

WINDOW + DOOR

OFFICIAL PUBLICATION

GlassBuild
AMERICA

THE GLASS, WINDOW & DOOR EXPO

GLASSBUILDAMERICA.COM

KEEPING UP WITH CANADIAN CODES // STANDARDS FOR IMPACT
PRODUCTS // TACTICS FOR REDUCING DOWNTIME

THE DOOR ISSUE

STANDARDS FOR
HARDWARE
PERFORMANCE

CASE STUDIES
AND MARKET
INSIGHTS



We Bring Doors to Life!

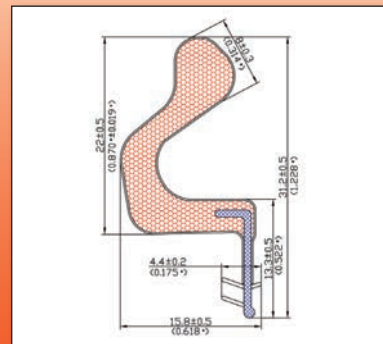
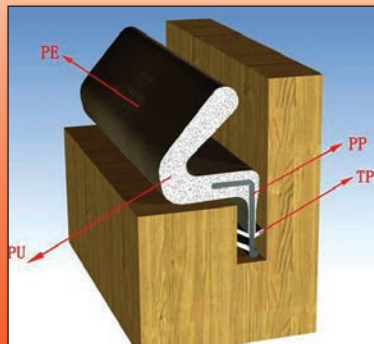
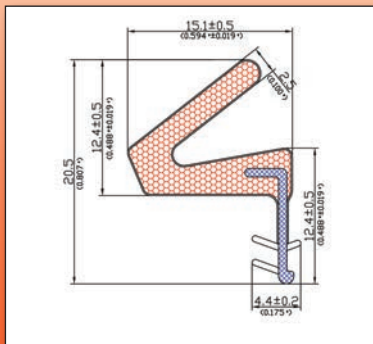


Hinge & Barn Door Hardware in Multiple Designs & Finishes

Major Product Categories:

Hinge, Plate, Track, Bag Kit, Barn Door Hardware, Weatherstrip & Accessories

High Quality Weatherstripping & Corner Pad for Fire Rated Doors



**UL Category H & J Certified
AAMA Class A Certified**



895 S. Rockefeller Ave. #104, Ontario, California 91761

Tel: (909) 786-0629 Fax: (909) 605-1806

www.VantagePointIndustries.com



Roto



OP06



X16



OP08

Roto North America is pleased to showcase our
Roto X-DRIVE Casement Line



Excellence in
Window & Door
Hardware

ROTO™
X
DRIVE

Roto North America | rotonorthamerica.com

NT Tilt & Turn

Patio Fold

Patio Lift

Swing Door

Casement

Sliding Patio Door

Sash Locks

Residential fenestration coverage, from source to sale // windowanddoor.com // Vol. 30, No. 4 // July/August 2022

Features

38. Ready for Hurricane Season?

Standards for impact resistance certification, plus a hurricane preparedness checklist and guide.

By Jim Horn

BONUS: SCAN THE QR CODE ON PAGE 40 FOR A RELATED CASE STUDY AND VIDEO.

42. Canadian Energy Codes: A Crooked Path to 2030 and Beyond

Energy efficiency is the future for Canadian fenestration products.

By Terry Adamson

BONUS: SCAN THE QR CODE ON PAGE 46 FOR A LIST OF LINKS TO VALUABLE RESOURCES ON CANADIAN CODES.

48. Case Studies: Doors

How doors can transform a home, plus market insights from manufacturers.

By Laurie Cowin



Insights

16. Observation Desk //

Performance Matters //

By Laurie Cowin

18. In the Trenches //

Reduce Downtime, Increase Productivity //

By Eric Whitley

22. Decoded //

Updated Standards for Door Hardware Performance //

By Janice Yglesias

26. Eye on Fenestration //

An Open Window for Building Products M&A //

By Andrew K. Petryk

30. Letter of the Law //

Is it Better to Forget a Face? //

By John Nolan

Intel

12. News //

In the Know

54. Products //

Fenestration Finds

58. People //

On the Move

62. Market Data //

Outside View

From our Sponsors

34. Q&A with W+D // Tremco

55. Product Solution //

CleanCut 1800 Series

by GED

60. Ad Index

On the Cover:

The Fenestration and Glazing Industry Alliance 2021/2022 Study of the U.S. Market for Windows, Doors and Skylights report finds that demand for entry doors in new construction grew 8 percent in 2021 and is expected to continue growth through 2024. Read more about entry door trends and market insights on page 48. (Image courtesy Simpson Door Company, simpsondoor.com)

HEAD-TURNING INNOVATIONS THAT ARE PRACTICAL SOLUTIONS FOR YOUR BOTTOM LINE



ERDMAN® HIGH SPEED IG LINE W/ ROBOTIC IG DIRECT-TO-SASH & IG OFFLOAD

Erdman is your local partner in robotics and automation. We will work with you to innovate and reduce your labor requirements to provide a safer environment at your facility as well as a significant cost savings.

Erdman is unique in that we focus on all facets of window manufacturing and can help you integrate your departments and create a safer, more efficient flow through automation.

For 29 years we have concentrated completely on the North American market. We started small, service focused, nimble and innovative. We continue that focus today even as we are big enough to handle the largest of projects.

Visit www.erdmanautomation.com or call 763-389-9475 for more information.

VISIONARY THINKING. EXCEPTIONAL DOING.

ERDMAN 

Online

HIGHLIGHTS FROM
WINDOWANDDOOR.COM

➔ Follow us on social media



Be sure to subscribe to our Window + Door Weekly newsletter from the homepage to get exclusive and curated content delivered to your inbox every Wednesday.

➔ WindowandDoor.com Exclusives

Go to windowanddoor.com for exclusive content, including:

- Commentary on how, post-pandemic, consumers are willing to wait for products they want
- Extended image galleries of the door case studies in this issue
- Information on fire safety and building codes
- Resources and links to Canadian codes information
- Video content and a case study on hurricane-rated fenestration

➔ The Talk // Blogs of the Month

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



The Value of a Full-Service Supplier

By Eric Thompson



Energy-efficient Windows Offer Reason for Optimism

By Tom Herron



Innovation Increases the Likelihood of Success

By Chris Kammer

“By fostering an atmosphere of innovation, you increase the likelihood of success. Innovations come from multiple sources, so allow your employees to take risks within reason, of course. Not all innovation will succeed, so learn from mistakes through documentation and open discussions.”

Window + Door™ (ISSN 1525-1195), Volume 30, Number 4. This periodical is published six times a year, January/February, March/April, May/June, July/August, September/October and November/December by the National Glass Association, 344 Maple Ave. West, Unit 272, Vienna, VA 22180. There is no charge for subscriptions to qualified requestors in the U.S. and Canada. All other subscriptions will be charged \$49.95 in the U.S. and Canada, and \$79.95 in all other countries. Periodicals postage paid at Vienna, VA, and at additional mailing offices. POSTMASTER: Send changes of address to Window + Door, PO Box 419, Congers NY 10920. Canada Post: Publications Mail Agreement #40612608. Canada Returns to be sent to Bleuchip International PO Box 25542, London, ON N6C 6B2, Canada. For all subscription inquiries, please call 1-800-765-7514. ©2022 National Glass Association. All rights reserved. Printed in the U.S.A.

WINDOW+DOOR

Produced by



344 Maple Ave. West, Unit 272
Vienna, VA 22180
P: 703/442-4890

Editorial

Emily Kay Thompson // Publisher
Katy Devlin // Editor-in-Chief
Laurie Cowin // Editor
Norah Dick // Associate Editor
Rachel Vitello // Assistant Editor & Researcher
Cory Thacker // Creative Lead
Bethany Stough // Senior Manager, Digital Media
Wendy Vardaman // Web Editor
Beth Moorman // Production Director
Jo Ann Binz // Circulation Manager

Advertising

Executive Publishing // 410/893-8003 // Account Managers:

Chris Hodges // chodges@executivepublishing.com // 410/459-8619
Mike Gribbin // mgriffin@executivepublishing.com // 410/459-0158
Tim O'Connell // toconnell@executivepublishing.com // 443/717-1425

Board of Directors (2021-22)

Guy Selinske // Chair // American Glass & Mirror Inc.
Brian Hale // Chair-Elect // Hale Glass Inc.
Doug Schilling // Treasurer // Schilling Inc.
Cathie Saroka // Immediate Past Chair // Goldray Glass
Darijo Babic // Guardian Glass
Denise Baker // Spring Glass & Mirror
Ron Crowl // FeneTech Inc.
Tim Kelley // TriStar Glass Inc.
Silas Koonse // Koonse Glass Co.
Courtney Little // Ace Glass
Rick Locke // Montana Sash & Door
Jodi Martinez // AllStar Glass Co. Inc.
Jim Stathopoulos // Ajay Glass Co.
Nicole Harris // President & CEO // National Glass Association



WE ARE NOT JUST
A MANUFACTURING
COMPANY

WE ARE A PART
OF SOMETHING
BIGGER



GLOBALLY TRUSTED AND DRIVEN BY INNOVATION

We are a community of talented employees, working together as one source for quality building components. Whether you're looking to boost energy efficiency, ensure security, achieve unmatched durability or are seeking aesthetic appeal, our window and door components will give your product the beautiful finish it deserves.

Learn more at [QUANEX.COM](https://www.quanex.com)

 A Part of Something Bigger™

 Qualex

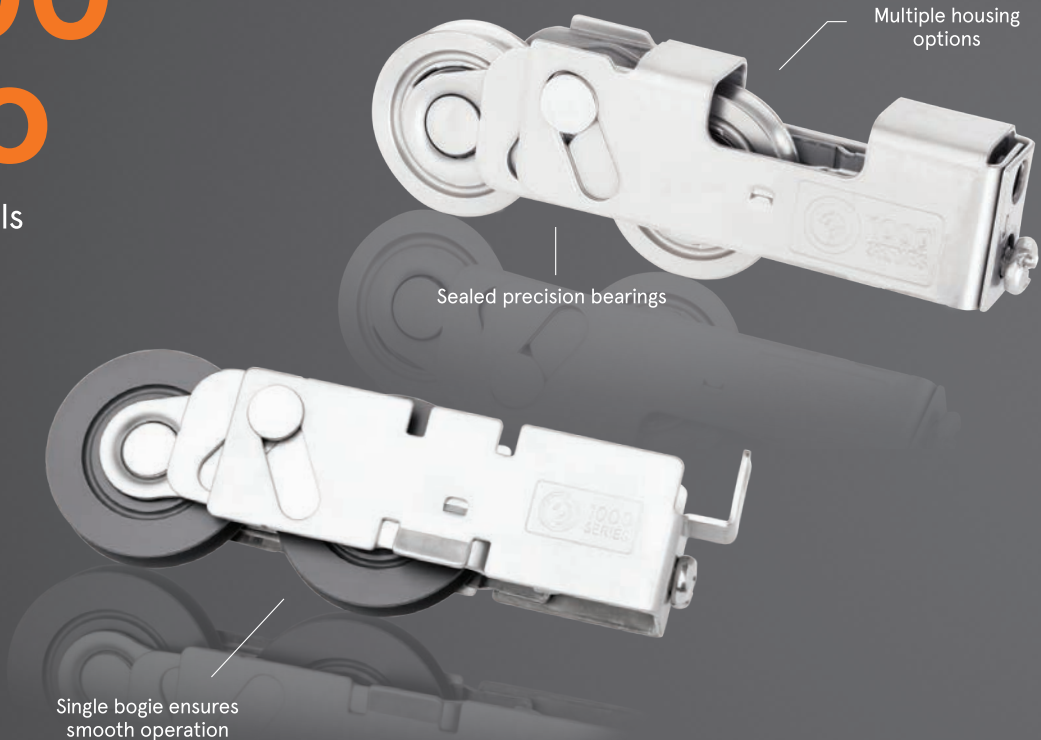
1000 Series

Adjustment
made easy



1000 Duo

Ideal for panels
up to 550lbs



Designed with flexibility in mind



Manufacturer of
Verified Components

1000 Quad

Ideal for panels
up to 880lbs



All Anthony Innovations products are

- AAMA Tested to 10,000 cycles
- AAMA 906 certified for durability
- Made with sealed precision bearings for reduced operational force
- Available in CNC machined **stainless steel**, **plated steel** or **polymer** tire options
- Mounting tabs are available upon request
- Wheel sizes available 1.10", 1.25" & 1.50



**ANTHONY
INNOVATIONS**

Moving Doors And Windows Forward



For the full product range, visit anthonyinnovations.com
or contact us on salesna@anthonygroup.net
Scan the QR code to learn more about our rollers

Attention Window Manufacturers!

Put Your Window Business into Overdrive with AllView

Increase Sales & Profits

Work with Familiar Vinyl Materials

Join the AllView Shutter Fabrication Program



By



www.uspolymersinc.com/all-view
jdobel@uspolymersinc.com

Why Every Window Fabricator Should Be Fabricating AllView Shutters

- **Tap Into a New Revenue Source**
Replace the window AND the window coverings!
- **Beat All Imports on Price**
With low-cost shutter components and lightning fast production times.
- **Increase Your Profits**
One of the most profitable hard window coverings you can build.
- **Install Shutters in One Week**
Fabrication is quick and easy.
- **Produce a Poly Shutter with a Wood-like Finish**
Thanks to WoodTex™ finish, shutters look and feel like painted wood.
- **Make Money Right Away**
AllView gives you a one-month return on investment once you start fabricating and selling.

What's Included in the AllView Shutter Fabrication Program

- All machinery, tooling and jigs
- Easy-to-use fabrication software
- In-house fabrication training
- Professional marketing materials
- Sampling kits
- Set up, including flow design and facility layout

For more information, call an authorized AllView representative at (323) 717-4072.

News

IN THE KNOW



STAY IN THE KNOW // Subscribe to **Window + Door Weekly**, our weekly newsletter that keeps you informed with everything fenestration every Wednesday

Expansions, Acquisitions and Closures

Andersen Corp. broke ground on the second expansion of its Renewal by Andersen manufacturing campus in Cottage Grove, Minnesota. This expansion will double the size of the company's Value-Add Center, a 360,000-square-foot facility.

PGT Innovations also expanded its manufacturing operations, purchasing a 78,843-square-foot space in Phoenix to accommodate the growth of its Western Window Systems brand. The company also hosted a grand opening of its Skye Walls home renovation showroom, located in San Diego.

Masonite International Corp. opened a new plant in Stoke-on-Trent, England, which combines the previous Solidor production and storage sites into one manufacturing hub.

Assa Abloy acquired Caldwell, a manufacturer of fenestration hardware for window manufacturers. "I am very pleased to welcome Caldwell into the Assa Abloy Group. This acquisition delivers on our strategy to add complementary products and solutions to our core business," says Nico Delvaux, president and CEO of Assa Abloy.

The Rehau Group announced plans to sell its business in Russia to the local management, and intends to withdraw from the country completely. The Group had been active in Russia for around 30 years.

Companies Improve, Introduce Products

Andersen Windows & Doors is offering a PGA Upgrade option for its A-series windows that sits between its current

Standard and Impact with Stormwatch offerings. Additionally, the company launched its big door retractable screen in the IQ+ system.

Jeld-Wen announced its first shipments of Auraline True Composite windows and patio doors. The product is a new alternative to vinyl and wood, and blends wood fiber with synthetic polymers and a co-extruded color, said to create a durable material that requires no painting and limited maintenance.

Masonite International Corp. announced the Masonite Performance Door System, an exterior door system that is designed to be 64 percent better at keeping air and water out than the leading competitor, based on certified third-party testing, according to a news release.

Novagard introduced a portable version of its Qwik-Set glazing sealant designed to make hand glazing, field glazing and field installation faster.

Panda Windows & Doors partnered with Tuval Minimal to bring its custom steel windows and doors to the North American market.

The House Designers announced a new product partnership with Pella Windows & Doors. Pella's products will now be featured on The House Designers' website to help their customers make decisions on what windows they would like for their new homes or improvement projects. The House Designers are residential architects and designers, and have a collection of house plans that require a full range of window types.

IN THE NEWS:

Month in Review

Rehau published its sustainability report for 2021, which shows the company achieved its targets for both circular economy and climate protection. This is Rehau's seventh sustainability report. "We managed to take further decisive steps based on our sustainability strategy last year," says CEO of Rehau Industries Dr. Uwe H. Böhlke. "Meeting targets makes us proud and spurs us on even more."

Newsweek named **Jeld-Wen Holding Inc.** one of America's Most Trustworthy Companies in its 2022 list, determined from a survey of 50,000 U.S. residents on publicly traded companies headquartered in the U.S. that have \$500 million or more in annual revenues. Jeld-Wen was the only window or door manufacturer to make the list.

The **MI Charitable Foundation** awarded 50 \$1,000 scholarships to graduating seniors from around the country in 2022. Winners were selected by a committee from the MI Foundation that evaluated a variety of criteria, including an essay outlining how students can make an impact in their community.

Jeld-Wen of Canada, a subsidiary of Jeld-Wen Holding Inc., was named the Energy Star Manufacturer of the Year in the Windows and Doors category for 2022. The Energy Star Canada Awards recognize organizations that have made outstanding contributions to protecting the environment through superior energy achievements. Jeld-Wen of Canada has previously won the Manufacturer of the Year award six times over the last decade, bringing their total Energy Star award count to nine.



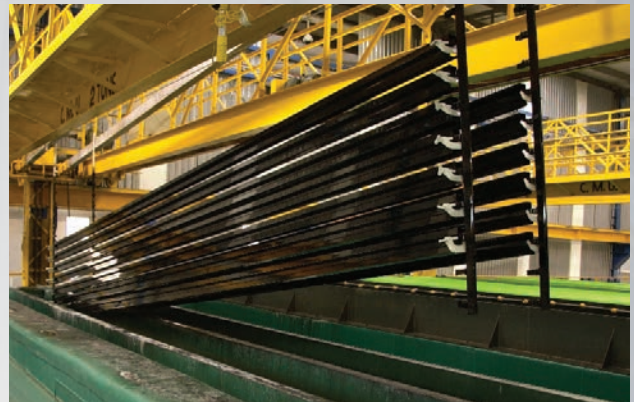
Don't Miss a Headline

Follow @windowdoormag on Twitter for industry updates

MERIT | ALUMINUM PRODUCTS INC.

EXTRUDER DIRECT THRESHOLDS

DEDICATED TO THE FINISH
IN-HOUSE ANODIZING/POWDERCOATING



- **EXTRUDER DIRECT PRICING**
- **IN STOCK AND READY TO SHIP**
- **CUSTOM FAB AVAILABLE**
- **HIGHEST QUALITY FINISHING**

SALES REPS NEEDED IN ALL TERRITORIES



2420 Railroad St.
Corona, CA 92880
(951) 735-1770
meritaluminumproducts.com



A European leader
of window and door joinery at

CHICAGO
BUILD 2022 EXPO

WHAT CAN WE OFFER?

- a wide range of joinery
- the highest quality products
- fast and safe transport in containers
- developed network of distributors in the United States



ekookna.us



Visit our stand
5056, hall D2

The fenestration industry's most capable PVC fabrication centers

The Stürtz LinearPro Cutting and Fabrication System – Maximum Output and Flexibility



The **SMI LinearPro Series** of Cutting and Fabrication Centers utilize a unique linear motor driven feed system for ultimate speed and accuracy. The elimination of a traditional motor and gearbox driven system eliminates moving parts and reduces maintenance and downtime. This exclusive Stürtz design is combined with the flexibility of multiple fabrication configurations to meet your specific PVC window and door production needs. Nothing else even comes close!

Linear Pro VHC-Cut
with notching option



IFS-III Flying Bridge



- » Through Feed Double Miter Saw with optional straight cut capability
- » Linear Motor Driven Feeder provides high speed and unparalleled accuracy and repeatability
- » V-Cut configuration for full miter products or VHC-Cut for Sloped Sill products
- » Capability for drilling, routing punching, dimpling or custom fabrication tools from the top, bottom or sides
- » Exclusive Flying Bridge Fabrication System
- » Intuitive, graphical on-screen programming
- » Extensive on-board maintenance tools and reporting capability

Stürtz Machinery Inc.

1910 Summit Commerce Pkwy. · Twinsburg, OH 44087

Telephone 330-405-0444 · Telefax 330-405-0445

info@sturtz.com · www.sturtz.com

www.sturtz.com

Performance Matters

Codes and standards ensure products are performing to their highest level



By
Laurie Cowin
EDITOR

Summer is in full swing here in western Pennsylvania. With it come many of my personal pleasures, such as water-based outdoor recreational activities, farmers' markets, gardening, swimming with my son and extra-rich chicken eggs from all the free-ranging our flock is able to do. But with summer come some less desirable attributes such as trouble keeping our house sufficiently cool and battling the ample insects from the nearby farms.

Our home's windows and doors play a huge role in our comfort all year, but I perhaps notice it most during these hot summer months as I struggle to stay cool and keep the bugs out. Although we're fortunate to not live in an area prone to natural disasters, much of the country is in the midst of, or preparing for, a season predicted to be rife with hurricanes, wildfires and other natural disasters, where the ante is upped for fenestration to not only provide comfort, but also safety.

Code-setting organizations continuously work to build codes and standards that ensure the utmost safety and performance of fenestration products. This issue of Window + Door focuses on how

codes and standards can work to protect buildings and occupants in the face of natural disasters.

Beginning on page 38, Jim Horn of Cornerstone Building Brands discusses standards for impact resistance certification and offers manufacturers a hurricane preparedness checklist and guide.

And don't miss Fenestration Canada's Technical Director Terry Adamson's feature on p. 42 about Canadian energy codes, where he examines Canada's national building codes, as well as provincial building codes.

All of these pieces are just a sample illustration of the vital role codes and standards play in our industry. Organizations such as the National Glass Association, Fenestration and Glazing Industry Alliance, Window and Door Manufacturers Association and more work each day to ensure codes and standards development for fenestration, glass and glazing are up-to-date, attainable and functional.

Although not a code, the anticipated finalization of Energy Star Version 7.0 will give the industry a new set of guidance to look toward to maximize the energy efficiency and performance of residential fenestration products. Stay tuned for further Energy Star coverage and analysis later this year in Window + Door.

Of course, the windows and doors that protect our homes can't sacrifice aesthetics. If anything, homeowners are becoming more discerning about performance and beauty working hand-in-hand. A collection of case studies on p. 48 illustrates how doors can transform a home and meet its functional and aesthetic goals. ■



Welcome Rachel Vitello

Please help me in welcoming Rachel Vitello as assistant editor for Window + Door and our sister publication, Glass Magazine! You can reach Rachel directly at rvitello@glass.org; take a moment to introduce yourself and tell her what makes the fenestration industry so unique.

A CHANGING MARKET REQUIRES A DYNAMIC PARTNER



INNOVATION

Pinnacle™

Revolutionary design that removes reliance on the jamb pocket for lock-up creating a more reliable balance system. Featuring simplified installation with 2 mounting options.



SCALE

Capacity Expansion

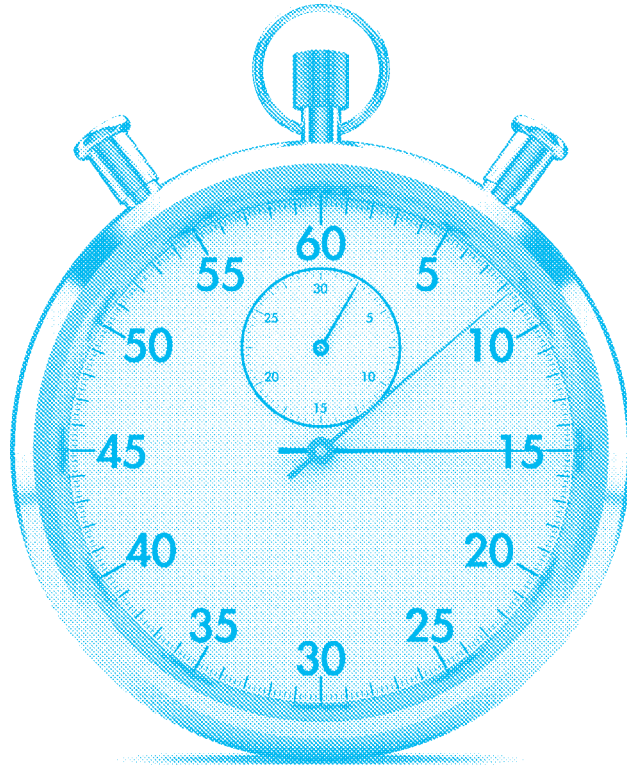
Flexibility to meet your needs. AmesburyTruth has expanded its North American capacity in die cast, injection molding, and seals production. We are also excited to announce we have new state-of-the-art roll forming technology to support your balance needs!



BROAD PORTFOLIO

New Website

Your solution awaits! Search our broad portfolio on our new website. Discover what you need faster with simplified navigation, filters, and loaded with product content.



Reduce Downtime, Increase Productivity

Five Maintenance department rules for fighting asset downtime



By Eric Whitley

Unscheduled asset downtime is among the top concerns of manufacturing plants and can be detrimental to an organization's productivity, efficiency and profitability. When critical machinery or assets are out of service, it can easily create a bottleneck in the manufacturing plant or even completely shut down operations.

According to Aspentech, every hour of manufacturing downtime costs businesses about \$260,000. Implementing smart manufacturing in a production plant can avoid or reduce the costly consequences of asset downtime. Shifting paper records or spreadsheets to a digital platform can make it simpler and quicker to track, analyze, record and plan maintenance activities.

The following five strategies can help reduce asset downtime and increase overall productivity on the manufacturing floor.

1 Use efficiency evaluation reports

Multiple factors can contribute to equipment downtime in a manufacturing facility. When designing an effective maintenance management program for assets and machinery, conduct a comprehensive investigation of related departments by running regular evaluation reports to examine various facility functions. Recording all equipment and maintenance data in a secure, cloud-based system makes running accurate reports quicker and easier.

These reports will enable manufacturers to study and assess which departments are facing the majority of asset or equipment failures, which can reveal external sources of defects manufacturers have to address. For example, an asset or a piece of equipment might be overused beyond its useful hours, and this may cause increased downtime.

GM2000-26



**GM2000-16
with Winch**

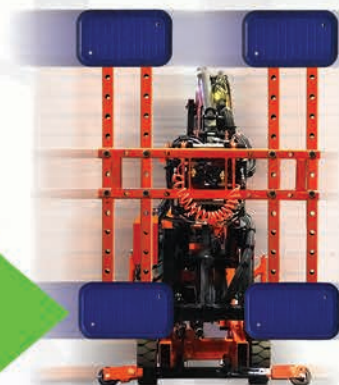
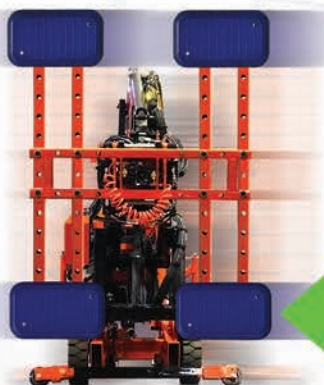
Exclusively from Ergo Robotic Solutions,
the Crab Crawl is a game-changing feature
available as an option on all GM models.

**New Feature:
the Crab Crawl!**
Sideways-Movement
Option available now
on all GM models!

Crab Crawl

**Side to side
Movement!**

Move sideways!



Robust maintenance management and preventive maintenance combine the right tools, rules and practices to lower asset and equipment downtime.

2 Install sensors and prioritize preventive maintenance

Some equipment and asset failures, such as those involving a tempering line, can cause a shutdown of an entire factory. This is where preventive maintenance comes into play.

Preventive maintenance helps prevent potential and costly equipment failures before they occur. Investing more effort and time into a strong preventive maintenance program can increase the productivity and longevity of manufacturing equipment and simultaneously reduce risk to both people and assets.

In a data-driven world, many manufacturers are using low-cost sensors to detect, prevent and lower downtime on factory floors. Sensors can easily detect various inputs, such as vibration, heat and light, and temperature.

Sensors then send data back to a central point, alerting production or plant managers if anything is amiss. This prompts operators to change the conditions to avoid or reduce equipment damage and stop downtime before it happens.

3 Centralize maintenance data
Although basic data tracking systems or other downtime analysis may determine how often asset downtime occurs in a manufacturing facility, it does not always give information about how to lower asset downtime in the first place. A digital platform can help as it allows maintenance teams to

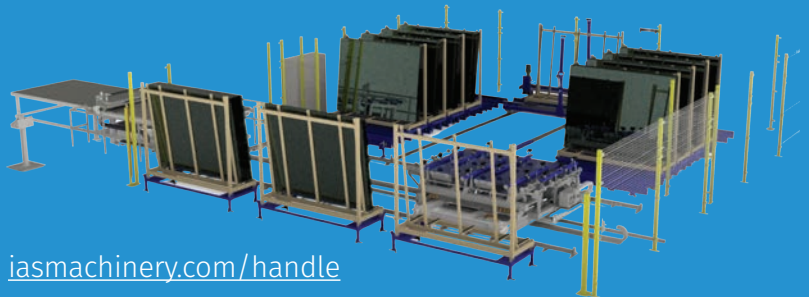
log and easily sort historical data for various assets.

Cloud-based software can store all asset data with barcode labels and enable the use of real-time asset tags to retrieve maintenance information. Also, labels make it simpler to check equipment and assets for service and maintenance records for each service session.

Save Labor 3 Ways

Go Touchless

Inventory more raw glass and deliver it *untouched* to cutting lines *with no waiting*. See all the customizable automated glass storage and handling systems.



iasmachinery.com/handle

Fill Faster

Fill more units per worker or free workers to do more tasks. See the possibilities from small volume to fast argon filling to robotic fill and patch.

iasmachinery.com/fill



GlassBuild 2022 Booth 4152

Having a comprehensive overview of various maintenance activities and routines for an asset's whole life allows technicians and managers to fine-tune their approach to preventive maintenance.

4 Have backup equipment for crucial operations

In the majority of manufac-

turing operations, backup equipment for critical business operations can eliminate excess asset downtime or idle time. A comprehensive analysis of the past examples of asset downtime events will help determine which operations are more prone to malfunction.

5 Improve inventory records
If adequate and timely tracking of parts and components onsite is not possible, or if it takes too long to find the appropriate piece, it can set both repairs and planned maintenance back considerably. In these situations, paper-based records or spreadsheet systems can become a problem.

Upgrading to a reliable digital platform makes it simple to update inventory and give insights into which parts and components are onsite without having to visit the stockroom. In addition, it is possible to set minimum levels so that you will never be out of a crucial component or part.

Manufacturers can also collect and analyze data from asset breakdowns to determine if a defective part is causing downtime and explore alternatives.

Final thoughts

Robust maintenance management and preventive maintenance combine the right tools, rules and practices to lower asset and equipment downtime. However, without the correct system, it can be quite challenging to control asset downtime. Equipment-tracking software tools, along with the right digital platform, enable manufacturers to easily run automated maintenance schedules and service tickets from one centralized platform.

Prioritizing preventive asset maintenance and establishing more effective and efficient ways to tackle asset downtime can help pave the way to a better and more balanced maintenance strategy. ■

Eric Whitley is the director of smart manufacturing at L2L, where he helps clients learn and implement the company's approach to corporate digital transformation. He has also led the Total Productive Maintenance effort at Autoliv ASP and was involved with the management certification programs at The Ohio State University, where he served as an adjunct faculty member.

Full and Semi-Automated Racking

Reduce the labor to rack and unrack monolithic and insulated glass, eliminate damage and improve safety.
iasmachinery.com/rack



iasmachinery.com/rack

IAS
INTEGRATED AUTOMATION
SYSTEMS

Make More With Less

Ryan McHugh 330.954.3070 ryan@iasmachinery.com

Updated Standards for Door Hardware Performance

Doors need to be designed to remain intact and operable under high-use conditions



By Janice Yglesias

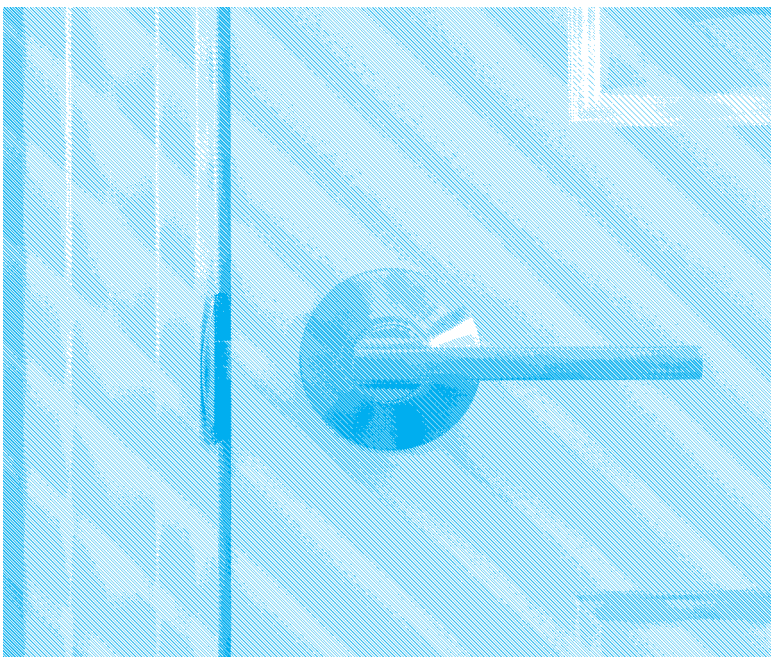
The Fenestration and Glazing Industry Alliance's AAMA Product Certification goes beyond basic structural, water penetration and air infiltration performance assurance for a completed window and door unit. That is because fenestration products are complex, interacting systems of components that must perform properly over a long service life. For this reason, as a prerequisite for their use on fenestration products that bear the AAMA Certification Gold Label, the various components, hardware, weatherstrip, sealants and painted coating applications must be qualified through separate, independent testing. This must be accomplished by an accredited full-service laboratory or an approved component laboratory per the most current versions of the standards and test methods referenced in the North American Fenestration Standard (NAFS) AAMA/WDMA/CSA 101/IS2/A440.

A door presents certain performance requirements apart from those of a window, given its greater frequency of use, limited water penetration resistance, and exposure to cantilevered loading forces. For example, in terms of operating frequency, while a window may be operated once or twice in a week, a side-hinged exterior door may be opened and closed a half-dozen or more times a day. This will vary greatly depending on whether the building is residential or commercial in use. Doors designed for these different environments must remain intact and operable under the expected conditions.

Standards governing hardware performance for exterior side-hinged doors cover open/close cycling (AAMA 920) and vertical loading on the door edge opposite the hinges (AAMA 925), previously issued in 2016 and 2017, respectively.

Cycle testing of door systems

AAMA 920-22, Specification for Operating Cycle Performance of Active Side-Hinged Exterior Door Slabs, was recently updated for cycle testing of door systems and their associated hardware under accelerated operating conditions. The rate of application of open/close cycles prescribed by the test method permits a range of 12 to 24 cycles per minute at the test lab and/or manufacturer's discretion. Each cycle consists of opening the door by 60 ± 5 degrees using a pneumatic/hydraulic piston or linear actuator and then closing it (after a minimal dwell time of no more than 2.5 seconds) using a similar piston or a counterweight-and-pulley arrangement (or a self-closing device if applicable). This is performed on a sample product inclusive of all components. Locking hardware may be omitted for the test but is simulated by an added equivalent weight. The total number of open/close cycles applied in the test increases with the NAFS Performance Class for which the door is intended, ranging from 25,000 for R Class doors up to 500,000 for AW Class doors.



American Ingenuity

GERMAN PRECISION

GLASSBUILD 2022
LAS VEGAS
OCTOBER 18-20
CONTACT YOUR HOPPE
REPRESENTATIVE
FOR DETAILS AND AN
EXCLUSIVE INVITE
TO OUR SUITE AT
THE SHOW.

HOPPE® 
Handle of excellence.



WE WORK AND WORK UNTIL WE SOLVE THAT LITTLE PROBLEM ON YOUR ASSEMBLY LINE DELAYING INSTALL DATES AND ADDING COSTS.

The installer loves your product. The installer's customer loves your product. And neither one of them care that you had a little problem spot on your assembly line causing you sleepless nights and cost over-runs.

But we do.

We fix problem spots in the assembly lines of big and small companies in the fenestration industry. Period.

We do it with smartly designed products that fit seamlessly into your existing assembly line.

Let's talk about your little problem.



SPECIALIZING IN...VERTICAL & HORIZONTAL STRETCH WRAP MACHINES • UP-CUT, CHOP & V-NOTCH SAWS • COPY ROUTERS • PUNCH PRESSES • CARTCADDY • CUSTOM BUILT EQUIPMENT • WINDOW & DOOR ASSEMBLY LINES • SCREEN TABLES • LINEAL POSITIONERS & SAW STOPS • GLASS & MATERIAL HANDLING EQUIPMENT...AND MUCH MORE!

Decoded

This testing is not intended to predict the life expectancy of the door in service but acts only to provide an indication that cycling will not cause it to fail prematurely. To pass the test, there can be no cracking, separation of welded joints, or separation or misalignment of stile seams in the door slab. There also must be no disengagement, shearing or breakage of the fasteners or the base material supporting them, and no failure of non-replaceable weatherstripping, seals or integral gaskets.

Vertically applied cantilevered load

AAMA 925-22, Specification for Determining the Vertical Loading Resistance of Side-Hinged Door Leaves, provides a method for evaluating a door for its ability to withstand a significant cantilevered load applied vertically down the lock stile and remain operable. During the test, the slab is opened to 90 ± 5 degrees to the frame, then closed and latched using the deadbolt five times. After applying a "pre-load" of 200 ± 4 N (45 ± 1 lbf) to the top surface of the door slab in the open position for 60 ± 5 seconds, the test load that corresponds to the desired NAFS Performance Class is applied and maintained for five minutes. The total applied load increases with the target NAFS Performance Class, varying from 667 N (150 lbf) for doors intended for R and LC class rating up to 2,224 N (500 lbf) for AW class.

After completion of the prescribed loads, the door must latch and the deadbolt engage without having to lift the slab. There can be no disengagement, shearing or breakage of the fasteners or the base material supporting them and no fastener pull-out or pull-through.

AAMA 920-22 and 925-22 may be purchased in the FGIA Online Store by visiting FGIAonline.org/store. ■

Janice Yglesias is the executive director of FGIA overseeing the full organization. She joined the association in 1999 and can be reached at jyglesias@FGIAonline.org.



Stand out from your competition

Homeowners love the ease and beauty that
Blink blinds between glass brings to their home.
Increase your margins with no investment.

Include Blink in your offering!
(or someone else will)

blink | BLINDS + GLASS

An **ODL** Brand

Visit blinkblinds.com to learn more.



An Open Window for Building Products M&A

The market continues to show resilience despite ongoing obstacles



By Andrew K. Petryk

The building products mergers and acquisitions market continues to see healthy deal flow despite current market uncertainty. As an advisor to window and door companies, we are keenly aware of current challenges in the housing market; most notably, materials and labor cost inflation, along with rising mortgage rates, which continue to have a tightening effect on affordability. Input costs have risen nearly 20 percent from a year ago. Mortgage rates have risen to their highest level in more than a decade.

In its FQ1 2022 earnings call, Masonite reported 12 percent net sales growth for the quarter year-over-year, a 22 percent increase in adjusted EBITDA, and a 140-basis-point improvement in its adjusted EBITDA margin.

Jeld-Wen's FQ1 2022 net revenues increased 7.2 percent, marking the seventh consecutive quarter of consolidated core revenue growth for the company, said CEO Gary Michel.

The building products market continues to see strong interest from both private equity and industry buyers and solid levels of M&A activity. Purchase price multiples for high-quality businesses remain attractive. The credit markets are liquid, and lenders are looking to deploy capital into acquisitions.

Notable recent transactions

Announced in February 2022, Clayton, Dubilier & Rice's privatization of Cornerstone Building was headline news in the window and door market during Q1 2022, with the \$6.1 billion purchase price valuing the business at a 7.1x multiple of EBITDA at announcement. CD&R is acquiring the remaining 50.8 percent equity interest it does not already own in the transaction.

In April 2022, CRH plc completed the divestiture of Oldcastle BuildingEnvelope to KPS Capital Partners. The U.S.-based unit makes glass building products for windows, curtain walls and storefronts, among other applications. The \$3.8 billion deal valued the business at 11.3x EBITDA.

2021 was a very active M&A year for industry buyers, some of which have been focusing their efforts on the integration of those activities in the recent quarters and are turning their attention to M&A.

PGTI cited continued growth from its October 2021 acquisition of Anlin Windows & Doors, which closed a record first quarter of 2022—the best quarter in the company's history—and is “performing above our internal acquisition model estimates,”

THE VAST MAJORITY OF OUR CLIENTS ARE CONTINUING TO POST SOLID PERFORMANCES FOR THE FIRST HALF OF 2022. MANY HAVE GROWING BACKLOGS, WITH SEVERAL BEING SOLD OUT THROUGH THE BALANCE OF 2022 AND INTO 2023.

Despite these obstacles, the market has shown resilience. Company performance has been strong. The vast majority of our clients are continuing to post solid performances for the first half of 2022. Many have growing backlogs, with several being sold out through the balance of 2022 and into 2023.

PGT Innovations delivered a record quarter, according to CEO Jeffrey Jackson in the company's FQ1 2022 earnings call. Net sales increased 32 percent during the quarter, including organic growth of 17 percent (13 percent price and 4 percent volume), which Jackson attributed to the company's regional brand strength. PGTI saw EBITDA margin expansion during the quarter, driven by pricing actions taken throughout 2021, Jackson indicated.



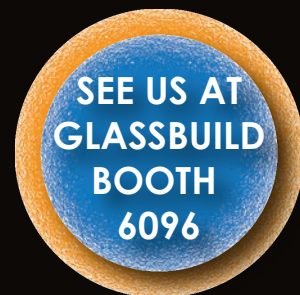
F•E•N•E•V•I•S•I•O•N

The one where FeneTech introduces their ERP software solution to FEN-TECH, which revolutionizes their business, and everyone is thrilled with the company's success.

So, what's your story?



Learn more about how FeneVision can revolutionize your business at <https://fene.tech/FTF822WD>



FeneTech is the worlds preeminent software provider for the glass fabrication and window & door manufacturing industries.

330.995.2830 | info@fenetech.com | fenetech.com

according to Jackson in PGTI's FQ1 2022 earnings call. PGTI's acquisition of Eco Window Systems in February 2021 furthered the company's vertical integration strategy, doubling its glass manufacturing capacity and serving to shore up its supply chain. Acquisitive growth remains a key strategic pillar for the company. "Our balance sheet strength gives us the flexibility to effectively allocate capital as we look to continue to grow both organically and through strategic acquisitions," Jackson commented. Jackson also highlighted a robust acquisition pipeline and said the company is evaluating a number of possible acquisitions.

"We are focused on accelerating our growth through market penetration, pursuing bolt-on acquisitions, and product innovation," said CEO Rose Lee during Cornerstone Building Brands' FQ3 2021 earnings call. Acquisitive CBB added Cascade Windows and Prime Window Systems to its portfolio in August and April 2021, respectively. Cascade Windows, acquired for \$245 million in cash (1.53x Revenue) and Prime Window Systems for \$95 million (1.57x Revenue), are intended to extend CBB's market position in vinyl windows in the Western U.S.

Looking ahead

We are closely watching macroeconomic indicators as inflationary conditions have pressured not only building products companies, but many industrial businesses. Public companies have not been immune to the recent volatility and have seen stocks trade down with a corresponding contraction in EBITDA multiples.

Despite cost headwinds, industry participants express optimism around positive near-term demand trends. "We remain encouraged by the favorable underlying demand fundamentals across most of our primary end markets," said Jeld-Wen's Michel. Michel highlighted 13 percent core revenue growth in North America, driven by price increases and continued solid demand for products in both residential new construction and remodel/replacement activity. Strong end market demand fueled order growth in FQ1 2022, resulting in a year-over-year increase in backlog, "...our highest backlog since the start of the pandemic," Michel commented.

"All signs point to continued strength for R&R and new construction based on fundamental demand drivers and favorable demographics," said Nicholas Fink, CEO of Fortune Brands Home & Security, to analysts in the company's FQ1 2022

earnings call. Fink characterized current demand levels as robust across its leading brands.

PGTI reports strong demand and is forecasting mid-single-digit volume growth across its key markets. In May 2022, the company announced a facility expansion at its Phoenix location in support of growing its Western Window Systems brand, which has experienced 30 percent year-over-year growth over the past two years, reported Jackson. Jackson attributes the strong performance to continuously increasing demand for the brand in the markets it serves.

The National Association of Home Builders is forecasting 4.4 percent growth in total housing starts for 2022 with single-family starts flat for the year. Total housing starts decreased 0.2 percent to 1.724 million units in April 2022, marking the third consecutive month of declines amid rising concerns over housing affordability. Single-family starts decreased 7.3 percent to 1.1 million units.

The remodeling market continues to exhibit strength, with robust growth predicted throughout 2022 and into early 2023. An April 2022 projection from the Joint Center for Housing Studies of Harvard University estimates spending on remodeling activity will approach \$450 billion by the first quarter of 2023. The JCHS revised its forecast from January showing an easing of what it calls "red hot remodeling growth" into 2023; however, trends remain positive with projected growth rates solidly in the high double digits.

More deals on the horizon

We anticipate M&A activity to accelerate during the second half of 2022, particularly as private equity looks to spend surplus "dry powder," and with even more interest and more aggressive M&A activity from strategic buyers as they shift resources from recent acquisition integration efforts and return to the hunt for new deals. Shareholder expectations for growth will also motivate some strategics to come off the sidelines and sharpen focus on M&A as an important lever for value creation. ■

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

WORK SMARTER, NOT HARDER

A GED *Intercept*® IG Productivity Improvement Program Testimonial: **Champion Windows**



“Because of GED, I don’t need to fully man a second line. This alone will save us over \$300K annually!”

— Mike Roberts, Champion Windows

SITUATION

- IG department was not performing to the potential of the *Intercept*® spacer fabrication system.
- They were running at about 25% of the capacity.

SOLUTION

- GED Productivity Team provided training on proper techniques and metrics to follow.

RESULTS

- Producing more windows in 4 days than they were in 6 days.
- Doubling their capacity, with less labor and no overtime.



GED MADE,
SOLD, AND
SERVICED
IN THE USA!

31100 Diamond Pkwy
Glenwillow, OH 44139
330-963-5401
www.GEDUSA.com



Intercept is a registered trademark owned by Vitro.

Unleash the full potential of your *Intercept*® IG manufacturing line and set yourself up for additional bottom-line gains.



**CALL TO SCHEDULE A
CONSULTATION: 330-289-6202**



TAKE THE ONLINE ASSESSMENT:
GEDUSA.COM/INTERCEPT-OPE-CALCULATOR



Is it Better to Forget a Face?

A review of biometric privacy trends



By John Nolan

In 2018 we presented an article regarding the emergence of biometric information (BI) privacy laws and regulations, with some attention paid to the Illinois Biometric Information Protection Act (BIPA) as a potential template for other states. At the time, Illinois, Texas and Washington had fully developed laws protecting BI. Since 2018 only Arkansas has enacted a specific BI protection statute. However, pending legislation in other states and Congress signals an inevitable trend to protect BI. Biometrics have become a ubiquitous part of personal identification and authentication technology in all aspects of life in and out of the workplace.

Generally, like other more general personal information privacy protection statutes (there are some 34 states with pending privacy legislation in 2022), these laws regulate the collection, use, storage, protection and destruction of BI, including fingerprints, retina/iris scans, facial recognition, voiceprints, gait recognition, and other “immutable” characteristic identifiers. Fingerprint scanning, more so than facial

recognition, is perhaps the predominant use of BI technology in the workplace today providing physical access to facilities and digital devices, and also helping track employee work patterns. Because BI protection is one aspect of the larger legislative agenda to enact comprehensive personal information privacy laws, businesses should be aware of the changing landscape to assess their practices for potential risks.

Litigation and laws

In the case of Illinois’ BIPA, alleged violations can be enforced by private lawsuits. Violations of the Illinois BIPA may come in the form of failing to adhere to the requirements for collecting and managing BI on the one hand, and improper publication or use on the other.

There has been a “deluge” of litigation in Illinois. In February 2022 a \$15.3 million settlement was reached in the Kronos litigation relating to finger sensor timekeeping data. It was reported that in 2020 ADP and NovaTime settled similar claims for \$25 million and \$14 million, respectively. Facebook is reported to have reached a \$650 million settlement. In a case against Six Flags, it is reported that a \$36 million settlement was reached.

In Texas, the State Attorney General recently filed a suit against Facebook’s parent company, Meta Platforms Inc., seeking \$25,000 for each violation of the BI statute and \$10,000 for each violation of the state Deceptive Trade Practices statute. Whether by individuals or prosecutors, litigation to assert rights relating to BI will increase as more laws are passed.

Currently, 12 other states and the U.S. Senate have pending proposed legislation to enact some version of BI protections. California is considering a comprehensive Biometric Security Act in SB 1189 to become effective Jan. 1, 2023. California’s and New York’s proposed legislation is similar to the Illinois BIPA in its provision for private lawsuits to enforce the act and to compensate claimants for violations.



C o n f i d e n c e i n e v e r y p r o f i l e

PVC window profiles



OFFICIAL EXHIBITOR

GlassBuild
AMERICA. 
THE GLASS, WINDOW & DOOR EXPO

October 18-20, 2022 | Las Vegas, NV

Meet us at
Glassbuild America 2022
booth 8118
OCT. 18-20, 2022 | LAS VEGAS, NV

decco[®]
E X T R U S I O N

www.decco-usa.com

Maryland's existing Personal Information Protection Act provides for notification of data security breaches including biometric data, which it defines as "personal information." A recently proposed bill in Maryland would provide for civil enforcement through lawsuits and attorneys' fees awards by deeming a violation an unfair, abusive or deceptive trade practice pursuant to its consumer protection laws.

On the national level, Senate Bill 4400 introduced by Senators Merkle and Sanders is an effort to codify a national regulatory and enforcement scheme for

biometric information. Senate Bill 4400 defines BI and outlines permissive use and protections in the same manner as existing state laws. Like the Illinois and Washington laws, private litigation would be available to redress violations, including recovery of attorneys' fees.

The currently enacted laws in Illinois and Washington are undergoing refinement. A search in the Illinois legislative database for pending legislation involving "biometrics" identified dozens of bills. Washington is considering amending its existing BI act so that a violation of the statute would create a rebuttable presumption of harm to the individual and would allow courts to impose damage awards of \$10,000 per violation or actual damages, whichever is greater, plus punitive damages and attorneys' fees for the prevailing plaintiff.

The headline-grabbing lawsuits and settlements focus on those class action claims against large data companies where potentially thousands of individual claims and millions (and potentially billions) of dollars are at stake. However, claims against smaller companies, businesses and employers utilizing BI data services also exist and, given the potential for the recovery of attorneys' fees, are warnings of potential business risks. How state and federal laws, and particularly courts' application of those laws, will affect businesses will continue to develop as these laws are enacted across the country.

Best practices to avoid risk

Some of the existing court decisions in this new but growing area of consumer and employment protection may provide guideposts for the future. In the *Rosenbach v. Six Flags* case, the Illinois Supreme Court held that an "aggrieved" party

need not demonstrate actual "injury" in pursuit of private actions.

In a later case, the court determined that the "exclusive remedy" provisions of the state work comp act did not prevent BIPA claims against employers. And, as an example of how the BIPA impacts other related business, such as insurance, the Illinois Supreme Court held that a claim is covered under an insured's general liability policy. In *West Bend Insurance Company v. Krishna Schumburg Tan, Inc.* the court found that the insurer owed a duty to defend the claim and to provide indemnity coverage. Insurance carriers will monitor these developments closely and perhaps amend policy definitions to narrow available coverages.

Together, the legislative trend to enact protections and the historical increase in litigation engendered by the currently enacted laws suggest that companies will have to assess their risks if they use BI in any aspect of their business. Best practices to avoid those risks involve:

- Understand the applicable law; do currently enacted privacy laws contemplate BI?
- Identify the areas of the business for which BI will be used.
- Understand the technology used to collect, store and dispose of BI.
- If vendors are used, carefully consider the scope of their products and services, as well as any limitation of warranty remedies or use of disclaimers.
- Develop policies for the gathering, use, storage and destruction of BI, and updates to policies.
- Determine whether industry standards, such as ANSI or ISO standards, may provide guidance on implementing BI practices.
- Develop notices required for identifying the type of BI collected, its use, storage and destruction.
- Develop forms for those whose data is being collected, including any necessary release authorizations.
- Determine whether insurance policies provide coverage for claims either as employment practices or as part of the general liability coverage form.

By staying abreast of these imminent changes, potential risks can be identified and managed. ■

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

COMPANIES WILL HAVE TO
ASSESS THEIR RISKS IF
THEY USE BI IN ANY ASPECT OF
THEIR BUSINESS.

If You are Stuck Being Dependent on Imports,
We Offer our Condolences

16,000 Miles from your source, Long Supply Chain, Long Term
Contracts, Managing Supply Chain Logistics,

TARIFF FREE

If You Would Like to Enjoy the Benefits of
American Made Hardware
We Offer our Services

**Want to Visit one of the Only
Hardware Companies In the USA?
We will Pay your Way to Visit
Our Domestic Factory!**



Reduced Inventory
World Class Prices
World Class Quality
Inventory Management
Programs



In House:
Design
Tooling

Why Buy from
Any Other
Country?




LAWRENCE
INDUSTRIES, INC.
www.lawrenceindustriesinc.com

*From Concept to Delivery
Faster than Anyone on the Planet!*



100% Made in USA





By Emily Kay Thompson
PUBLISHER

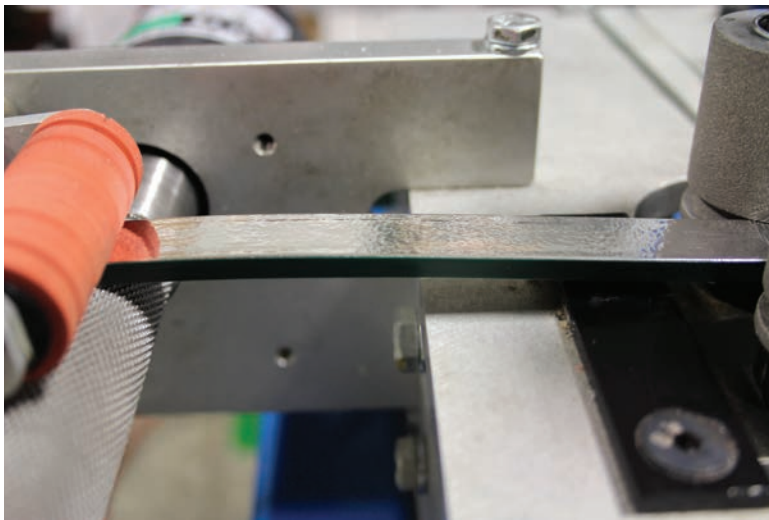
Deep Dive on Spacers

How warm-edge technology is pushing thermal perfection

When Window + Door sat down with Tremco for this installation of *conversations with industry thought leaders*, we wanted to learn more about warm-edge technology. That ended up as just the warmup to some great perspective on everything from the current challenges of the industry to the future of performance in windows and IG automation. “Whether residential or commercial, IG automation is here to stay,” Tom Italiano, national sales manager, industrial products group, tells us. Read on for more insights.

Window + Door: What is warm-edge technology? Describe the science.

Tom Italiano: Warm-Edge describes the thermal contribution of removing metal from between the panes of insulating glass. In terms of window design, a major goal is to resist thermal transfer. Metal-free spacers work measurably well to warm the perimeter of the glass and help the window configuration perform at its best. This means less condensation, lower energy expense, and more overall comfort for the end user.



EnerEDGE®-type spacer technology has evolved almost to the point of thermal perfection.

With incredibly precise thermo-couplers and software, science drove window thermal performance well beyond the material used for sash and frames and glass down to spacers and gas. It has gotten to the point where, after many years of marginal gains in thermality, if we were to say, double, the thermal performance of our spacer itself, it would not matter to the overall thermal performance of the window. EnerEDGE®-type spacer technology has evolved almost to the point of thermal perfection.

WD: Near perfection says a lot. Are Tremco customers seeing the same? What do they report about using these products?

TI: EnerEDGE has proven to be a seamless and interchangeable alternative to other spacer brands, and customers have noticed several subtle but positive distinctions. We have an “equal to or better than” commitment in our spacer and sealant lines, and our sales and technical teams are very good at making appropriate product and process recommendations. Our Quality Audits are welcomed everywhere we go.

Our customers are most pleased with the short lead times we can accommodate because we build to finished-goods inventory according to their forecasts, not on a build-to-order basis with no inventory. Shipping from inventoried finished goods helps our customers. They like our helpful freight and warranty packages, and that we manufacture what we sell and stand behind it aggressively.

WD: You said the magic word—inventory. I have to ask, how is Tremco managing supply chain challenges? How does this affect your customers?

TI: I think there is a shifting paradigm where more companies realize how important it is to have strong relationships and open communication with

suppliers, and vice-versa. Having alternatives is necessary. We are emerging from the Covid era in a stronger position from a supply chain perspective. I suspect most in this industry have a new perspective on old ideas.

What that means for Tremco is we have spent these many supply-stressed months expanding our network and relationships with vendors and potential vendors and will “single source” rarely, if at all, in the future. Our procurement team is incredible. Can you imagine the stress of their daily triage during these global supply issues? Moving forward, we have more vetted raw material and suppliers on our roster, much higher raw material inventories than ever, and stronger collaboration with customers and other RPM companies in allotment situations. We are investing heavily into vertical integration and increasing capacity where it makes business sense to do so. Customers should expect from Tremco more stability in supply and price because of these enhancements.

WD: That's a rare piece of good news on the supply chain front. So, how does Tremco help manufacturers keep with the current pace of business and orders in residential fenestration?

TI: This is a two-way street. We must be honest with our customers about what we can and should make, and our customers must be honest with their suppliers about what they need and when. Forecasting and regular communication are key. It also helps in such times to manage expectations up and down the chain. When a window customer asks for something difficult to get, the seller needs to sell the truth. Pick something else, search for other options, and influence the need. Do we need all these colors? There is a fine line between the noble battle against commoditization and the harsh realities of supply chain and scale.

WD: Now, I want to go back to what you said about technology evolving near the point of thermal perfection. What should manufacturers be thinking about or watching in terms of next generation products?

TI: There are bigger issues for manufacturers than thermal performance. The last bastion for significant thermal enhancement lies with the glass itself: dynamic glazing. As a category, dynamic glass holds great promise, as does other glass-specific technology.

Low-emissivity coatings changed the game but, like warm-edge spacer systems, can only get us so far. De-

sign must get us past the baseline, which, in the past, was single-pane metal windows with no thermal break. Triple panes will become more popular, and flexible warm-edge spacers like EnerEDGE that use the edge of the glass for precise alignment make better-looking IG.

There are unique specialty foams out there, reflective coatings and wraps for window frames, aerogel technologies, and things of that caliber. More practically perhaps, we will see movement toward the triple-pane glass and to heavier noble gasses and more specialty laminated glass. Keep an eye out for non-product enhancements that have more to do with bundled services: insourcing, outsourcing, warranties, whole-house thermal technologies; or changes in market integration like factory-direct installed sales.

WD: Lots on the horizon. What about on the production side? How does this technology help manufacturers build better IG?

TI: Whether residential or commercial, IG automation is here to stay. Flexible warm-edge spacers like EnerEDGE are ideally suited for automation. One continuous spool of extruded material that sticks securely right onto the glass edge before sealing is an operator's dream.

In manual operations, with our hand-tool applicator, EnerEDGE and EnerSEAL® as a system enables better control over the multi-step process of traditional spacers and settles concerns some have over the aesthetic preferences against shiny metal or bumpy-looking butyl spacers. The EnerSEAL sealant behind EnerEDGE works well as a system to produce a worry-free, appealing hermetic seal that lasts decades. Nice windows cost a lot of money, so buyers have every right to expect not only a window that works well and meets its thermal promise but one that looks great, too. Even when the blinds are open! ■



Tremco manufactures a broad line of sealants and rubber-gasket extrusions for Fenestration as well as other industries. The Industrial Business Group sells across North America directly to in-plant operations in industries that range from Fenestration to RVs and Modular, and more. Give a call and they will come to see you and explore possibilities. For more information, visit tremcosealants.com/markets/industrial.

The image shows a large industrial warehouse with high ceilings and numerous metal shelving units filled with boxes. In the foreground, a large red automated storage and retrieval system (AS/RS) structure is visible, featuring a vertical column and a horizontal arm. The Fehr logo is overlaid on the top left of the image.

fehr



Automation specialized for windows and doors

___ Still using yesterday's technologies for today's challenges? Now you have a choice when it comes to warehouse automation: Let us analyze your data to help you make the right decision. We develop and manufacture innovative logistics solutions to help you be more productive, efficient, safe and profitable.



SAW/MACHINING CENTER INTEGRATION



MANUAL QUICK ACCESS LOCATION



SAW/MACHINING CENTER INTEGRATION



LOADING/UNLOADING STATION

fehr honeycomb light

____ Direct access without waiting times: The honeycomb light system provides window manufacturers with direct access to fast-moving items without waiting times. The specially designed quick access stations also allow saws and machining centers to be directly connected. The process of storing and removing items directly from forklifts is also possible with honeycomb light.

Fehr Warehouse Solutions Inc., T +1-704-666-8448, info@fehr-usa.com, www.fehr-usa.com



Ready for Hurricane Season



Producing hurricane-certified windows and patio doors allows manufacturers not only to protect homeowners and occupants from damaging winds, rain and debris, but their homes and businesses as well. (All images courtesy of the author.)

devastated by the impact of Hurricane Andrew, a Category 5 storm that left in its wake more than 60 deaths, over 150,000 homeless and an estimated \$25 billion in damages to homes, boats and buildings. Its second landfall impacted Louisiana, causing an additional \$1 billion in property loss and damage.

The wreckage Hurricane Andrew left behind led to the development of stricter building codes and missile impact tests to ensure the safety and resistance of homes and businesses against extreme weather conditions.



STANDARDS FOR IMPACT RESISTANCE CERTIFICATION, PLUS A HURRICANE PREPAREDNESS CHECKLIST AND GUIDE

By Jim Horn

The Atlantic hurricane season is capable of producing hurricane-force wind speeds of 75 mph to over 157 mph, causing everyday items including trees, vehicles and other large objects to become dangerous airborne debris. Hurricane season is active from June 1 through Nov. 30, with an average of 10 tropical storms per year across the Atlantic Ocean.

Coastal areas are in the path of hurricanes more often and see greater impact from the extreme rain, winds and storm surges that accompany them.

In August 1992, residents of southern Florida and Louisiana were

The standards for impact resistance certification

Another outcome of the hurricane's wreckage is that impact-resistant windows and doors have become a growing norm for residential and commercial construction projects in coastal areas. These products face rigorous testing to ensure industry standards are met before they can be certified as impact-resistant.

ASTM International and the Fenestration and Glazing Industry Alliance are the groups responsible for setting construction standards that meet international building codes. Together, they oversee the testing of building construction and product standards to ensure the safety and endurance of residential and commercial structures over time.

Windows and doors must meet the testing requirements of three standards to ensure compliance:

- **ASTM E1886**, Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentiation
- **ASTM E1996**, Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and

son?

Impact Protective Systems Impacted by Windborne Debris in Hurricanes

- **AAMA 506**, Voluntary Specifications for Impact and Cycle Testing of Fenestration Products

The ASTM E1886 and ASTM E1996 standards test product-related compliance for owner and occupant safety under extreme environmental conditions such as hurricane-force winds and airborne debris. The AAMA 506 standard is the final step in the quality control and testing process for exterior windows and doors to become AAMA Gold Label Certified.

During testing, products are subjected to impact in specific locations and at predetermined speeds by items including ball bearings and two-by-four boards to simulate the force of an airborne object. They are then exposed to the cycling of pressure similar to hurricane winds. Once both tests are completed, any tears formed in the interlayer of the glass must pass specific criteria for the window to become certified.

Hurricane product preparedness checklist

This three-step checklist can help determine if your brand's windows and doors are ready for hurricane season.

IMPACT RESISTANCE

A Category 3 hurricane, with winds between 111 and 129 mph, has the potential to cause damage to the roof, shingles, vinyl siding and gutters of well-constructed homes. Debris including shingles, gutters, tree limbs, waste containers, small appliances and outdoor furniture become airborne projectiles directed straight for a home.

AIR PRESSURE RESISTANCE

The stronger a hurricane, the

lower the barometric pressure in the air. Windows and doors that aren't air pressure resistant provide essentially the same effect as opening a window or door during a hurricane. Exterior air entering the home during a hurricane pressurizes the house and can cause structural damage to components such as the roof, which can lift up and, in some cases, be ripped off.

WATER RESISTANCE

On average, tropical storms and hurricanes produce rainfall of six to 12 inches or more. The pressure resistance of hurricane windows aids in their ability to resist heavy rainfall and can assist in the minimization of water leakage and damage during a storm.

Looking ahead to the 2022 hurricane season

The upcoming Atlantic hurricane season is predicted to have above-normal activity, similar to 2021's 21 named storms that included 11 hurricanes (Category 1 or higher). Colorado State University released early forecasting in April that indicates the likelihood of about 19 named storms, nine hurricanes and four major hurricanes between June 1 and Nov. 30, 2022.

By producing hurricane-certified windows and patio doors, manufacturers protect not only homeowners and occupants from damaging winds, rain and debris but also their homes and businesses. Expanding your window and door offerings to include hurricane-resistant products will provide more options to consumers in hurricane-prone areas. It will also open up a new market for your company.

Hurricane season is here, and it's never too early to start preparing for next season. ■

Jim Horn is director, channel marketing – U.S. Windows and Doors, for Cornerstone Building Brands.

Additional benefits of impact-resistant windows and doors

Along with the safety and peace of mind associated with installing impact-resistant windows and doors in hurricane-prone areas, manufacturers should make consumers aware of several additional benefits, including:

ENERGY EFFICIENCY

Hurricane-rated and impact-resistant windows and doors offer homeowners and occupants advanced glass solutions for interior comfort, control of solar glare and reduced energy costs. The laminated glass in hurricane windows also blocks up to 99 percent of damaging ultraviolet rays that can fade a home's interior.

NOISE REDUCTION

Impact-resistant laminated glass windows and doors can provide up to 50 percent less outside noise than standard glass. The window's transparent laminate interlayer helps reduce outdoor sounds year-round.

TIME AND MONEY SAVINGS

Hurricane-resistant windows and doors can provide homeowners with 24/7 protection against the elements and help reduce insurance premiums related to hurricane-prone areas. Homeowners also save time and money by cutting out the cost and labor of installing and maintaining storm shutters and other window coverings.

CURB APPEAL

Durable vinyl windows also mean long-lasting quality that will enhance the home's beauty without showing age, wear or rot.

Case Study

Visit WindowandDoor.com or scan the QR Code for a bonus case study on how hurricane-resistant windows can save a home, including compelling video content.

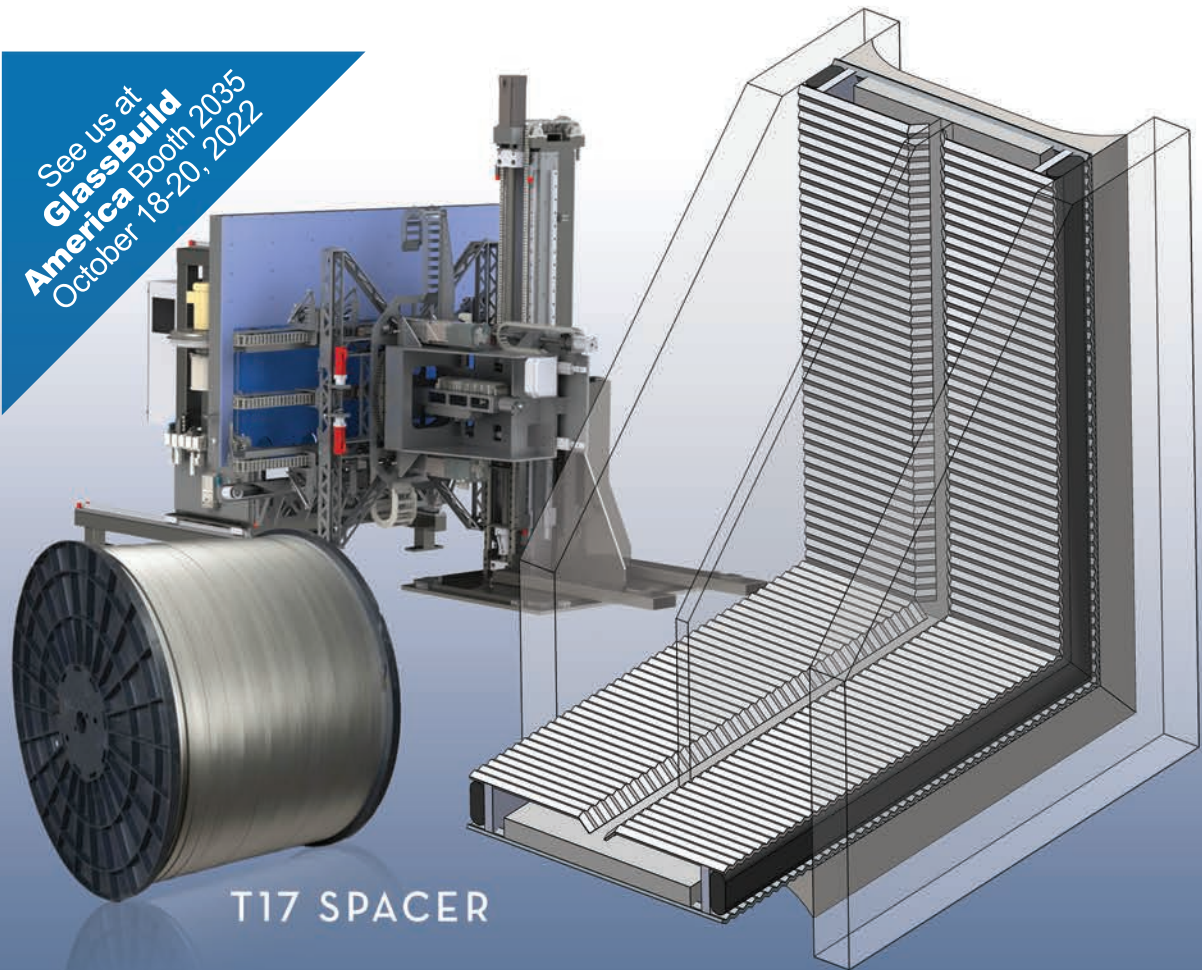


PERFORMANCE OF A TRIPL

WITH THE DURABILITY OF AN EXCEPTIONAL DUAL PANE

THINNER CENTER LITE = LESS WEIGHT
SINGLE SPACER DESIGN = COST SAVINGS

See us at
**GlassBuild
America** Booth 2035
October 18-20, 2022



EXCEEDS ENERGY STAR 7.0 REQUIREMENTS

PDS IG
Equipment

Designed and Built in Prairie du Sac, Wisconsin


(303) 948-4793 | sales@pdsig.com

www.pdsig.com

CANADIAN ENERGY CODES:

A Crooked Path to 2030





WHILE SOME PROVINCES
PUSH AHEAD FASTER
ON THE REQUIREMENTS
FOR IMPROVED ENERGY
EFFICIENCY FOR
FENESTRATION, ENERGY
EFFICIENCY IS THE
FUTURE FOR CANADIAN
FENESTRATION PRODUCTS

By Terry Adamson

& Beyond

The Canadian construction industry has a long history of building codes that have developed over many decades, with the first National Building Code being published in 1941. There have been many versions of the NBC published since then, as well as codes for fire protection starting in 1963, and the first Model National Energy Code published in 1977.

While some provinces adopt the national codes as written, others adopt with minor amendments, and others publish their own code based on the NBC, resulting in unique provincial building codes. Keeping track of what codes and versions apply where can be quite a challenge; don't forget Canada even has a National Farm Building Code version 1995. Thus, it is strongly recommended to connect with a local authority to get clear, up-to-date information about the codes in effect in a particular region.

Provincial building codes

Looking down from 30,000 feet, provinces that publish their own version of Building Codes are British Columbia, Alberta, Ontario and Quebec. The rest adopt the NBC, with some, such as Manitoba, making minor amendments. Generally speaking, even those provinces publishing their own building codes base them on the NBC, making modifications deemed relevant to the specific characteristics of each province.

A unique code application in Canada is from the City of Vancouver, which is the only city in Canada that publishes its own building code bylaw, the VBBL, with specific requirements for construction and energy efficiency. The Authority Having Jurisdiction (AHJ) enforces building and energy codes at the local level. This can make for confusion and interpretation variations from jurisdiction to jurisdiction; checking with the local AHJ can save a lot of headaches. There are plans in the works to harmonize the application of building codes across the country.

A good place to start is to get copies



There are plans in the works to harmonize the application of building codes across the country.
(All images courtesy of Kohltech Windows & Entrance Systems.)

of the NBC and the NECB. Canada has done a good job of making these available online, with the current NBC 2015 and NECB 2017.

Again, make sure to reference the current version for the jurisdiction you are working in. The 2020 version of the NBC was published this spring, with a commitment from all provinces to adopt or publish their version within 24 months. Therefore, during 2024, we should see new provincial codes based on the 2020 NBC.

Provinces that publish their own codes are also making them available online and can be found easily by Googling the province and building code. Resources can also be found at windowanddoor.com; use the QR code on page 46.

- Alberta currently follows their version of the code under the NBC-2019 Alberta edition.
- British Columbia is currently under its BCBC 2018.
- The City of Vancouver publishes its

own version of a building code in the Vancouver Building Bylaw, with very aggressive energy performance targets; current version is VBBL 2019.

- Quebec's building code has been in force since Nov. 7, 2000. The new version of this chapter of the Construction Code, which went into effect on Jan. 8, 2022, consists of the National Building Code of Canada 2015, with amendments for Québec.
- Ontario publishes the Ontario Reg. 332/12, latest version, January 2022.
- Toronto is also taking steps to improve building performance through its Toronto Green Standard, including Greenhouse Gas Emissions limits and a 2030 net zero building target.
- All other provinces would adopt the National Building Code, with the current version being the NBC 2015.

Harmonization with U.S. requirements

There is some harmonization to U.S.

requirements for fenestration performance when it comes to air, water leakage and structural performance: AAMA/WDMA/CSA 101/I.S.2/A440, commonly known as NAFS. NAFS is referenced in the NBC, as well as all published provincial codes. Check local jurisdictions for the NAFS version in effect for a specific region. Even though NAFS is harmonized between the U.S. and Canada, there are Canada-specific requirements referenced in A440S1, the Canadian Supplement to NAFS. One example of the differences is the requirement for air exfiltration leakage performance in Canada. NAFS-only compliance is not enough to comply in Canada. NAFS enforcement across Canada is inconsistent and local requirements may vary; check with the AHJ.

The Canadian requirements for energy efficiency of fenestration are not harmonized with the U.S. and are far more fragmented across Canada than NAFS requirements. Nationally, Canada publishes Section 9.36, Energy Efficiency

Sullivan Managed Inventory Program

Sullivan will inventory your components in our warehouse in Fort Lauderdale, Florida. You issue releases on your schedule.

This results in only as much as you need and allows for the cost saving advantages of bulk production, without the cost of excessive inventories.



Supply Chain Security

Sullivan has a dedicated team to fully manage this inventory. We watch your burn rate and WE CALL YOU with tracking reports and suggestions on increasing or decreasing the inventory amounts. You can feel confident that there will not be a shortage.

What Sets Us Apart

Our factories incorporate all the latest materials, technologies and fabrication techniques to deliver just the right product for your unique window and door systems. Our capabilities include the following:

- Aluminum, Zinc and Brass Die Casting
- Composite injection Molding, Insert Molding, Over Molding
- Roll Forming
- Metal Stampings
- Powder coat and wet paint options
- Anodizing and Plating
- Kitting and Fabrication



Supplying
Hardware Solutions
for 35 years.



Visit The
Sullivan Hardware
Booth #8184



October 18-20, 2022 | Las Vegas, NV

(954) 522-2358 Office
(954) 522-2361 Fax

3360 SW 13th Avenue
Fort Lauderdale, FL 33315

Info@SullivanHDW.com
www.SullivanHDW.com

The Supreme PVC Casement from Kohltech Windows and Entrance Systems, high-performance, triple glazed under 1.0 w/m²*k (.16 imp) U values.

of the NBC, covering Part 9 residential buildings, while the NECB 2015 covers larger buildings as per clause 1.3.3.2 in the NBC. Both the NECB and NBC 9.36 contain multiple paths for compliance. Prescriptive, performance and trade-off paths provide flexibility to builders in designing their projects for compliance. NBC 9.36 is used by provinces that do not have their own published energy codes and by some that adopt into their code, such as Alberta. Some provinces publish their own codes and integrate the NBC requirements with amendments.

Other strategies

The west has developed unique energy efficiency strategies and provides a variety of code, regulation and bylaw energy performance requirements. The BC Building Code contains section 9.36, which closely follows the NBC 9.36 requirements, as well as the BC Step Code, a voluntary tiered building performance methodology.

BC also has an energy efficiency law in the BC Energy Efficiency Standards Regulation that restricts the sale of products based on U-value performance. The City of Vancouver has its own bylaw that contains aggressive fenestration energy performance metrics, with recent updates requiring a 1.2 U value W/m²*k (.21IP) for most residential projects.

As the push to harmonize the codes across Canada crawls through its bureaucratic web, those faced with providing products across the country grapple with the requirements they must meet. There is no easy one-stop shop for all the information, but for energy, there is information on Natural Resources Canada's website, nrcan.gc.ca. Click on the QR code on this page and navigate to the Natural Resources Canada link that goes directly to a search page with many of the provincial energy links.

The future

Fenestration Canada continues to look for ways to provide industry professionals



The Supreme PVC Casement from Kohltech Windows and Entrance Systems, high-performance, triple glazed under 1.0 w/m²*k (.16 imp) U values.

with information to assist them through the maze of requirements the industry faces. We are often approached by members faced with competition from products imported into Canada that have not been tested to meet the requirements of Canadian building codes, often at price points well below those at which tested Canadian code-compliant products can be sold. A recent Fenestration Canada publication outlining the basic requirements for compliance to Canadian codes and standards was published. Although it was aimed at imported fenestration products, its requirements apply to all products, local or import, and has proven to be a valuable resource for manufacturers, builders, architects, specifiers and building officials.

While some provinces push ahead faster on the requirements for improved energy efficiency for fenestration, we can see that energy efficiency is the future for Canadian fenestration products. Programs like Net Zero, Passive House, City of Vancouver, BC Step Code, Energy Star and the Greener Homes rebate program are driving the demand for higher-performance products today. Tiered energy codes that look at entire building performance will become the norm as we move toward

Visit WindowandDoor.com or scan the QR code for a list of resources and links to national and provincial building codes, and more.



2030 and on to 2050 where the Net Zero home will be the standard.

If we could just get everyone on the same page, same targets, same methodology, we could then make some effective progress nationally. As we push ahead developing these high-performance products, I can only hope we didn't put the cart before the horse. There is a great deal of interest and increased discussion around embodied carbon. Will high-performance fenestration be an embodied carbon conflict? That is a topic for another day. ■

Terry Adamson is the technical director of Fenestration Canada.



LEADERS IN FABRICATION AUTOMATION



Meet Joseph Machine Company

Joseph Machine Company engineers lineal processing equipment and software that cut cycle times, boost part quality and eliminate unnecessary scrap. Proudly based in the USA with the best service in the industry, Joseph is ready to be your trusted partner in improving your production.



CUT, FAB, WELD, CLEAN

Joseph specializes in stick to opening fabrication solutions - standard high speed sawing solutions, custom fabrication centers, welders, cleaners, automatic pass through welding/cleaning systems, Industry 4.0 data collection systems & more



e - SALES@JOSEPHMACHINE.COM
p - 717.432.3442

CASE STUDY

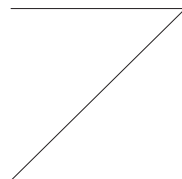
Doors

HOW DOORS CAN TRANSFORM A HOME, PLUS
MARKET INSIGHTS FROM MANUFACTURERS

DEMAND FOR RESIDENTIAL DOORS has expanded in recent years. According to the Fenestration and Glazing Industry Alliance 2021/2022 Study of the U.S. Market for Windows, Doors and Skylights, demand for entry doors in new construction in 2021 grew 8 percent. Entry door remodeling and replacement, meanwhile, declined at 2 percent. The total market grew by 2 percent versus 2020 and is expected to continue growth through 2024.

The Window & Door Manufacturers Association's 2022 U.S. Market Study for Window & Patio Door, Entry Doors and Architectural Doors also reflects category growth, with total residential shipments posting an increase of 3.8 percent (2.5 million units) from 2020. Consumer and builder confidence amid rising costs could result in a slowdown in 2023-2024, with units shipped expected to grow about 1 to 2 percent.

The following collection of case studies and market insights is a brief illustration of how doors can transform a home. Visit windowanddoor.com for more project photos.



The New American Home 2022, Orlando, Florida

Products: Ply Gem Perspective
Multi-Slide Vinyl Patio Doors

Project Overview: The designers of the 4,646-square-foot up-scale-coastal concept wanted to develop a strong connection between the indoor and outdoor transitional living spaces. In a home built around a central courtyard, the installation of the patio doors allowed for activities to flow seamlessly across multiple areas of the house. With these doors located throughout the structure's upper and lower levels,

the homeowners can appreciate the abundance of fresh air, natural light and unobscured wall-to-wall outdoor views they provide.

BSB Design Inc. was the project architect and Envy Homes served as the builder.

Market Insights: "The multi-slide patio door is aligned with the growing popularity of transitional indoor-outdoor living spaces, and the continuing trend of homeowners seeking larger windows and doors for more natural light. We're seeing more manufacturers offering vinyl as a material for their multi-slide patio doors, which provides an





affordable, durable and attractive alternative to aluminum and aluminum-clad wood for builders and architects looking to add one to their projects. With the wide assortment of materials, configurations and sizes available, it means there's now a fit for virtually any home and budget," says Andy Karr, senior product manager, Cornerstone Building Brands.

Ann Arbor Sanctuary, Ann Arbor, Michigan

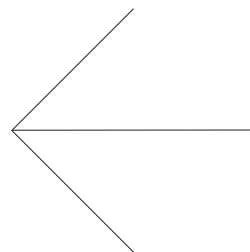
Products: Andersen Custom Residential Entry Door (Inswing) with a Douglas fir exterior/interior and low-E4 tempered glass

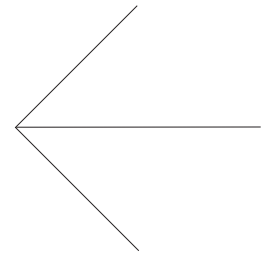
Project Overview: Creative consultant, designer and editor Michelle Adams collaborated with Andersen Windows & Doors to renovate her latest personal design endeavor, a charming 1950s ranch in Ann Arbor, Michigan.

Inspired by California homes that seamlessly blend indoor and outdoor spaces, Adams set out to create her own slice of West Coast heaven in suburban Michigan. She built a modern deck spanning the entire width of the home and opened up the kitchen and living area to access it; knocking down a slew of old, drafty windows in the process and replacing it with a sleek Outswing Folding Door from Andersen, leaving the room feeling super bright and modern.

To tie the space together, Adams opted for a stunning custom entry door from Andersen and clean, easy-to-open 100 Series Windows that fit the streamlined minimal look of the home's architecture.

Photo Credit: Michelle Adams



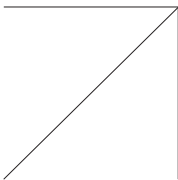


New Construction Home, Tacoma, Washington

Products: Milgard Tuscany Series V400 Sliding Door

Project Overview: The homeowner built a new construction home on Puget Sound in Washington. They chose a Tuscany Series | V400 4-panel sliding door because they loved how the large door extended their living space outdoors and brought the beauty, sounds and fresh air of the outdoors in. Color: Bronze Exterior / White Interior shown with D-Handle option and a multipoint lock.

Market Insights: "Homeowners continue to seek expansive door systems that allow them to blend interior and exterior spaces, and builders across the country are eager to meet that need by including large sliding and folding moving glass walls into their designs. We are committed to investing in new products and technologies to support the growing popularity of these large door systems, as evidenced by the recent launch of our AX550 moving glass walls in the west and our 100 Series doors in the southeast," says Josh Williard, MITER Brands vice president of products. ■



Outdoor Living Space, Kingsport, Tennessee

Products: Simpson Door Co. 77512 Nantucket in Sapele Mahogany from the Nantucket Collection

Project Overview: To bring a historic feel to their family's outdoor living space, Henry and Brooke of Plank and Pillow looked to a Nantucket Collection door in Sapele Mahogany from Simpson Door Co. Dressed in a traditional dark walnut stain for old-world charm, the richness of the wood door pops against

the white-painted brick wall. The custom door features clear glass lites to allow more natural light to flood into the adjacent indoor dining room. Even though the husband-and-wife duo have a covered outdoor living space to

enjoy year-round, Simpson Nantucket doors do not require a building overhang to maintain their 10-year warranty.

Photo Credit: Simpson Door Co.





COMBiLiFT
LIFTING INNOVATION

Safety Storage Efficiency

Manage your glass & window warehouse more safely, using less space and more productively with Combilift's materials handling solutions

- Safer product handling
- Optimized production space
- Improved storage capacity
- Increased productivity & output
- Enhanced profits

Contact Us Today

To find out Combilift can help you unlock every inch of your storage space

combilift.com





We Bring Doors to Life!

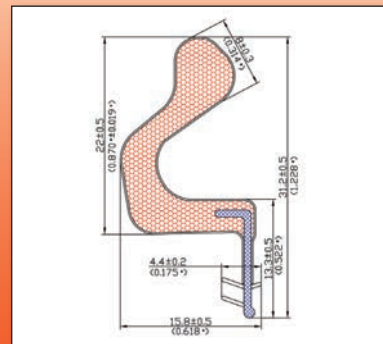
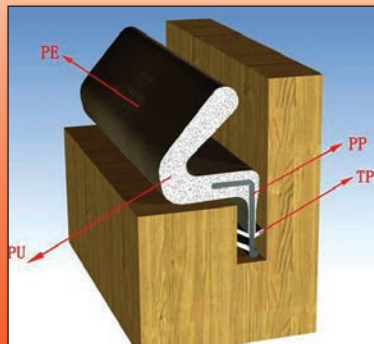
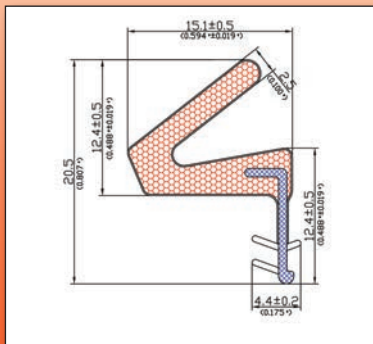


Hinge & Barn Door Hardware in Multiple Designs & Finishes

Major Product Categories:

Hinge, Plate, Track, Bag Kit, Barn Door Hardware, Weatherstrip & Accessories

High Quality Weatherstripping & Corner Pad for Fire Rated Doors



**UL Category H & J Certified
AAMA Class A Certified**



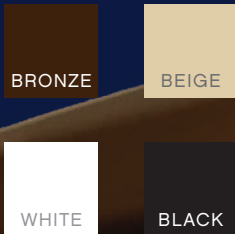
895 S. Rockefeller Ave. #104, Ontario, California 91761

Tel: (909) 786-0629 Fax: (909) 605-1806

www.VantagePointIndustries.com

The original Q-LON™ door seal now with increased domestic production!

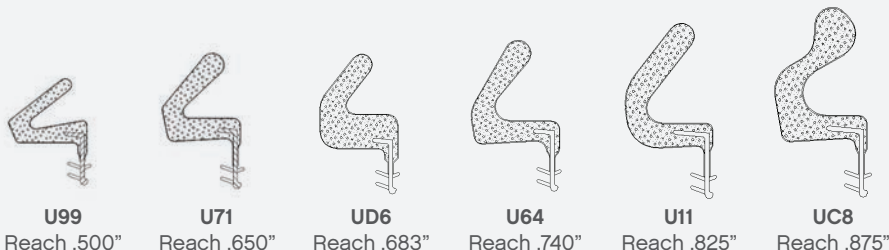
MADE IN THE USA



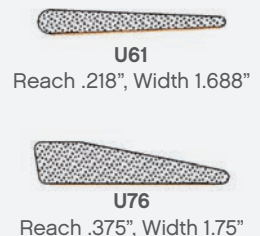
Q-LON door seals are the preferred choice for entry doors.

Known for soft compression and superior recovery while providing excellent sealing protection. AmesburyTruth customers have grown to love the consistency and reliability of Q-LON door seals for over 50 years!

DOOR SEALS



CORNER PADS



Inquire now to secure your domestically sourced door seals!
Email us at Q-LON@AmesburyTruth.com

www.amesburytruth.com

Products



FIND MORE PRODUCTS ONLINE // See all the latest products and trends online at WindowandDoor.com

01



01 / Deceuninck North America

Deceuninck's Revolution XL French Door is a high-performance door system that excels in thermal capability and water resistance. The door allows for clear opening on jamb sides and is used in a variety of applications, including commercial, light commercial and residential construction. Available in Euro and North American frame options, the system comes with a new, flatter, ADA-compliant sill to allow for easier ingress and egress. The impact-rated system offers a flexible design and a range of colors and finishes.

877/563-4251 | DECEUNINCKNA.COM

02



03

02 / Magid

Magid released two new safety gloves that feature DX+ Technology: the DXPG52 (ANSI Cut Level A5) and DXPG62 (ANSI Cut Level A6). Both include a polyurethane palm coating. The gloves are 30 percent lighter than traditional gloves of the same cut level, according to officials. They provide cut protection without a fiberglass or steel core and are cool to the touch for improved comfort, the company reports.

800/203-0414 | MAGIDGLOVE.COM

03 / Novagard

NovaFlex Qwik-Set Portable Adhesive and Glazing Sealant is a two-component, neutral cure silicone that rapidly builds adhesive and elastomeric strength. Useful in tight spots and for repairs, the new, fixed 2-to-1 ratio is available in a dual cartridge and can be easily applied using a portable pneumatic gun for quick repairs in the field or where glazing tables aren't an option, according to the company. The sealant develops a primerless bond to most substrates and commonly used accessories, and is AAMA verified for strength and adhesion.

216/881-8111 | NOVAGARD.COM

Product/Solution

CleanCut 1800 Series Glass Cutting & Edge Deletion System // **GED Integrated Solutions**



Challenge

GED saw the need to offer a cutting-only model and an edge deletion and cutting model machine with enhanced speeds and increased throughput, all while maintaining myriad options manufacturers want while selecting a glass production system.

Solution

GED's CleanCut™ 1800 Series of glass cutting tables—which includes a cutting only model (1800) and an edge deletion and cutting model (1800-D)—complement the CleanCut 1700 Series and are scaled to

accommodate larger glass, a maximum of 96 by 130 inches (244cm x 330cm).

The systems combine patented technologies in hardware and software that allow customers to produce more IGUs in a shift more efficiently and at higher quality. In-house testing, using four different cut patterns, have shown a 44 percent improvement in processing time in an eight-hour shift. This equates to 159 sheets of glass processed in an eight-hour shift.

Programmable cutting and deletion force uses electro-pneumatic actuation to deliver precise amounts of pressure for each glass stock, resulting in reduced glass waste due to breakage, improved scoring and deletion quality, and reduced

operations disruption. A regenerative braking system feeds unused power back to grid to provide energy savings and reduce the elimination of braking resistors and excessive heat generation.

This all adds up to lower total operating costs and higher-quality residential windows. Learn more at gedusa.com or call 330/963-5401.

Sponsored By





THIS IS ROGER. HE DOESN'T CARE THAT YOU HAD THAT LITTLE PROBLEM ON YOUR ASSEMBLY LINE DELAYING HIS INSTALL DATE.

He loves your product. His customer loves your product. And neither one of them care that you had a little problem spot on your assembly line that caused you sleepless nights and cost over-runs.

But we do.

We fix problem spots in the assembly lines of big and small companies in the fenestration industry. Period.

We do it with smartly designed products that fit seamlessly into your existing assembly line.

Let's talk about your little problem. Call 440-899-5658.

Or visit WakefieldEquipment.com.



SPECIALIZING IN...VERTICAL & HORIZONTAL STRETCH WRAP MACHINES • UP-CUT, CHOP & V-NOTCH SAWS • COPY ROUTERS • PUNCH PRESSES • CARTCADDY • CUSTOM BUILT EQUIPMENT • WINDOW & DOOR ASSEMBLY LINES • SCREEN TABLES • LINEAL POSITIONERS & SAW STOPS • GLASS & MATERIAL HANDLING EQUIPMENT...AND MUCH MORE!

Products



REHAU

Aspekt+ 1800 features a strength-enhancing sash in the company's RAU-FIPRO glass-fiber reinforced polyvinyl chloride material. The new Aspekt+ 1800, an addition to the Aspekt 1800 casement window portfolio, is designed to meet Passive House requirements and address the growing demand for larger windows in residential and commercial construction. Its co-extruded triple-seal technology limits thermal conduction and ensures a tight frame-to-sash seal with a reduced U-value, according to company officials. An outswing casement window, Aspekt+ 1800 is available in a wide range of colors.

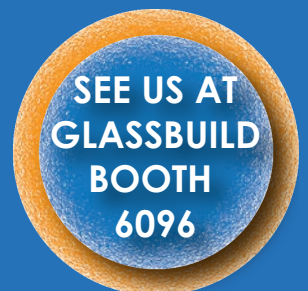
800/247-9445 | REHAU.COM



“I can’t say enough about FeneVision’s customization capabilities. It allows us to do things we’ve never done before.”

Pat Heytens, President FEN-TECH

To learn more about the partnership between
FeneTech and FEN-TECH, visit
<http://fene.tech/FT822WD>



FeneTech is the world's preeminent software provider for the
glass fabrication and window & door manufacturing industries

330.995.2830 | info@fenetech.com | fenetech.com

People ON THE MOVE



STAY CONNECTED // [Connect with industry people on our Facebook page](#)



Williams

Andersen Corp.

welcomed *Ryan Williams* to the company's executive leadership team as the new president of the Andersen Division, where

he will lead sales and service teams and product portfolio management and will have oversight for the divisional responsibilities of the enterprise manufacturing, logistics, technology and RD&I functions.



Jung

Compusoft + 2020

appointed *Joerg Jung* to CEO. Jung was most recently the president and general manager international and member of the executive leadership team with Infor.

Ron Crowl was named managing director of Compusoft + 2020 Doors, Windows and Glass

Vertical Group. "In my new role, I believe I can bring together the four entities that make the complementary verticals of the Doors, Windows, and Glass business unit and rally their existing customers and prospects," he says.



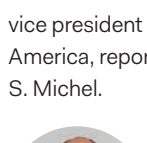
Albrecht

Jeld-Wen Holding Inc.

named *Julie C. Albrecht* as executive vice president and chief financial officer. She will replace EVP and Acting CFO *David Guernsey*, who will transition into another leadership role. The company also promoted John T. Krause to senior



Krause



Buono

Roto Frank of America Inc.

hired a new warehouse manager, *Bryan Buono*. Buono joins Roto with over 20 years of leadership experience in warehouse,

distribution and inventory control. He will be responsible for all warehouse operations at Roto Frank of America.



Boser

GED Integrated Solutions

grew its engineering and project management groups. *Tom Boser* moved into a new role as a project manager in the sales application department. *Tyler Kraft* joins the project management team in the sales application department. Both will report to Joe Shaheen. And, *Anny Lin* is moving into a new role as a mechanical engineer in the engineering department, reporting to Brian Melik and Dave Lewis.



Kraft



Lin



Anderson

YKK AP America Inc.

appointed *Jim Anderson* as residential sales representative for North Carolina, where he will be responsible for promoting brand awareness and building long-term customer relationships with window



Freund

and door dealers and homebuilders.

The company also appointed *Julie Freund* as architectural sales representative for Texas

and the Southwest region, where she will cultivate long-term customer relationships with architects and glazing contractors.



Ludwig

Erdman Automation

welcomed *Brian Ludwig* as its South Central North America sales manager. Ludwig has spent the last 28 years in fenestration

and building products, most recently as the North East Territory sales manager for Quanex Building Products.



Miller

Lynn Miller, PGT

Innovations code compliance manager, was appointed chairperson of the **American Society for Testing and Materials**

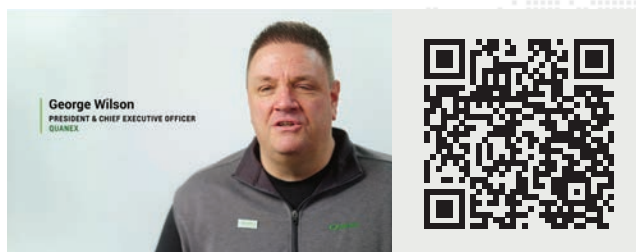
impact-resistance task group. The group is tasked with overseeing the development of the ASTM E1886 and E1996 standards, which are global standards that set the criteria for performance of exterior windows, curtain walls, doors and impact-protective systems impacted by windborne debris in hurricanes.



STAY IN THE KNOW // [Subscribe to Window + Door Weekly](#), our weekly newsletter that keeps you informed with everything fenestration, every Wednesday

A Part of Something BiggerSM

FOR NEARLY A CENTURY, QUANEX HAS FUELED THE BELIEF THAT INNOVATION AND THE RIGHT PEOPLE CAN **TRANSFORM THE WORLD** – ONE SOLUTION AT A TIME. THROUGH OUR PIONEERING, SUSTAINABLY-DRIVEN PRODUCT SOLUTIONS, WE'RE STRIVING TO **BUILD A BRIGHTER FUTURE** FOR OUR CUSTOMERS ACROSS THE GLOBE. WE ARE YOUR ONE SOURCE FOR QUALITY BUILDING COMPONENTS. GLOBALLY TRUSTED AND DRIVEN BY INNOVATION – TOGETHER WE CAN **BUILD SMARTER** PRODUCTS. WE ARE RELIABLE, LEADERS, PIONEERS, INNOVATORS, WORLD-WIDE SOLUTION MAKERS. WE COMBINE AESTHETICS AND PERFORMANCE TO **DELIVER LASTING VALUE** FOR YOUR BUSINESS AND YOUR CUSTOMERS. WE ARE NOT JUST ANOTHER MANUFACTURING COMPANY, **WE ARE A PART OF SOMETHING BIGGER.**



Scan the code to watch the video, and learn more about how Quanex can help solve your business challenges today and into tomorrow.

Learn more at [QUANEX.COM](https://www.quanex.com)

Quanex

Advertiser Index

Advertiser	Page	Phone	Website or email address
AllView	10-11	323/717-4072	email: jdobel@uspolymerinc.com
AmesburyTruth	17		amesburytruth.com
AmesburyTruth	53		email: q-lon@amesburytruth.com
Anthony Innovations	8-9		email: salesna@nthonygroup.net
Blink Blinds + Glass	25		blinkblinds.com
Combilift	51	877/266-2456	combilift.com/us/
Decco	31		decco-usa.com
Eko Okna	14		ekookna.us
Erdman Automation	5	763/389-9475	erdmanautomation.com
Ergo Robotic Solutions	19	518/796-2179	ergorobotic.com
Fehr Warehouse Solutions Inc.	36-37	704/666-8448	fehr-usa.com
FeneTech Inc.	27, 57	330/995-2830	fenetech.com
GED Integrated Solutions	29	330/289-6202	gedusa.com/intercept-ope-calculator
GlassBild America	61	703/442/4890 ext. 142	glassbuild.com
HOPPE North America	23	920/563-2626	hoppe.com/us-us/
Integrated Automation Systems	20-21	330/954-3070	email: ryan@iasmachinery.com
Joseph Machine Company	47	717/432-3442	email: sales@josephmachine.com
Lawrence Industries	33		lawrenceindustriesinc.com
Merit Aluminum Products	13	951/735-1770	meritaluminumproducts.com
PDS IG Equipment	41	303/948-4793	email: sales@pdsig.com
Quanex Building Products	7, 59		quanex.com
Roto North America	3, 64	800/243-0893	rotonorthamerica.com
Stürtz Machinery	15, 63	330/405-0444	email: info@sturtz.com
Sullivan Hardware	45	954/522-2358	sullivanhwd.com
Vantage Point Industries	2, 52	909/786-0629	vantagepointindustries.com
Wakefield Equipment	24, 56	440/899-5658	wakefeldequipment.com

WINDOW+ DOOR WEEKLY

Delivering the Fenestration Industry to Your Desktop, Tablet or Smartphone. [Subscribe at WindowandDoor.com](http://WindowandDoor.com)

LAS VEGAS

OCTOBER 18-20, 2022

GLASSBUILDAMERICA.COM

SEE EVERYTHING

PEOPLE

PRODUCTS

INNOVATION



GLASSBUILD AMERICA IS THE LARGEST ANNUAL TRADE SHOW FOR THE COMMERCIAL AND RESIDENTIAL GLASS, WINDOW AND DOOR INDUSTRIES IN THE ENTIRE WESTERN HEMISPHERE. EXPERIENCE FULL-SCALE PRODUCT INNOVATION ON DISPLAY UNLIKE ANY OTHER EXPO CAN DELIVER.

THE ONLY WAY TO SEE EVERYTHING, IS TO BE THERE.

GlassBuild is Back in Vegas! Produced by the National Glass Association (NGA), GlassBuild America is where buyers and sellers representing the entire glass and fenestration industry supply chain come together. Join your colleagues, customers, prospects and competitors for unmatched educational sessions, new product demonstrations, networking, the annual Glazing Executives Forum, and the return and relaunch of the GlassBuild Theater.

If you don't go to GlassBuild, your competitors will thank you.



**REGISTER
NOW**

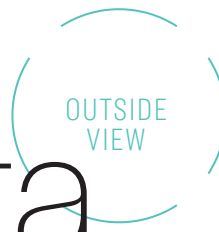
GlassBuild
AMERICA
THE GLASS, WINDOW & DOOR EXPO

Co-located with the
World Millwork Alliance (WMA)

WMA WORLD
MILLWORK
ALLIANCE®

Follow
#GlassBuild
f t y in

Market Data



STAY CONNECTED // Follow
@windowdoormag on
Twitter for industry updates

Residential Window, Door Shipments // 2021 Saw Increase Despite Supply Chain, Labor Issues

Residential window and door shipments increased by 3.8 percent (2.5 million units) in 2021 compared to 2020. Key drivers for the market remain positive for the future, but will plateau in the second half of this year. The 2023-24 window market will expand, but at a slower pace with units expected to grow 1 to 2 percent. *Source: Window & Door Manufacturers Association 2022 U.S. Market Study for Window & Patio Doors, Entry Doors and Architectural Doors*

Overall Housing Starts

14.4%



percent decline in May as rising interest rates and supply chain disruptions raise construction costs. *Source: U.S. Department of Housing and Urban Development and the U.S. Census Bureau*

Builder Confidence

67



is the lowest builder confidence reading since June 2020 and the sixth consecutive monthly decline. *Source: National Association of Home Builders/Wells Fargo Housing Market Index*

New Home Sales



10.7%

percent increase in May to a 696,000 seasonally adjusted annual rate. *Source: U.S. Department of Housing and Urban Development and the U.S. Census Bureau*

► Stock prices of publicly traded window and door companies underperformed the broader market in June, as the W&D Stock Index decreased 8.7 percent compared to a 7.7 percent decrease for the S&P 500. These losses pulled in the 12-month return on the W&D Index to negative 15.0 percent compared to a 12.4 percent decrease for the S&P 500. Building products stocks and the broader market continue to be negatively impacted by the restrictive Fed policy tackling high levels of inflation, as well as the continued supply chain pressure and the Russia/Ukraine conflict. Homebuilder sentiment fell for the 6th straight month with data as of May, weighing on building product investors' near-term outlook. However, building products companies continue to see strong levels of demand and growth in repair and remodel activity given the lock-in effect with current homeowners from the higher mortgage rates. *Source: Lincoln Financial*

A PASSION FOR INNOVATION

WE ARE YOUR
**STRATEGIC
PARTNERS**

IN FENESTRATION MANUFACTURING

**We approach every project
as a partner in your success.**

OUR ROBUST RANGE OF PRODUCTS AND SERVICES PROVIDE:

Fully automated and stand-alone production machinery

•

North American expertise and support

•

Local project management

•

Labor saving ideas while improving quality & safety

To speak to our sales team, please call our U.S. office or email via our website @ www.sturtz.com



PASSION FOR INNOVATION



CONTACT

Stürtz Machinery Inc.
1624 Highland Rd.
Twinsburg, OH 44087

Tel 1.330.405.0444
Fax 1.330.405.0445
info@sturtz.com
www.sturtz.com



Roto



9600



9900



9100D

Roto North America is pleased to showcase our **RotoFasco Secura** Sliding Patio Door Hardware

Excellence in Window & Door Hardware

Roto North America | rotonorthamerica.com

Tilt & Turn

Inowa

PatioLift

Swing Door

Casement

Sliding Patio Door

Sash Locks