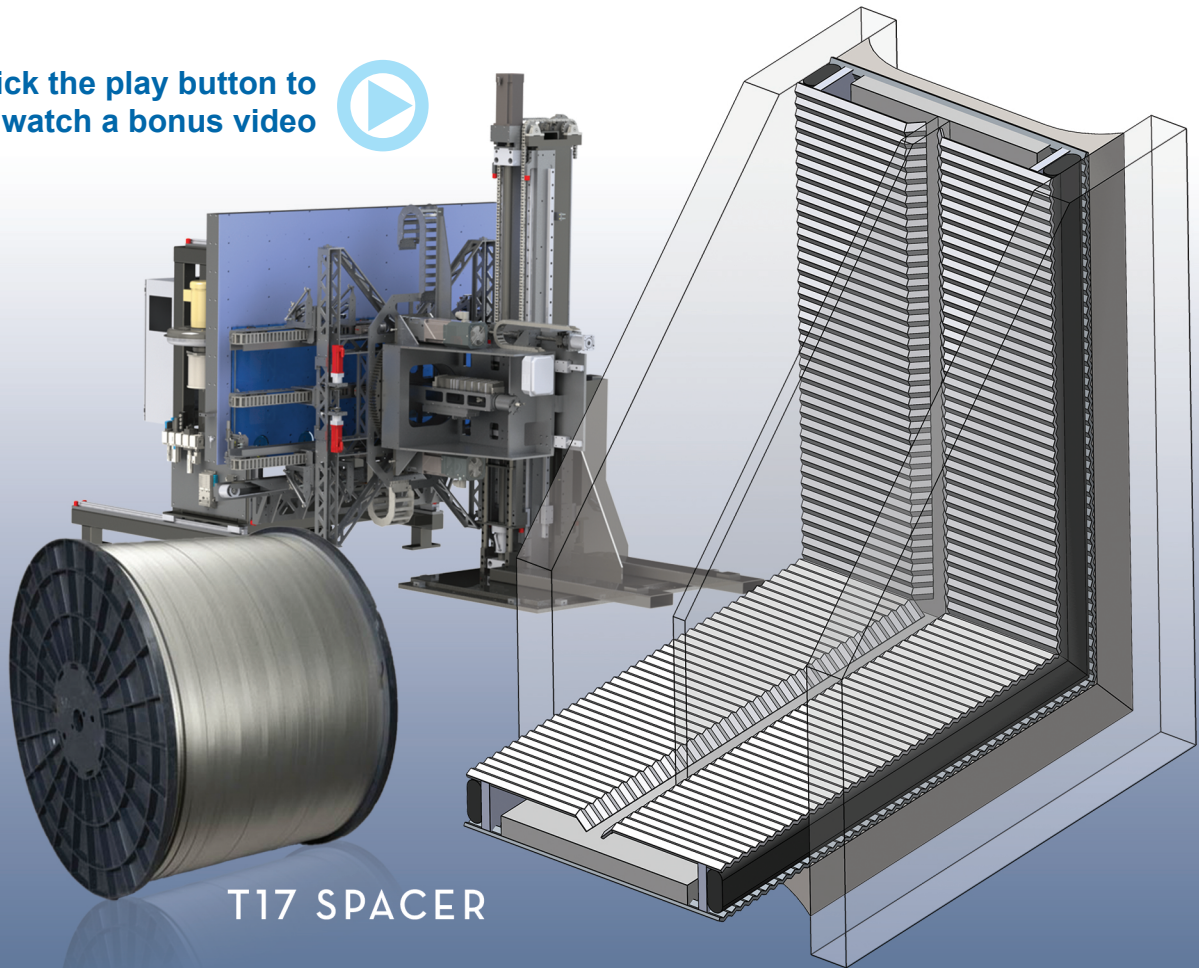


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[www.pdsig.com](http://www.pdsig.com)



midwaywindows.com  
708/594-2600  
PRODUCT LINES: Vinyl windows,  
vinyl patio doors

### Plastpro\*

Los Angeles, Calif.  
plastproinc.com  
310/693-8600  
PRODUCT LINES: Fiberglass entry  
doors, polyfiber door frames,  
glass inserts, vinyl planking,  
wainscoting  
Subsidiaries include JM Eagle

### Simpson Door Co.

McCleary, Wash.  
simpsondoor.com  
800/746-7766  
PRODUCT LINES: Interior wood  
doors, interior MDF doors,  
exterior wood doors, custom  
wood doors

### Trimlite

Renton, Wash.  
trimlite.com  
425/251-8685  
PRODUCT LINES: Fiberglass entry  
doors, wood interior doors,  
doorlites, exterior door compo-  
nents  
Subsidiaries include CODEL  
Doors, Builders Hardware

### Trinity Glass International\*

Federal Way, Wash.  
trinityglass.com  
253/875-6700  
PRODUCT LINES: Door glass,  
entry doors, fiberglass entry and  
patio doors, fire-rated doors,

impact-resistant doors and vinyl  
patio doors, patio doors  
Subsidiaries include  
Signamark, Feather River Doors

### United Window & Door Mfg. Inc.

Springfield, N.J.  
unitedwindowmfg.com  
973/232-2527  
PRODUCT LINES: Vinyl windows,  
vinyl sliding glass doors

### Vinylmax Windows

Hamilton, Ohio  
vinylmax.com  
513/772-2247  
PRODUCT LINES: Vinyl windows  
and patio doors

### Viwinco Inc.

Morgantown, Pa.  
viwinco.com  
610/286-8884  
PRODUCT LINES: Vinyl windows  
and patio doors

### Wincore Windows and Doors

Parkersburg, W.Va.  
wincorewindows.com  
304/424-3880  
PRODUCT LINES: Vinyl windows,  
patio doors, coastal windows  
and doors, entry doors

### Window Designs Group\*

Toronto, Ontario, Canada  
vinylwindowdesigns.com  
416/741-7820  
PRODUCT LINES: Vinyl windows  
and patio doors, aluminum  
windows, steel entry doors,

fiberglass entry doors  
Subsidiaries include Vinyl  
Window Designs, Aluminum  
Window Designs, The Vinyl  
Company, Performance Win-  
dows & Doors, Vinylbilt

### \$75 MILLION TO \$100 MILLION

### Air Master Windows and Doors

Barceloneta, Puerto Rico  
airmasterwindows.com  
787/623-1800  
PRODUCT LINES: Impact-resistant  
windows and doors  
Subsidiaries include Megalum  
and sister company is Valmeg  
LLC

### Arcadia Custom

Vernon, Calif.  
arcadiacustom.com  
303/665-5700  
PRODUCT LINES: Steel, thermal  
aluminum and wood windows;  
steel, thermal aluminum and  
wood swing, sliding and pivot  
doors; wood entry doors; wood  
interior doors; impact-rated  
windows; impact-rated swing  
and sliding doors  
Subsidiaries include Arcadia;  
Wilson Partitions  
Parent company is Arcadia  
Products, LLC

### Centra Windows

Langley, British Columbia,  
Canada  
centrawindows.com  
888/534-3333

PRODUCT LINES: Vinyl windows,  
hybrid vinyl/aluminum windows,  
vinyl patio and swing doors,  
fiberglass exterior doors, wood  
exterior doors

### Durabuilt Windows & Doors

Edmonton, Alberta, Canada  
durabuiltwindows.com  
780/455-0440  
PRODUCT LINES: Vinyl windows,  
fiberglass entry doors, vinyl  
sliding/folding doors, fiberglass  
windows and doors, aluminum  
doors, hollow metal doors,  
aluminum-PVC-clad windows,  
skylights

### Hayfield Window & Door Co.

Hayfield, Minn.  
hayfieldwindows.com  
507/477-3224  
PRODUCT LINES: Vinyl windows  
and patio doors  
Subsidiaries include Show-  
case Window and Door  
Hayfield's parent company is  
OpenView Products LLC

### Lincoln Windows & Patio Doors

Merrill, Wis.  
lincolnwindows.com  
715/536-2461  
PRODUCT LINES: Clad windows,  
clad patio doors, clad multi-slide  
doors, wood windows, wood  
patio doors



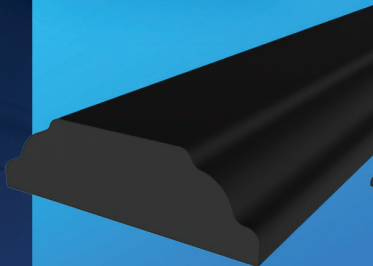
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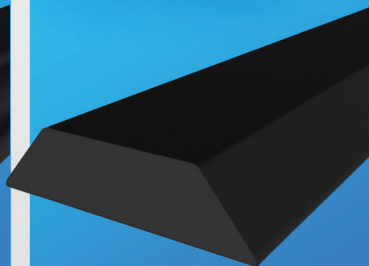
1.125" WIDTH X .295" HEIGHT



## VS3

 **BLACK MATERIAL**

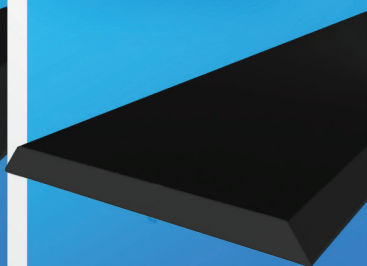
1.125" WIDTH X .295" HEIGHT



## VS4

 **BLACK MATERIAL**

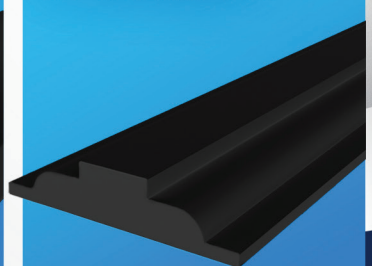
3.475" WIDTH X .295" HEIGHT



## VG21C

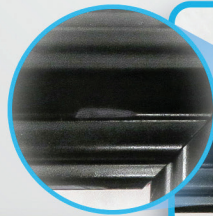
 **BLACK PAINTED**

.875" WIDTH X .188" HEIGHT

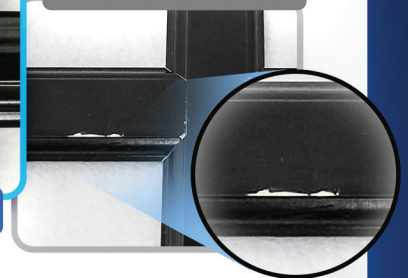


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- Designed for High Heat Applications





Photo courtesy of Marvin

### **Regal Aluminum Windows & Doors Inc.**

Concord, Ontario, Canada  
regalaluminum.com  
905/738-4375

PRODUCT LINES: Vinyl windows and patio doors

Subsidiaries include Progress Doors Limited, Regal Windows & Railings Systems Inc.

### **Skyline Windows**

Bronx, N.Y.  
skylinewindows.com  
973/809-7004

PRODUCT LINES: Aluminum double hung windows, tilt & turns, inswing and outswing casements, terrace doors, lift & slide doors, window wall

Subsidiaries include Skyline Interiors (a division of Skyline Windows)

### **Thompson Creek Window Co.\***

Lanham, Md.  
thompsoncreek.com  
866/572-7335

PRODUCT LINES: Replacement vinyl windows and patio doors, steel and fiberglass entry doors

### **Wallside Windows**

Taylor, Mich.  
wallsidewindows.com  
313/292-4400  
PRODUCT LINES: Vinyl windows and patio doors

### **WinDor\***

Brea, Calif.  
windorsystems.com  
866/244-2193

PRODUCT LINES: Bi-fold doors and windows, multi-panel doors, multi-slide pocketing doors, patio doors, sliding doors, and vinyl casement windows, doors, multi-panel patio doors, patio doors, replacement doors and windows, sliding doors, swing doors and windows

### **Window Mart\***

Royal, Ark.  
windowmart.com  
888/283-6278  
PRODUCT LINES: Vinyl windows and patio doors

Subsidiaries include Windows USA and WinTransport  
Window Mart's parent company is Big4 Companies

### **ViWinTech Window & Door Inc.**

Paducah, Ky.  
viwintech.com  
800/788-1050  
PRODUCT LINES: Vinyl windows and patio doors

### **Vytex Windows**

Laurel, Md.  
vytexwindows.com  
301/377-3659  
PRODUCT LINES: Vinyl windows and patio doors

### **\$50 MILLION TO \$75 MILLION**

### **Builders FirstSource\***

Marietta, Ga.  
buildwithbmc.com  
770/429-9285  
PRODUCT LINES: Vinyl windows

### **Castle Windows\***

Mount Laurel, N.J.  
castlewindows.com  
800/360-4400  
PRODUCT LINES: Vinyl replacement, casement, awning, garden, and slider windows, steel and fiberglass doors

### **Conservation Windows\***

Mount Carmel, Pa.  
conservationwindows.com

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SDL GRILLES

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- [Facebook](#) [LinkedIn](#) [YouTube](#)



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Bldg. Products Inc.  
Member of the Bay Family of Companies



570/339-3374

PRODUCT LINES: Vinyl replacement windows, sliding glass doors, impact- and non-impact replacement windows

Conservation Windows' parent company is Regency Plus

### Gerkin Windows and Doors

South Sioux City, Neb.  
gerkin.com

402/494-6000

PRODUCT LINES: Vinyl and aluminum windows

### LePage Millwork

Quebec, Canada  
lepagemillwork.com  
877/289-0191

PRODUCT LINES: Wood and aluminum-clad windows and doors, vinyl windows and doors, hybrid aluminum/vinyl windows, steel doors

### Mathews Brothers Co.

Belfast, Maine  
mathewsbros.com  
207/338-3360

PRODUCT LINES: Vinyl windows and patio doors

### Northeast Windows USA Inc.

Merrick, N.Y.  
northeastwindowsusa.com  
516/378-6577

PRODUCT LINES: Vinyl windows and vinyl glass sliding doors

Subsidiaries include Quality Lineals USA Inc.

### NT Window Inc.

Fort Worth, Texas  
ntwindow.com  
800/969-8830

PRODUCT LINES: Vinyl windows, aluminum windows, Impact windows, vinyl patio doors, aluminum patio doors, sunrooms

### Premium Windows

Corona, Calif.  
premiumwindows.com  
562/630-9696

PRODUCT LINES: Vinyl windows, vinyl doors, aluminum doors, aluminum windows

### \$40 MILLION TO \$50 MILLION

### ATI Windows\*

Riverside, Calif.  
vinylwindows.co  
909/946-3697

PRODUCT LINES: Vinyl casement windows, multi-panel patio doors, patio doors, replacement doors and windows, sliding doors and windows

Subsidiaries include ABC Window Systems

### Croft LLC\*

Magnolia, Miss.  
croftllc.com  
800/222-3195

PRODUCT LINES: Aluminum and vinyl windows and patio doors

### FrontLine Bldg. Product Inc.

Green Bay, Wis.

frontlinebldg.com  
920/393-1340

PRODUCT LINES: Exterior entry door cladding, windows, geometric windows, door transoms, grilles, commercial doors, commercial storefront grilles

Subsidiaries include FrontLine Bldg. Products, Inc. Medford, WI Division, FrontLine Bldg. Products, Inc. - Merrill, WI Division

### GlassCraft Door Co.

Houston, Texas  
glasscraft.com  
713/690-8282

PRODUCT LINES: Fiberglass doors, wood doors, barn doors, door components

### Hope's Windows Inc.\*

Jamestown, N.Y.  
hopeswindows.com  
716/665-5124

PRODUCT LINES: Steel and bronze windows and doors, hurricane- and impact-rated windows and doors

### International Window Corp.

Corona, Calif.  
intlwindow.com  
800/477-4032

PRODUCT LINES: Aluminum windows and doors, thermally broken aluminum windows and doors, three lines of vinyl windows and doors, acoustical windows, aluminum multi-slides

Subsidiaries include International Window, Northern CA, Precision Screen, Vista Security Screens, Anaheim Extrusion,

Universal Molding

### Okna Windows Manufacturing\*

Bristol, Pa.  
oknawindows.com  
215/788-7000

PRODUCT LINES: Vinyl and composite windows and patio doors

### Solaris International\*

Quebec, Canada  
solaris-intl.com  
800/363-0643

PRODUCT LINES: Vinyl windows and patio doors, hybrid windows (aluminum exterior, PVC interior)

Solaris' parent company is Solaris Québec Portes et Fenêtres Inc.

### Sun Windows Inc.

Owensboro, Ky.  
sunwindows.com  
270/929-5990

PRODUCT LINES: Clad wood windows, clad wood doors, clad wood multi-sliding pocketing doors, aluminum clad vinyl windows

### The Coeur d'Alene Window Company\*

Spokane, Wash.  
coeurdalnewindow.com  
509/340-0705

PRODUCT LINES: Patio doors; vinyl multi-panel patio doors, patio doors, replacement doors and windows, sliding doors and windows

Subsidiaries include McVay Brothers Inc.





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Photo courtesy of YKK AP

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### Vector Windows

Fergus Falls, Minn.  
vectorwindows.com  
218/739-9899

PRODUCT LINES: Vinyl casement windows, patio doors, replacement doors and windows, sliding doors and windows

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**\$30 MILLION TO \$40 MILLION**

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### All Weather Architectural Aluminum\*

Vacaville, Calif.  
allweatheraa.com  
800/680-5800

PRODUCT LINES: Aluminum windows and doors

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### Comfort View Products

Newnan, Ga.  
comfortviewproducts.com  
770/251-4050

PRODUCT LINES: Vinyl windows and doors

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### Euroline Steel Windows

Yorba Linda, Calif.  
eurolinesteelwindows.com  
877/590-2741

PRODUCT LINES: Steel windows and doors

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### Interstate Window & Door Co.

Pittston, Pa.  
interstatebldg.com  
570/905-2716

PRODUCT LINES: Vinyl and com-

posite windows

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### Joyce Manufacturing Co. Inc.

Berea, Ohio  
joycemfg.com  
800/824-7988

PRODUCT LINES: Vinyl windows, vinyl patio doors, vinyl sunrooms, patio roofs, aluminum screen rooms

Subsidiaries include Joyce Factory Direct

---

### Madero\*

Saskatoon, Saskatchewan, Canada  
800/667-6977

PRODUCT LINES: Wood, composite and steel entry doors; interior

doors; commercial doors

Subsidiaries include Penner Doors & Hardware, Security Building Supplies, Two Six Creative and West Four Distribution

Madero's parent company is the Westfour Group of Companies

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### Stanley Doors\*

Joubert, Montreal, Canada  
stanleydoorproducts.com  
877/290-0941

PRODUCT LINES: Fiberglass and steel entry doors; patio doors; decorative glass

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### Taylor Entrance Systems\*

West Branch, Mich.  
taylordoor.com  
800/248-3600

PRODUCT LINES: Fiberglass and steel entry doors

Sister companies include Waudena Entrance Systems and Diamond Kote Building Products

Taylor's parent company is Wausau Supply Co.

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**\$20 MILLION TO \$30 MILLION**

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### Alpen High Performance Products

Louisville, Colo.  
thinkalpen.com  
303/883-9001

PRODUCT LINES: Fiberglass and fiber-reinforced uPVC windows and doors and insulated glass products



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## Everlast Group of Companies\*

Etobicoke, Ontario, Canada  
everlastproducts.ca  
800/897-5118

PRODUCT LINES: Aluminum patio doors, porch enclosures, sliding doors, storm doors and windows, sunrooms and windows; aluminum-clad windows; architectural windows; bi-fold doors and windows; composite entry doors; curtain wall; door glass; entry doors; fiberglass entry doors; hybrid aluminum/vinyl doors and windows; insulating glass units; multi-panel doors; patio doors; pivot doors; porch and patio enclosure; prehung doors; sliding doors; steel doors; storm doors and windows; sunrooms; vinyl casement windows, patio doors, replacement windows, sliding doors, windows; vinyl-clad windows; and wood entry doors and interior doors

Subsidiaries include Napa Valley Doors by Everlast and Alberta Vinyl Windows and Doors

## Gilkey Window

Cincinnati, Ohio  
gilkey.com  
513/310-7380

PRODUCT LINES: Vinyl windows, vinyl doors, fiberglass windows, fiberglass doors

## Ideal Window

Bayonne, N.J.  
idealwindow.com  
800/631-3400

PRODUCT LINES: Vinyl windows

## Inline Fiberglass Ltd.

Toronto, Ontario, Canada  
inlinefiberglass.com  
866/566-5656

PRODUCT LINES: Fiberglass windows and patio doors

## Moss Supply Co.

Charlotte, N.C.  
mosssupply.com  
704/900-1634

PRODUCT LINES: Vinyl windows and doors

## Vinyl Kraft Inc.

New Boston, Ohio  
vinylkraft.com  
740/456-4949

PRODUCT LINES: Vinyl windows and patio doors

## Winchester Industries

Saltsburg, Pa.  
winchesterwindows.net  
724/639-3551

PRODUCT LINES: Custom reinforced vinyl replacement windows, custom styled steel replacement doors, reinforced vinyl sliding glass doors

## \$15 MILLION TO \$20 MILLION

## Assura Windows and Doors\*

Pompano Beach, Fla.  
assurawindows.com  
954/781-4430

PRODUCT LINES: Aluminum impact and non-impact windows and doors

Assura Windows and Doors'

parent company is Amberley  
AWP Finance LLC

## Climate Solutions Windows & Doors

Franklin Park, Ill.  
cswindows.com  
847/233-9800

PRODUCT LINES: Vinyl windows, vinyl patio doors, multi-panel vinyl doors, insulated glass

## KHPP Windows and Doors

Vandergrift, Pa.  
khpp.us  
724/236-5300

PRODUCT LINES: Vinyl windows and vinyl sliding patio doors

## Klar Studio Inc.

Norwalk, Conn.  
klarnstudio.com  
203/819-7536

PRODUCT LINES: Aluminum windows, aluminum doors, aluminum sliding doors, aluminum pivot doors, panel doors, interior steel doors

Subsidiaries include Vista Poland

## Thermal Windows Inc.

Tulsa, Okla.  
thermalwindows.com  
918/663-7580

PRODUCT LINES: Thermally broken aluminum windows, vinyl windows, thermally broken aluminum doors

## Upstate Door

Warsaw, N.Y.

upstatedoor.com  
800/570-8283

PRODUCT LINES: Wood doors, wood windows, wood overhead doors

## LESS THAN \$15 MILLION

## Coronet Window Company

Kansas City, Mo.  
coronetwindow.com  
816/472-1788

PRODUCT LINES: Vinyl windows

## Glass-Rite

Albuquerque, N.M.  
glass-rite.com  
505/764-9899

PRODUCT LINES: Wood clad doors and windows

## Seaway Mfg. Corp.

Erie, Pa.  
seawaymfg.com  
814/898-2255

PRODUCT LINES: Vinyl windows, vinyl patio doors, aluminum sunrooms, patio covers, breezeways, fill-in sunrooms, year-round sunrooms, three-season sunrooms

## Stewart Brannen Millworks

Register, Ga.  
brannenmillwork.com  
912/488-2397

PRODUCT LINES: Exterior wood windows, exterior wood doors, interior wood doors, custom millwork



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# Products



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01



02



03

## 01 / PGT Custom Windows + Doors

The sliding glass door features a slimmer interlock, set at 2.5 inches. A dual-point locking mechanism provides added security by restricting panels from being lifted off the tracks and heavy-duty tandem rollers allow for fingertip operation. Available in a variety of frame colors and panel configurations, with multiple glass tints and energy-enhancing options, the door also offers expansions of up to 46.875 feet wide.

800/282-6019 | [PGTWINDOWS.COM](http://PGTWINDOWS.COM)

## 02 / Andersen Windows & Doors

The 100 Series Flush Fin frame option is designed to simplify the installation process for contractors in southwest market areas. The product features an integrated fin that allows for easy installation of a unit over an existing aluminum window frame in a stucco application without disturbing the stucco exterior. With the exterior fin covering both the old frame and stucco, the window provides a clean exterior finish.

800/426-4261 | [ANDERSENWINDOWS.COM](http://ANDERSENWINDOWS.COM)

## 03 / Awake Window & Door Co.

The Series 965 Gas Strut Awning features a high-strength, thermally broken, aluminum frame and gas strut technology capable of carrying glass panels over 500 pounds. The product focuses on minimal frame sightlines, massive sizes and indoor-outdoor living solutions. It's available in sizes up to 120 inches wide by 60 inches tall and is available in Awake's standard anodized or powder coat finish options.

833/292-5393 | [AWAKEWDC.COM](http://AWAKEWDC.COM)

# Product/Solution

## HPD1 Hinged Patio Door Locking System // Roto North America



### Challenge

Historically, Roto had a non-stainless-steel locking system for hinged patio doors, the H650. The growing demand in the North American market made it necessary to have a stainless-steel product offering. Due to that, Roto spent the past two years developing the HPD1 hinged patio door locking system.

### Solution

Our hinged patio door multi-point locking

system was developed to provide a durable solution, particularly in coastal areas where non-stainless-steel products may corrode faster.

The HPD1 is designed with premium 304 stainless steel for increased corrosion resistance while still allowing our customers to enjoy optimal performance, security and functionality. The faceplate alone endured 3,000 hours of salt spray testing per ASTM B117.

In terms of security, our locking hardware passed the AAMA 909 cycle test and the AAMA 1304-02 voluntary specification for determining forced-entry resistance.

This system is also highly customizable to

meet aesthetic needs and project-specific specifications. A middle extension can be attached if necessary, and we offer several different hinges, handles and cylinders.

Overall, our locking system provides the customer with a durable and secure stainless-steel solution that delivers quality performance, optimal functionality, aesthetically pleasing designs and project flexibility.

### Sponsored By







01

02



03



04

## 01 / Marvin

The Elevate Bi-Fold exterior door is suitable for remodel or replacement applications in smaller spaces. Designed with a wood interior and Ultrax fiberglass exterior, it includes up to seven panel options with a maximum size of 22 feet wide and 8 feet high. It can operate as bi-parting or uni-directional and is available in six Elevate Collection colors.

888/537-7828 | [MARVIN.COM](http://MARVIN.COM)

## 02 / NT Windows

The 1800 Series Impact Resistant Window is designed for severe weather areas and coastal applications. Damaged glass will remain secure in the frame to keep homes safe and protect the remaining building envelope, according to the company. It comes in a variety of styles: single hung, sliding, casement, geometric shapes and a narrowline picture window. 877/703-7230 | [NTWINDOW.COM](http://NTWINDOW.COM)

## 03 / TigerStop

SawGear Touch is a touch-screen-controlled automated stop that attaches to an existing saw. It includes downloading and optimization software, a maximum working length of 20 feet, and a three-step saw configuration process. Old SawGear power heads can be switched out for the new upgrade. It adapts to most cold saws, chop saws, miter saws and upcut saws. 360/254-0661 | [TIGERSTOP.COM](http://TIGERSTOP.COM)

## 04 / Kolbe Windows & Doors

Tungsten and Eclipse are available within Kolbe's standard color palette for all VistaLuxe WD LINE and Ultra Series windows and doors. The Forgent Series will be offering the Tungsten Exterior/Cloud Interior on casement windows, awning windows, casement picture windows and casement direct set windows. 715/842-5666 | [KOLBEWINDOWS.COM](http://KOLBEWINDOWS.COM)

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# People

ON THE MOVE



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**Kuchinick**

**Deceuninck North America** appointed *Chuck Kuchinick* as its new regional sales manager for the Central and Eastern U.S. His territory includes Michigan, Ohio, Western Pennsylvania, Kentucky, Tennessee, West Virginia, Virginia, North Carolina and South Carolina.



**Coma**

**Roto North America** welcomed *Renee Coma* to its customer service team. Coma's customer focus, attention to detail and solution-oriented attitude make her a fit for this role, say officials. Coma's role will include working closely with Roto customers to provide support in the areas of ordering, lead times, product availability, and shipping details.



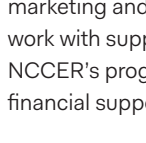
**Holle**

*Kevin Holle* joined the R&D team of **GED Integrated Solutions** as the new engineering manager. He returns to GED after previously being a mechanical design engineer for the company early in his career, where he developed automation equipment for producing insulating glass.



**Perkins**

*Melissa Perkins* joined the **National Center for Construction Education and Research** as the director of philanthropy and partnerships. She is a certified fundraising executive with more than 15 years of experience in fundraising,



**Pagano**

marketing and communications. She will work with supporters to grow the reach of NCCER's programs and impact through financial support.



**Wojan Window & Door** announced the retirement of Vice President of Sales *Rick Pagano*. A 50-plus-year veteran of the fenestration and building products industries, he has led Wojan's sales team for 14 years and will be succeeded by current Regional Sales Manager Jeff Collis.



**White**

**TubeLite** promoted *Mitchell White* to operations manager of its Dallas, Texas, location. The facility provides fabricating, warehousing and shipping services, adding to the company's corporate office and operations in Michigan. Moving from Michigan, White draws from 10 years of experience at TubeLite.



**Hahn**

**Winco Window Co.** promoted *Katherine Hahn* to marketing manager. Joining Winco's sales and marketing department in 2018, she has been rebranding products, adding digital marketing, creating new websites and increasing the company's overall market presence.

**The National Association of Home Builders** named *James W. Tobin III* as its new president and CEO. Tobin, executive vice president and chief lobbyist at NAHB,



**Tobin**

will succeed CEO *Jerry Howard*, who is retiring from NAHB after more than 30 years. Tobin will assume the new post effective June 1 and will be based at NAHB's headquarters in Washington, D.C.



**Yu**

**Crystal Window & Door Systems** promoted Regional Sales Manager *Steven Yu* to vice president of sales and marketing. Yu, who has been involved in Crystal sales and marketing efforts for nearly 20 years, will direct sales operations across the country as well as corporate marketing initiatives.



**Phillips**

**LuxWall Inc.** announced that *Jay Phillips* has joined the company as its new chief revenue officer. With experience in the industry, including turns at PPG Industries, Oldcastle Building Envelope and Guardian Industries as well as being a past BEC chair and president of the Glass Association of North America.



**Pupp**

**Linetec** promoted *Tony Pupp* to regional sales manager, responsible for leading the company's outside sales team serving specific territories across the U.S. Linetec's outside sales team assists customers with their selection and specification of paint coatings, anodize and specialty finishes. ■

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# FrameWork



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**Top:** Restored Kaufman House.

**Right:** Kaufman House with original windows and profiles. Photos: Veka Inc.

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**Project:** Kaufman House; Pennsylvania

**Products:** 7700 Series double-hung, fixed and awning glass windows from Veka, and glass and hardware from Wincore Windows

**Description:** Built in 1902 and used as a hotel, worker housing and tavern, the 121-year-old Kaufman House in downtown Zelienople, Pa., was recently remodeled

and restored as a multiple-commerce town hub. The renovation incorporates hints of the building's history, including preserving the aesthetics of the original double-hung, wood, residential windows.

**Project Team:** **ARCHITECT:** Various; **CONTRACTOR:** R&R Construction; **WINDOW PROFILES:** Veka; **GLASS & HARDWARE:** Wincore Windows

## Finding the Right Solution

By Ron Crowl

When choosing to automate operations or incorporate new software into a manufacturing business, there are several areas to research. While many considerations seem obvious – cost and benefit analysis, equipment compatibility, alignment with your specific needs, ability to scale, etc. – there are other areas to explore that might not be front of mind.

It's important to think of a software provider as a partner in operations. When choosing a partner, it's critical to ensure their values match or closely align with your own. It's also important that a software provider can match a manufacturer's ambitions and have the flexibility to grow with you. A good software partnership will never leave a manufacturer feeling limited. A great one will create even more advanced ambitions.

Manufacturers looking to start or switch enterprise resource planning software will do well to consider factors beyond the obvious when making their choice. Finding a software company that respects the decision you're making is a great indicator that you're choosing correctly.

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