

INSIDE: 10 Tips for Acoustical Glass Testing

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31st Annual Guide to New Products



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SAINT-GOBAIN

[July 2014]

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DEVOTED EXCLUSIVELY TO THE ARCHITECTURAL GLASS INDUSTRY

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New and Improved

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on the cover

USGlass magazine's Annual Guide to New Products. Turn to page 34 and read all about some of the industry's latest developments, including glass, curtainwall, machinery, tools and much, much more!

Companies featured on the cover:

Top row, left to right: Major Industries, CGI, PRL, Valspar. Second row: Kolbe, GRT Glass Design. Third row: AGC, Capital Tape, Columbia Commercial Building Products.

Bottom row: Guardian Industries, Select Products Ltd., SaftiFirst.



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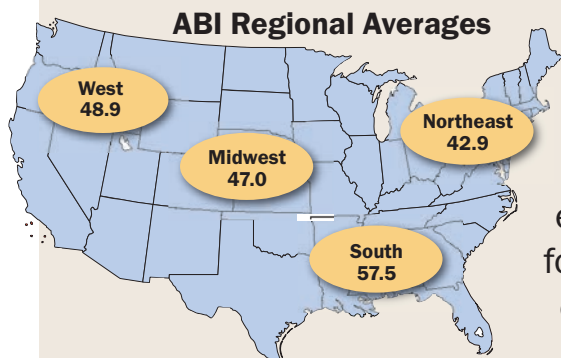
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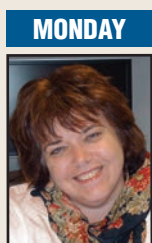
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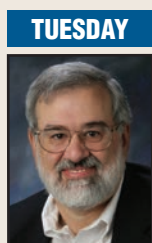
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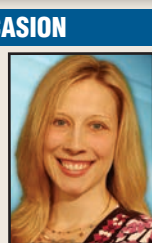
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Success = Holly

You may have seen the recent announcements on USGNN.com™ about the appointment of Holly Biller to the Women's Leadership and Networking Council of the prestigious American Business Media (ABM) group. Well, there are a few other things I'd like to tell you about our vice president of digital media services.

That Holly was chosen to be included in this prestigious list of publishing professionals is no surprise. She is an accomplished professional who has grown with our company and expanded it to encompass a full digital offering, including digital editions, monthly video newscasts, e-newsletters and Android and Apple Apps.

I admire Holly for too many reasons to include here—this would be a nine-page column if I included them all—but suffice it to say, her “can do” attitude almost always becomes “success.”

Less than 48 hours after we decided to create an App for the Android and iPad, Holly had already become an accredited App developer and was working on the program. She always has a “we can do/fix/find/enhance this” attitude and almost always succeeds.

We are incredibly lucky to have her combination of strong analytical skills, dynamic personality and expert people skills working together for our company. I feel exceedingly lucky that she chose to accept our offer from among the many others she had when she graduated college and that she has helped grow Key since that time.

It's also been my profound pleasure to watch her grow personally, marry her wonderful husband, Thomas, and now raise two adorable boys, Cameron and Hudson. The young “Biller Boys” are wonderful to see around the office when they stop by and it's a kick watching them grow, too.

The goal of the new council Holly is in is, in part, to provide women at the beginning of their career with an opportunity to interact, learn and network with their peers, along with senior and accomplished women executives. I have no doubt Holly will be an excellent mentor to all with whom she comes in contact.

The first time I met Holly's mother, I tried not to show how much in awe of her daughter I was. After all, she had raised this amazing person who no one ever forgets once they meet. “So,” I asked her mom, Robin, “what exactly does one do to raise a Holly?”

“Darned if I know,” her mom replied with a smile.

There's no formula or magic recipe. That's just how special Holly is.



Holly Biller

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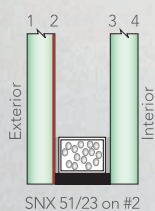
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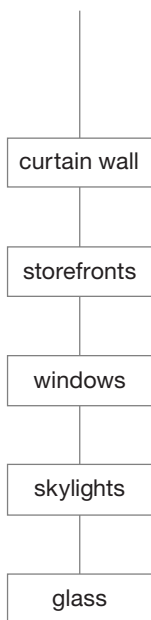


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Hard Work Pays Off

GIBs Supplement Library of Technical Resources

by Urmilla Jokhu-Sowell

The Glass Association of North America (GANA) is nearly halfway through its membership year and our volunteers have kept their noses to the grindstone to accomplish their technical goals. We have published a number of new Glass Informational Bulletins (GIB) to supplement the library of technical resources.

BEC DIVISION

Bulletin: *The Top 10 Items Commonly Missing from Fenestration System Shop Drawings*

Shop drawings must document and detail all requirements of design parameters, material ordering, fabrication and erection. Failure to properly document these requirements can result in numerous errors and project delays. In order to provide a reminder of key elements of successful shop drawings, members of GANA's Building Envelope Contractors Division developed a list of the top ten items commonly missing from fenestration systems shop drawings.

Bulletin: *Safety Guidelines for Deglazing Structural Silicone*

This GIB was written based on the personal experience of one who was injured in a deglazing process. Given the expected influx of new people into the glazing profession, the GIB should be used as an overview of how to approach the deglazing of glass without injury by those who are not familiar with a situation that always exists on projects utilizing glass.

DECORATIVE DIVISION

Bulletin: *Recyclability of Architectural Glass Products*

The need for recycling glass will not diminish with time and new ways in using recycling glass will appear. This

document will provide a quick understanding of what is currently happening with glass recycling in North America.

Bulletin: *Assessing the Durability of Decorative Glass*

The durability of a decorative glass product is a complex characteristic. Durability must be considered in context, against what factors the product must be durable. This document offers a profile of a number of important durability properties.

ENERGY DIVISION

White Paper: *LEED v4 - updated*

The intent of this white paper is to address areas of the U.S. Green Building Council's LEED® rating system that are relevant to the use of glass.

INSULATING DIVISION

Bulletin: *Guidelines for Use of Capillary Tubes*

This joint document written by members of GANA and the Insulating Glass Manufacturers Alliance discusses considerations for capillary tubes and provides direction for proper design, application and advantages/disadvantages for their use in insulating glass.

LAMINATING DIVISION

Bulletin: *Marking and Labeling of Architectural Laminated Glass - updated*

The purpose of this GIB is to provide guidance and clarity to the various permanent marks or manufacturer's designations currently being applied and/or required for the laminated glass infill of a fenestration assembly.

Bulletin: *Effects of Moistures, Solvents and Other Substances on Laminated Glazing Edges*

This document provides information relative to the edge effects on laminated glass due to moisture, solvents, standing water, caulks, sealants, tapes, gaskets, setting blocks and glass cleaning solutions on laminated glazing edges.

TEMPERING DIVISION

Bulletin: *The Importance of Fabrication Prior to Heat-Treatment*

Glass applications frequently require a variety of glass edge and/or surface fabrication. This GIB discusses fabrication processes that should occur prior to heat-treatment.

Bulletin: *Recommended Applications for Heat-Treated Architectural Glass*

Heat-treated glass is used in many of today's architectural glazing applications where increased strength to resist glass breakage is desired. This GIB discusses types and uses of heat-treated glass applications.

PROTECTIVE GLAZING COMMITTEE

Bulletin: *Security Glazing in Schools*

With the topic of school violence frequenting the news, schools are increasingly seeking solutions to prioritize safety. This GIB outlines various types of security glazing, including forced-entry resistant laminating glazing; bullet-resistant laminated glazing; blast-resistant laminated glazing; and hurricane-resistant laminated glazing. ■

the author







Urmilla Jokhu-Sowell is the technical director for the Glass Association of North America in Topeka, Kan.

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Best Practices

Strengths and Weaknesses

Where Do You Thrive and Where Can You Improve?

by Richard Voreis

The continuing theme of my articles and, hopefully, our discussions, is how to be more successful in challenging times. Many companies don't know the strengths and weaknesses of their own company. In fact, most of our glass and glazing clients did not have an in-depth knowledge of such. I cannot recall even one client in almost 14 years who had consciously considered their strengths and weaknesses. It's very important to know both—not just what you consider to be your company's strengths.

START STRONG

The strengths of your company can distinguish it from your competitors, and can also form the foundation for an effective strategic plan. If you know your company's strengths then you can promote them to your prospective customers and make a very good first impression.

Ideally, your company strengths should include some or all of the following:

- Employees;
- Reputation;
- Business model;
- Quality products and services;
- Suppliers;
- Websites, etc.

Do you know the strengths of your company? What's the best way of finding out? Please share your thoughts with me.

ON THE WEAKER SIDE

To repeat for emphasis, many companies don't know their own strengths and weaknesses. It's very important to know both and it's especially important to know your company's weaknesses. Every company has weaknesses; no

“Every company has weaknesses, no matter how good they think are in conducting business.”

matter how good they think they are in conducting business.

After a candid and in-depth assessment many companies find they have serious weaknesses and, in some cases, have more weaknesses than strengths. When a company has more weaknesses than strengths it's very concerning; especially, if there are serious weaknesses on the list.

With that said, identifying weaknesses is a big plus. A company cannot address weaknesses unless they are identified.

I often find with our clients that their weaknesses are nothing unusual, nothing surprising, I've seen them all before and the solutions are clear. Even companies with a long list of weaknesses can overcome them and often in a relatively short period of time. Do you know the weaknesses of your company? What's the best way of finding out? Well, the answer to that question is “just ask.”

Now, that's much easier said than done because, most often, employees will be more direct and candid with a consultant than with company management on issues of major importance. So, to be fully assured of getting valid input, consider using an outside authority to conduct a strategic assessment. This means you will receive insight into problems and opportunities that will not normally arise through your normal communication channels.

WHAT ARE YOUR WEAKNESSES?

It's so important that I'm asking again, do you accurately and fully know all the weaknesses of your company? If you cannot answer that question with a complete feeling of certainty, then you need to do something about finding out. And, the best time is now so you start overcoming your weaknesses as soon as possible.

Here's a list of some of the most common weaknesses we've found with our glass and glazing subcontractor clients:

- Internal communications;
- Lack of employee accountability;
- Teamwork;
- Management reports;
- Priority planning;
- And, the list goes on and on.

On a related matter, how does your company compare to other companies in your industry?

If you don't know, you need to find out. I'd like to hear from you on these important initiatives in running a highly successful business. How did you do in answering the questions I asked in this article? Do you have some questions for me? How can we help you? ■

the author



Richard Voreis is the founder and CEO of Consulting Collaborative in Dallas. His column appears bi-monthly. Email him at rdvoreis@consulting-collaborative.com and read his blog on Wednesdays at <http://dollarsandsense.usglassmag.com>.

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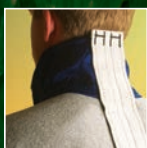
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CompanyNews

Wood's Powr-Grip Celebrates Three Generations and 50 Years in Business

In 1964, Howard Wood started Wood's Powr-Grip in an old general store converted into a machine shop. Half a decade later, his grandchildren are keeping it in the family.



Howard Wood

While the company has seen significant growth over the past five decades, it did not come without obstacles. Wood says the economic downturn a few years ago was the biggest challenge it faced in recent years. The increasing costs of ma-

"As a third-generation, family-owned company, it gives us a great sense of pride to be celebrating 50 years in business," says Bryan Wood, Howard Wood's grandson and president of the company. "From that humble beginning to our current 55,000 square-foot manufacturing facility, it has indeed been an adventure."



Laurel, Mont.-based Wood's Powr-Grip has grown to include 130 employees.

terials, uncertainty in the market and decreasing profits pitted Wood's with some difficult financial decisions, he says. That's when the company had to lean on the "do the right thing" mantra Howard Wood instilled in it.

"Layoffs were considered, but we decided that that would not be doing the right thing," Bryan Wood says of the tough period. "We met with our employees and asked them to accept shorter hours to help prevent the loss of

jobs. Salaried employees agreed to take a short-term pay cut.

"Operations were streamlined, procedures simplified, and in a relatively short period of time we were back to normal with a full-time workforce."

Long-term, Wood says constant and continuous change through laws, regulations, logistics, market pressures and the Internet is an ongoing challenge—one which, now more than ever, requires the company to "pursue markets proactively in order to survive."

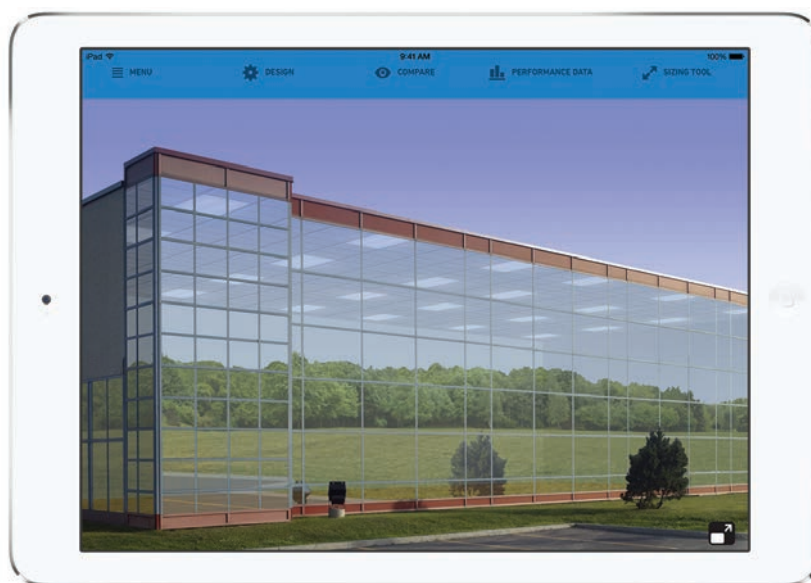
Wood hopes that the company's efforts to foster relationships with its existing customers and vendors while providing a high-quality product and service will be enough to keep it on track another half-century and beyond.

"Businesses must make a plan and stick to the plan," Wood says. "It isn't always realistic, but we've worked hard over the past 50 years to lay a solid foundation. We intend to stick to the path and do the right thing, so future generations have the chance to dream and fill those dreams with accomplishments that exceed our expectations." ■

Keraglass Industries, Emmegi Group Sign Partnership Agreement

Keraglass Industries reached a technological and financial partnership agreement with the Emmegi Group. According to the announcement, the two will benefit from their glass and aluminum processing synergies.

According to the announcement, Emmegi Group now has a constant presence in about 70 countries, either through direct branches or through authorized distributors. The entry of Keraglass in the Emmegi Group will give a new approach to research and product innovation, providing customers with excellent and extensive service, according to the companies.



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Distribution & Production

Fenzi North America Adds Two New Sales and Marketing Agencies

Fenzi North America announced the addition of key sales and marketing agencies for its complete line of insulating glass (IG) components, including the recently added Poliver polyurethane IG sealant.

"We are pleased to bring on the addition of two key independent sales agency's to help direct our market penetration with our complete line of IG sealants and components," says David Devenish, Fenzi general manager. "Both groups will be working with our existing sales and technical service team, providing what I believe to be the most extensive product line and solutions for our customers."

Prysm Marketing Inc. will cover Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Alabama, Ten-

nessee, Kentucky, West Virginia, Ohio, Michigan, Wisconsin, Indiana, Illinois, Iowa, Minnesota, Nebraska, North Dakota and South Dakota. The company will work with Fenzi North America's existing sales group in this territory, which includes Rick Hecklinger, based in Michigan, Richard Frazier based in Georgia, Chuck Gustafson based in Illinois, Joe Ruggiero based in Pennsylvania and Del Blundell based in Texas.

"Our group is excited to add Fenzi North America to our line card. The opportunity to continue to service our loyal customers with solutions to their IG production—and introduce new products—is exciting for our group," says Ed Robinson, founder of Prysm Marketing.

Devenish adds, "Prysm Marketing will be a key part of our expansion and allow us to market our sealants and components to a wide array of customers."

In addition, Serviam Sales Group will represent Fenzi North America in the southwest, namely California, Nevada, Arizona and New Mexico.

"Adding a solid sales professional like Eric Meyer [founder of Serviam Sales Group] to service this market with our products, shows the continued expansion of our sealants and IG components into the fenestration industry," says Devenish. "Eric will work with the current Fenzi sales [team] in California. Teresa and Bob Koch, based in California, are well known for their excellent customer service and will continue handling parts orders and servicing of two-part dispensing equipment."

"We're grateful and excited for the opportunity to represent Fenzi North America throughout the southwest region. Their extensive insulating glass product line, knowledgeable support staff and resources, coupled with Serviam Sales Group's knowledge, experience and customer base, is a mutually beneficial arrangement with significant opportunities," says Meyer.

Quanex Distributes Bostik's IG Sealant in North America

Quanex Building Products is now serving as Bostik's exclusive sales force for its insulating glass sealants in North America. Quanex will continue to sell Bostik sealants under the Edgetherm® brand name.

"We've worked closely with Quanex in the UK for more than 10 years, building a strong relationship based on a mutual dedication to quality, service and innovation," says Chris Alderson, Bostik business unit director. "We've found that we are better together as we are able to provide comprehensive IG solutions from spacer to sealant." ■

Complete Line Glass Wholesalers Named Vetrotech Distributor



Vetrotech Saint-Gobain has formed a partnership with Complete Line Glass Wholesalers Inc., which has three locations: San Antonio, Houston and Grand Prairie. The company is now certified by UL to cut, label and distribute Vetrotech's Keralite Select product line.

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Mergers & Acquisitions

Kuraray Finalizes DuPont Glass Laminating Solutions Acquisition

Japanese chemical manufacturer Kuraray has acquired DuPont Glass Laminating Solutions/Vinyls (GLS/Vinyls), a segment of DuPont Packaging and Industrial Polymers.

According to the announcement, the \$543-million acquisition allows Kuraray to expand its technical and operational strength in the areas of technology, research and development, manufacturing and sales network. In addition, it notes that the purchase also offers Kuraray an integrated supply chain, presence in six new markets worldwide and increased availability of resources.

"These increased capacities allow us to better meet the huge demand of current customers and acquire new ones, ultimately laying the groundwork for Kuraray to advance our goal of transforming into a global and integrated vinyl acetate company," says Keiji Murakami, president of Kuraray's Vinyl Acetate Company.



Kuraray has increased its global presence with the recently completed acquisition of DuPont Glass Laminating Solutions/Vinyls.

As part of the acquisition, the U.S. division of Kuraray will operate GLS/Vinyls' locations in Fayetteville, N.C., Washington Works, W. Va., and

Wilmington, Del., employing 350 of the 600 former GLS/Vinyls' employees.

Argotec LLC Acquires Stevens Urethane

Stevens Urethane, of Easthampton, Mass., is now part of Argotec LLC, a Greenfield, Mass.-based producer of high performance thermoplastic polyurethane (TPU) film and sheet for the international specialty films industry.

"The two companies are an ideal fit," says Argotec president and CEO Guy Broadbent. "Our specialty is aliphatic polyurethane film and sheet. Stevens is very good at extruding aromatic TPU film and sheet."

Broadbent says that once the two companies are fully integrated, Argotec will have the necessary technical and manufacturing resources to meet demand for both of the products. ■

Chemetall Acquires SaberPack Glass Protection Business

Chemetall US Inc., a branch of the Frankfurt, Germany-based global surface treatment company Chemetall, acquired certain business assets of SaberPack, a glass surface protection company based in Lino Lakes, Minn.

"The SaberPack acquisition is in line with our strategic goal to enlarge, strengthen and grow our glass business globally," says Chemetall president Joris Merckx.

Senior vice president of corporate strategy and business development Kurt Wenzel adds that SaberPack, which already works with float glass, coated glass, solar glass and specialty glass manufacturers worldwide, "is a perfect fit for us to extend our broad range of high-tech protection materials and to further expand our regional presence in North America and abroad."

The acquisition was completed in April.

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Codes & Regulations

ANSI Goes Green

The American National Standards Institute has made revisions to a few of its standards, including the Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings. In section 10.3.1.7 Construction Activity Pollution Prevention: Protection of Occupied Areas was updated as follows:

“The construction documents shall identify operable windows, doors and air intake openings that serve occupied spaces, including those not associated with the building project, that are in the area of construction activity or within 35 feet (11 m) of the limits of construction activity. Such windows, doors and air intake openings that are under control of the owner shall be closed or other measures shall be taken to limit contaminant entry.

“Management of the affected building(s) not under the control of the building project owner shall be notified, in writing, of planned construction activity and possible entry of contaminants into their building(s).”

Correction

In the May 2014 issue of USGlass, the headline of the chart on page 52 was incorrect and implies inaccurate information for the companies noted. The caption of the chart should have noted that, according to an analysis from Western Windows, operable walls comprise 1 percent of the total construction market. USGlass regrets the error. ■

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ContractGlazing

Multifamily Housing Continues to be One of Construction Industry's Top Prospects

Construction spending has continued to edge up monthly through much of the first half of 2014. Despite uncertainty in sectors such as single-family homes and public construction, multifamily housing has helped keep the momentum going.

Construction industry economists, including the Associated General Contractors (AGC) of America's chief economist Ken Simonson, have noted multifamily housing as a top prospect for 2014. Simonson has also reported he expects the upturn in the sector to last into 2015.

According to recent analysis of new Census Bureau data by AGC, multifamily construction spending saw a 4.4 percent

increase from March to April and jumped 31 percent from April 2013 to April 2014.

"Demand for apartments appears to be very strong," says Simonson, while cautioning that there are still "several warning signs about home-building."

The surge in demand for multifamily construction certainly hasn't been lost on the glass industry. In fact, Tampa, Fla.-based Doers Window Manufacturing CEO

4.4%

Multifamily construction spending increased from March to April

31%

Multifamily construction spending increased from April 2013 to April 2014



Dan Ochstein says the escalation in work on multifamily units—including condominiums, student housing and nursing homes—has directly prompted his company to expand.

"We've had such a spike in business that we were no longer capable of supporting it with just the one facility," Ochstein said. "We had to open a second factory just to service that portion of the business."

Doers opened its second location in March, just five months after making the decision to do so. Ochstein says Doers has been "staffing up more and more" to meet the increased demands in the multifamily sector, and he doesn't see it stopping anytime soon.

"We're not seeing any slow down at all," he says. "From everything I'm hearing, in the next five to 10 years we'll continue to see increased demand in that sector."

Northern Architectural Products president Bob Pecorella says he has seen a definite rise in the multifamily construction market, though the pace of the early parts of the projects has slowed noticeably.

"We have seen strong increases in mid- and high-rise multifamily and hotel commitments," says Pecorella, "although we continue to see longer lead times in getting final approvals to move ahead." ■

Cal/OSHA Targets Construction Sites for Safety Rules Compliance

Construction sites in the San Francisco Bay area have gotten Cal/OSHA's attention, following a recent series of fatal accidents in the region. According to a Cal/OSHA press release, investigators will be deployed to inspect construction worksites to determine whether adequate measures have been taken to identify safety hazards and prevent injury.

"Construction sites present special challenges to worker safety," says Christine Baker, director of the department of industrial relations (DIR). "Employers need to have strong safety programs in place and train their workers to follow procedures." Cal/OSHA is a division of DIR.

On May 21, a worker at a residential project in San Jose fell to his death from a three-story building. On May 20, a worker on a San Mateo project tumbled 9 feet from a wall sustaining fatal head injuries, and a worker near the top of a 22-foot rebar column in San Diego was killed when the column fell on him. On May 18, a construction worker was killed when the train bridge he was dismantling in downtown Riverside collapsed, crushing him. All four accidents are currently under investigation by Cal/OSHA.

Fall protection will be among the items Cal/OSHA inspectors will be checking during its inspections, as falls are the leading cause of death for construction workers. If inspectors find a lack of protection or a serious hazard, they can stop work at the site until the hazards are abated. Employers who fail to comply with Cal/OSHA safety regulations will be cited and ordered to correct the violations.



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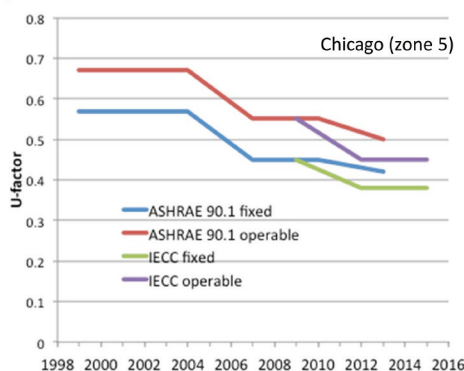
Energy & Environment

New Energy Codes Are Gaining Traction—Changes to be Put in Place

Energy/Green Code Basics & Trends

Trend towards Increased Stringency

Stringency for commercial windows has also increased:



Note: These are for metal framed products. Nonmetal product requirements are different.

All U-factors are *whole assembly* including the framing, not just center-of-glass.

Over last 10 years,

- 25% reduction in U-factor in ASHRAE 90.1
- 33% reduction in U-factor in IECC
- Max SHGC has remained stable at 0.40 (0.25 in south)

Credit: AEC/Sapa Extrusions

Code stringency for commercial windows has increased over the last 10 years, with ASHRAE 90.1 showing a 25-percent reduction in U-factor and the IECC showing a 33-percent reduction in U-factor.

AAMA Forms Sustainability Steering Committee

The American Architectural Manufacturers Association (AAMA) established a sustainability steering committee to oversee its various committees and task groups involved in standard practices that lead to product sustainability.

"This decision reflects the vital strategic importance that AAMA believes sustainability-related issues have to the fenestration and glazing industry, and to AAMA members' businesses," says Mark Silverberg, president of Technoform North America Inc. of Twinsburg, Ohio, who co-chairs the steering committee with Kevin Gaul, director of legislative and regulatory affairs for Pella Corp. in Pella, Iowa.

Gaul adds, "We want commercial and residential builders, specifiers, architects, incentive program providers and homeowners to be fully informed of the many benefits of incorporating the technologically advanced fenestration products available today into sustainable buildings' designs."

Energy codes and building performance requirements are here to stay—and will likely only become stronger—bringing increasing demands for those in the fenestration industry. A big part of these building requirements will be impacted by the new green building codes, which incorporate green concepts such as the Leadership in Energy and Environmental Design program, but are written in a code format instead of a points system. For example, the ASHRAE 89.1-2011 and 2014 codes, as well as the 2012 and 2015 International Green Construction Code (IgCC), take into account site selection, water use, material use/recycled content, energy efficiency, renewable energy, indoor environmental quality and commissioning/maintenance.

But according to Thomas D. Culp, president of Birch Point Consulting LLC, adoption and enforcement by local jurisdictions of the codes varies significantly across the country, as they can only be enforced on a county or municipality basis. But because the industry in general is trending more toward national code standards, he says structures in less stringent areas won't necessarily be devoid of many of the features the codes require.

"Even where code enforcement is lax, these changes will still be seen in specifications and product offerings," he says.

Culp says the new green codes shouldn't be the norm for all buildings "but can be the basis for publicly-funded buildings and tax credits."

For example, the U.S. Army is using ASHRAE 189.1 for its worldwide facilities, and on a state level, Maryland has required its state buildings to use the IgCC. Several states and cities have also adopted IgCC as a voluntary stretch code. ■

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Safety

Wired Glass Risks Remain a Concern in Schools, Public Areas

The Canadian General Standards Board's recently-established committee on glass held its first meeting in late May to discuss potential changes to the federal standard for wired glass. The standard has not been updated since 1990.

The meeting addressed the issue of wired glass and the dangers it poses in public areas—an issue that garnered much attention recently as the result of a \$5 million (CAD) lawsuit filed by Sean Lloyd against the Halton Catholic District School Board in Ontario, Canada (*see related article in June 2014 USGlass, page 28*).

Despite the media buzz that followed, Lloyd's lawsuit isn't the only one of its kind currently in motion. According to court documents obtained by USGlass, at least three more cases involving wired glass are pending—two others in Ontario and another in New Jersey.

Both Ontario cases were filed in 2010 but are still in the process of motioning back-and-forth, according to Greg Abel, president of Safe Glass Consulting and director of government relations for Safe Glass Solutions out of Seattle. Abel has been retained by each of the plaintiff firms, including Lloyd's.

The first of the two was a \$1 million suit against B. Lester Pearson Collegiate Institute and the Toronto District School board involving Ravelle Sidial, whose arm allegedly went through a wired glass door after running through the hallway at the Institute, according to court documents.

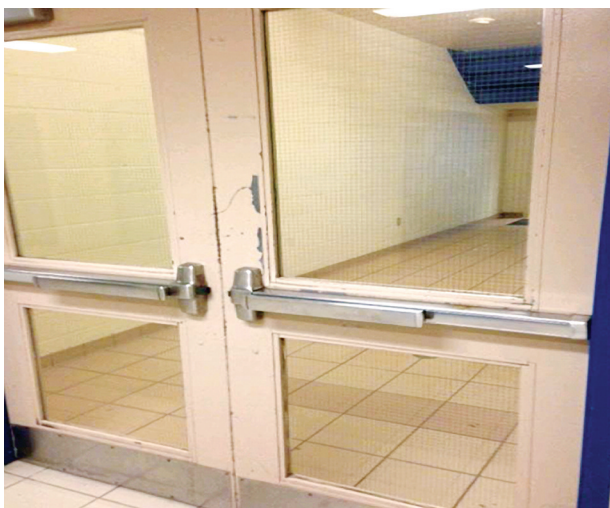


Photo: Smittuch Injury Law PC

Several lawsuits involving wired glass injuries are currently pending.

Sidial suffered “severed tendons to his right hand and a severed artery” which required surgery and “extensive and painful physiotherapy.”

Sidial's initial claim, which included accusations of negligence regarding the school and board's safety practices, was filed in July of 2010 and is still in litigation, as is a later case involving Devon King, who initially claimed damages totaling \$2 million against Best Value Motel Inc.

In 2009, King allegedly pushed on a door at the Days Inn Kingston (Ontario) made of wired glass, which resulted in the glass panel shattering and “permanent and serious injury to Devon's arm and shoulder,” according to court documents. The door allegedly had a sign that read “push” on the glass panel King's arm went through. Abel says King has since changed law firms, and he expects both King and Sidial's cases will come to a close soon.

The third case, however, involving

Sergio Jiminez and the Board of Education Morris Hills Regional District in New Jersey, was initially filed in January of 2013 and is still early in the litigation process.

Jiminez filed a claim alleging he suffered permanent injuries when his arm went through a window made of wired glass as he was leaving school one afternoon in early February 2011. According to court documents, Jiminez claims his injuries were “a direct result of the defendants' failure to adequately operate, design, maintain, repair, and/or upkeep the glass window in the door at the school building.”

Abel, who has been a leading advocate for safe glass practices since his son was injured in a wired glass accident in 2001, says that he's pleased the recent attention has been brought to the issue of the risk of wired glass, but hopes the powers that be keep the pedal down this time around.

“We start to gain some momentum, and then another priority will take its place. And we don't get back on track until the next tragic event,” he says. “... That's the part that really bothers me,” he says, adding, “This is an issue that's been ongoing for many, many years. Many children have suffered the consequences of our lack of addressing it. Now as a result, what it took was filing a lawsuit against one of largest school districts in all of Canada for a rather large sum of money to get the attention, to say, ‘Okay, we can't ignore this any longer.’” ■

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Legislation & Legal

Creditors Committee Puts Forth Liquidation Plan for Dlubak Corporation

The representation of unsecured creditors of Dlubak Corp., which filed for bankruptcy last August, has put forth a plan of orderly liquidation. The Plan was dated May 1, approved by the United States Bankruptcy Court for the Western District of Pennsylvania May 6 and is scheduled for a confirmation hearing July 2.

According to court documents, "This is a liquidating Chapter 11 Plan, with substantially all of the debtor's assets having been sold. The remaining assets of the debtor's Estate include claims for

fraudulent transfers, unauthorized post-petition transfers, and related state law claims."

The order of priority for claim recovery is as follows: Class 1, all priority claims; Class 2, all secured claims; Class 3, all allowed general unsecured claims against the debtor; and Class 4, all equity interests in the debtor. Frank C. Dlubak is the holder of the equity interest and owns 100 percent of the stock of the debtor, according to the court.

The priority claims in the plan total \$328,516.40, with \$224,321 going to

United Steelworkers and \$104,195.40 to various former wage employees. The Class 3 general unsecured claims "have been estimated in the approximate amount of \$[5 million]."

The Official Committee of Unsecured Creditors of Dlubak Corp. wrote a letter dated May 12 to all creditors of Dlubak, recommending each unsecured creditor vote in favor of the plan and setting a vote deadline of June 25.

"... The committee believes that the Plan is fair and provides unsecured creditors with the best possible recovery under the circumstances of this Case," reads the letter.

Dlubak Specialty Glass, owned by Consolidated Glass Holdings, is not a part of the bankruptcy proceedings.

Partial Settlements Pending in Steel Manufacturers Lawsuit

Three steel manufacturers are awaiting approval on settlements stemming from an ongoing lawsuit that has yet to be certified as "Class Action." The lawsuit was filed by several businesses, alleging eight steel manufacturers—ArcelorMittal, Nucor Corp., United States Steel Corp., Gerdau Ameristeel Corp., AK Steel Holding Corp., Steel Dynamics Inc., SSAB Swedish Corp. and Commercial Metals Company (CMC)—"conspired, in violation of the U.S. antitrust laws, to restrict their output and therefore raise or 'fix' the prices for Steel Products sold for delivery in the United States between April 1, 2005 and December 31, 2007."

The companies that collectively filed suit against the eight manufacturers are Standard Iron Works, Wilmington Steel Processing Co. Inc.,

continued on page 30



Canadian Court Orders Northglass to Pay \$1.8 Million

The Canadian Federal Court ruled on the damages of a case between Glaston Group and Northglass Technology & Industry Co. Ltd. The court ordered Shanghai Northglass to pay Glaston approximately \$1.8 million, including interest, in damages as a result of a November 2010 court ruling on Northglass' infringement of Glaston's two patents for its unique tempering and bending technology.

According to a Glaston announcement, the Court declared that Northglass infringed Glaston's Canadian Patent Nos. 1,308,257 and 2,146,628. Glaston says it will continue to be active in protecting its intellectual property rights globally and currently has several proceedings and investigations ongoing in Europe, the U.S. and Asia.

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Legislation & Legal

continued

Capow Inc. d/b/a Eastern States Steel, Alco Industries Inc. and Gulf Stream Builders Supply Inc.

All of the defendants in the case deny the allegations. However, three companies—CMC, AK Steel and Gerdau—agreed to collectively pay \$15.9 million into a settlement fund to be distributed at a later time.

A hearing is scheduled for July 10 and if the settlements are approved the three companies will be relieved of their positions as defendants in the lawsuit. If approved, Gerdau will pay \$6.1 million, AK Steel will pay \$5.8 million and CMC will pay just under \$4 million. Litigation will continue for the other defendants.

Court Grants MPM Authorization for Full Amount in DIP Financing

MPM Silicones, which filed for Chapter 11 bankruptcy on April 13, 2014 in the U.S. Bankruptcy Court in the Southern District of New York, reached an agreement with certain key stakeholders on the terms of a balance sheet restructuring plan. To implement the plan, MPM filed to reorganize under Chapter 11 of the U.S. Bankruptcy code.

On May 23, the U.S. Bankruptcy Court for the Southern District of New York granted MPM final authorization to access the full amount of its \$570 million in committed debtor-in-possession (DIP) financing, according to

a press release.

“With the Court’s final approval of our \$570 million DIP financing, MPM now has access to \$140 million of additional liquidity to supplement cash from operations as needed,” says Craig O. Morrison, chairman, president and CEO of MPM. “Together, these resources provide MPM with the financial flexibility to continue operating its business in the normal course as it completes its balance sheet restructuring.

Throughout this important process we remain fully committed to providing our customers with the high quality products and services they expect from MPM, and deeply value their ongoing partnership and support.”

Court of Appeals Affirms PPG’s Implementation of Wage Structure

The U.S. Court of Appeals for the Seventh Circuit affirmed May 9 that PPG Industries Inc. didn’t violate a past arbitration award to the United Steelworkers and Local Union 193-G, despite contrary arguments by the union.

According to court documents, in 2009, PPG unilaterally implemented a two-tier wage system that cut employees’ compensation at an Illinois glass manufacturing plant, which the union argued was in violation of an arbitration award issued in June that year. The arbitration spawned from a disagreement between PPG and the union during a three-day negotiation conference also at the beginning of June 2009.

During the meetings, PPG proposed the two-tier system and pay cuts. According to the court, the union argued that the parties’ bargaining agreement “barred new proposals from being made after the conference’s first day.”

PPG disagreed, and a grievance from the union prompted the parties to submit their dispute to an arbitrator.

The arbitrator subsequently concluded that by the beginning of the bargaining conference, the union “knew or should have know[n] some of [PPG’s] economic proposals—specifically [PPG’s] labor cost goals as well as the two tier wage structure,” citing a meeting in May and a corresponding email, both in which PPG proposed lowering its labor costs from \$37 to \$27 an hour while suggesting the two-tier system.

PPG proceeded to implement the system following the union’s refusal of a post-arbitration offer, and the union then sued PPG under the Labor-Management Relations act, seeking to “confirm and enforce” the arbitration award, though the district court ruled in favor of PPG.

“PPG is pleased that the U.S. Court of Appeals for the Seventh Circuit has

affirmed the district court’s award of summary judgment in its favor, confirming that PPG did not violate the terms of the arbitrator’s award when it unilaterally implemented certain terms and conditions of employment for employees at its Mt. Zion, Ill., facility,” says PPG’s corporate communications manager Mark Silvey.

That ruling was affirmed despite the union’s appeal last December, which insisted the district court “misconstrued” the arbitration award.

The appeals court also rejected the union’s claims that its conclusion rendered the arbitrator’s award “meaningless,” pointing to PPG’s removal of several proposals such as limited severance benefits and the altering of the pension agreement as examples of obligations imposed on PPG.

“The award may not have been as favorable to the Union as it wanted,” the court said, “but it was not ‘meaningless.’” ■

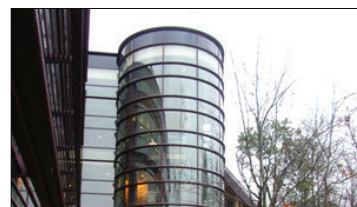
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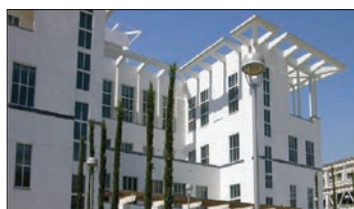
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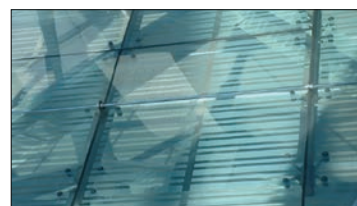
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NewsAnalysis: TRENDS

Glass Shops Walk a Fine Line When Offering Scratch Removal Services

Repair—or replace?

It's a question that causes conflict in the glass industry, yet the easy answer depends on whichever team you're on.

If you're on both teams, however, it's not so simple. And that's a dilemma glass shops that offer scratch removal capabilities face on a regular basis.

Brad Plumb, director of sales and business development for GlasWeld, located in Bend, Ore., has seen it firsthand.

When Plumb joined the company four years ago, one of his first jobs was to go out and market glass scratch removal systems to glass shops.

"It was something I was really pushing at first," says Plumb. "But, after talking to production managers, and even presidents of companies, they were just like, 'Look, we're in the business of selling glass. You've got to stick to what you're in business for. Offering some of these services actually competes against our own business.'"

Plumb found out glass repair, or scratch removal, in that part of the market was a harder sell than he thought.

"When you look at it, you can get labor and sales out of glass," he said. "You can only get labor out of scratch removal."

"If you were going to ask me about the cons, that's one of the big cons," adds Kevin Hale at S&K Glass & Metal Works in Las Vegas. "You're kind of cutting off your nose to spite your face."

But there are pros. First, offering scratch removal services can be a selling point at the initial sale of the glass. A consumer, owner or contractor may be sold on the idea that the same people who sold the glass can come out and fix it if there's a problem.

Hale was able to find another angle of attack. S&K doesn't sell automotive glass, but since it is made virtually of the same laminated glass with which it already works, the company was able to tap into the market of automotive glass repair. In fact, Hale has developed a good working relationship with



Shops that sell glass while also offering glass scratch removal services need to be strategic in order to keep one from affecting the other in a negative way.

Shelby American in Las Vegas, which calls upon his company's services approximately one to two times a month.

From Plumb's perspective, that's certainly better than nothing. He says that back when he was pitching the idea of scratch removal services to glass shops, a handful of the businesses that started offering it decided it wasn't profitable within just a couple jobs.

That's not to say that there isn't a market for scratch removal. In fact, it's quite the opposite, though the businesses taking full advantage of it are focused strictly on repairs rather than replacements.

"Glass restoration is a separate craft, a separate skill set and mind set," says Barry Barbas of Glass Restoration Inc. in Florida. "Where installations are about speed, restorations are about perfection . . . Focusing just on restoring glass has allowed us to bring our skills up to the highest level. A company that also restores glass will never be able to consistently achieve the same results as someone who specializes in that field."

Barbas says that instead of competing, it's ideal if repair companies work with replacement companies. For example, if a glass shop isn't capable of a certain repair but the customer opts against a replacement, the shop should refer the customer to a restoration specialist. Then, what goes around will come around.

"We have become team members to all the glass companies that use and recommend us, rather than a competitor," says Barbas. "When we encounter glass that is too damaged to restore cost efficiently, we recommend replacement to those companies that are recommending us." ■

—Nick St. Denis



Glass Restoration Inc.'s Barry Barbas, above, says glass restoration is "a separate craft, a separate skill and mindset" compared to glass replacement.

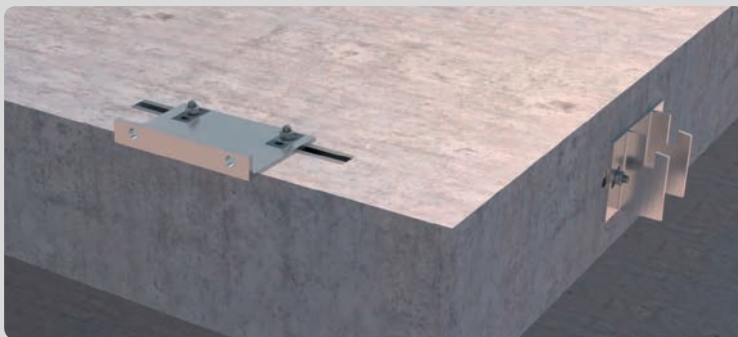
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NEW & IMPROVED!

Want to keep up with the most recent industry innovations? Well look no further than the 31st Annual USGlass magazine New Product Guide. It's super easy. Just read through entries, look at the photos, and see if there isn't something that just might fit the bill. Need to be able to offer more pizzazz? Look no further than the decorative glass section. Want to be more efficient? More eco-friendly? There are products to help you with that, too. Plus, you'll get an overview of some of the cool things the industry has rolled out recently—everything from tools to machinery to software and web applications. What are you waiting for? Let's get started finding great new products!

glass

South By SNX 51/23, Plus Spandrel

Guardian's SunGuard Spandrel HT and SunGuard SNX 51/23

Guardian now offers SunGuard Spandrel HT, a new glass product designed for building façade spandrel applications in North America.

Guardian Spandrel HT has a high opacity and low potential for streaking which results in a smooth, matte finish and brings improved uniformity and

appearance to spandrel glass, according to the company. Architects will now have the option of specifying a complete vision and spandrel glass package alongside Guardian SunGuard high-performance, low-E coatings.

SunGuard Spandrel HT is available in white, warm gray and black, and in two stock sheet sizes for better cutting optimization: 96- by 130-inches and 100- by 144-inches.

Guardian has also introduced SunGuard SNX 51/23, a commercial low-E

glass product with visible light transmission (VLT) above 50 percent and a solar heat gain coefficient below 0.25, in a standard insulating glass unit. It has a neutral blue appearance and is designed to meet the most stringent energy codes in North America without sacrificing appearance, according to the company.

► www.guardian.com

It's the Summer of '67 and z75 Best Things PPG's Solarban 67 and Solarban z75

PPG Industries has debuted Solarban z75 glass, a solar control, low-E glass with a neutral, cool-gray tint. In a standard 1-inch insulating glass unit (IGU), Solarban z75 glass has a VLT of 48 percent and a solar heat gain coefficient (SHGC) of 0.24, resulting in a light-to-solar-gain (LSG) ratio of 2.00. Solarban z75 also has exterior reflectance of 9 percent, which allows it to work with other building materials and color-neutral, low-E glasses such as Solarban z50, Solarban 67 and Solarban R100.

Solarban z75 and Solarban z50 glasses have interior reflectance of less



Find the Latest Products and More in the **USGlass** METAL & GLAZING® Magazine 2014 New Product Guide



than 10 percent, for clear, natural outdoor views. Both products are certified at the silver level by the Cradle-to-Cradle Certified program.

In addition, Solarban 67 is a solar control, low-E glass with a neutral coating. Engineered with a proprietary double-silver, magnetron-sputtered vacuum deposition (MSVD) coating, Solarban 67 glass reflects the true timbre and brightness of ambient light and color accurately and authentically, according to the company. The low-E coating unique to Solarban 67 glass provides a VLT of 54 percent and a SHGC 0.29, which yields a LSG ratio of 1.85 in a standard 1-inch IGU with conventional clear glass.

► www.ppgideascales.com



Photo: Albert Vecerka / Esto

decorative glass **I'll Be Klear** AGC's Krystal Images

AGC Krystal Images glass, produced using high-resolution digital imaging technology, is the newest addition to the AGC Krystal Interiors family of decorative products. It allows architects and interior designers to create designs using high-resolution digital images captured on a proprietary film – film that the company says enhances color

saturation and resolution. The images are then laminated using the company's Krystal Klear glass, which satisfies the requirements for safety glazing established by the International Building Code. Krystal Images may be used either monolithically or as part of an IGU.

Any type of digital image, artwork, including computer generated graphics, photographic pictures, text, or com-

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NEW & IMPROVED!

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binations of all the above can be produced using the Krystal Images technology, up to 1440 dpi, though a minimum of 300 dpi is recommended. A standard maximum size of Krystal Images is 60- by 120-inches, but can be run as large as 60- by 144-inches.

Krystal Klear is an ultra-transparent, low-iron glass that the company says offers truer color and clarity. It has a visible light transmission of 91 percent.

➤ www.us.agc.com

Pro, Pro, Pro Suede Glass Gardner Glass Products' ProSuede Glass

Dreamwalls ProSuede Glass is a backpainted glass with a matte, mar-resistant surface that is also fully dry-erasable. The company explains that typical etched glass is not erasable, but the etching of ProSuede allows markers to wipe away.



For use as a wall surface that controls glare, ProSuede Glass is also available with a magnetic option. Sizes are available up to 96- by 130-inches in any specified custom color. It can also reduce visual clutter of multiple presentation products as it can be used as an impromptu projection surface, according to the company.

➤ www.gardnerglass.com

Cool Views

ICD's CeramiGlass Frost Etch

ICD introduced CeramiGlass Frost Etch, a 100-percent water based ceramic-like coating that simulates the look of an acid-etched process without



the environmental concerns or difficult sourcing, according to the company. CeramiGlass Frost Etch also can come in a full range of colors and be screen-printed, sprayed or roller coated, allowing the ICD Approved Factory Fabricator multiple usage opportunities with one product.

CeramiGlass Frost Etch provides the look and surface feel of a traditional acid-etched product. According to the company, the glass also features superior sustainability qualities with zero volatile organic compounds, no pine oil or solvents, and less energy needed to cure.

➤ www.icdcoatings.com

GRT It Done Decorative Glass from GRT Glass Design

GRT Glass Design says it is committed to supplying architectural art glass by striving to exceed customer demands for new and innovative products. The company says it combines glass with other materials such as metal, stone and water, working them together and producing a quality product that satisfies client needs for unique glass art.



GRT designs, produces and ships art glass products around the world and its creations can be used in both commercial businesses and residential applications.

➤ grtglassdesign.com

adhesives

Bond. High Bond.

Capital Tape's Pressure Sensitive Adhesives

A new high-bond tape, a .045-inch thick, pressure-sensitive, gray, foam-core, acrylic tape, is available from Capital Tape. It is designed to adhere to most clean, dry, oil-free substrates, according to the company, which describes it as able to withstand a wide range of weathering and temperature conditions without losing adhesion. A 1-inch square of this tape fastened to two pieces of aluminum will hold 60 pounds, according to the company.

➤ www.capitaltape.com



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Pilkington **MirroView™** and new Pilkington **MirroView™** 50/50

Giving a new look to your television displays and video screens, Pilkington **MirroView™** and new Pilkington **MirroView™** 50/50 look like normal mirrors when the display is 'off'. When the display is 'on', the image shows through the mirror for an unobstructed view of the television display beneath.

Ideal for commercial and residential applications, Pilkington **MirroView™** and Pilkington **MirroView™** 50/50 give displays a modern, transitional look. Pilkington **MirroView™** is designed for low ambient light applications, whereas Pilkington **MirroView™** 50/50 is designed for use in applications with high ambient light.

For more information, call 800.221.0444 • buildingproducts.pna@nsg.com • www.pilkington.com/na



NEW & IMPROVED!

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A PRL Among Glass Companies

Glazing Products from PRL



PRL Glass offers an extensive line of decorative glass products and says its architectural glazing products are limited only by clients' creativity. The company stocks more than 25 different types of textured glass including low-iron textures, which are ideal for restaurant partitions, shower enclosures, sneeze guards or room dividers.

PRL also offers laminated glass with unlimited colored interlayers. The

spandrel department offers 18 stock colors and numerous custom colors. Nearly all of the company's products can be coupled with artistic sandblast or custom metal fabrication.

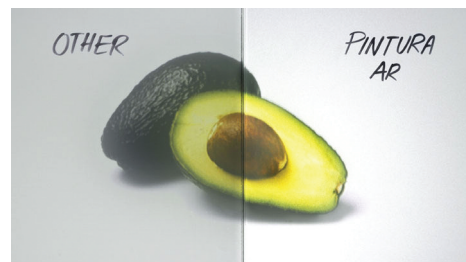
► www.prlglass.com

Write On

Pulp Studio's Pintura AR

Pintura AR, a new edition to the Pintura series from Pulp Studio, is a non-reflective anti-scratch marker board. It can be used both as a high quality projecting surface and for writing with dry erase markers, making it ideal for applications in locations such as classrooms and office rooms, according to the company. Pintura AR has an anti-reflective coating on the surface, which the company says improves the saturation of color and quality when projecting light onto the glass, such as when using it for a screen in a presentation. The coating does not scratch and cannot be stained with a dry erase marker. The glass is available in any color, annealed or fully tempered, and can be produced in sizes large enough to cover an entire wall.

Because Pintura is cured in controlled conditions, the finish bonds permanently to the surface, guaranteeing



that when fabricated it will not peel, chip or otherwise separate from the surface, according to the company.

► www.pulpstudio.com

Make Mine a Satin Lite

Satin Lite Glass from Walker



The Walker Textures Satinlite program is the latest development from Walker Glass. The new line can be used in interior or exterior applications and its refined etching removes the glare from the surface of the glass, the company says, making the colors and images stand out. It is available in various substrates and thicknesses from 3-mm to 12-mm. Some substrates such as the 6-mm Starphire are available in quantities less than 4,000 pounds.

► www.walkerglass.com

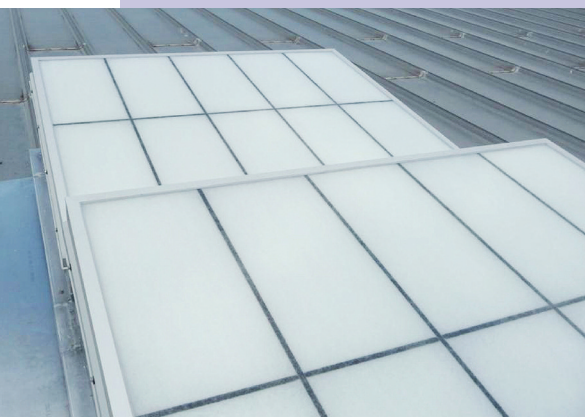
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skylights

Flashing Skylights

LightBasic from Major Industries

Major Industries recently added to its LightBasic line of translucent panel daylighting systems with the LightBasic Quick Ship self-flashing, single-slope skylight. The skylights are pre-engineered and ship assembled in a number



of standard sizes from 4- by 4-feet up to 5- by 20-feet, and feature a self-flashing design. They are easy to install. LightBasic systems have a 100-percent acrylic-based AcrylitGC face sheet for long-term dependability and light control. They come standard with a durable, clear anodized finish, and offer two-sheet color options as well as two insulation options for enhanced thermal performance.

► www.majorskylights.com

PERFORMANCE UNDER PRESSURE



INTRODUCING 1630 SS IR CURTAIN WALL – ELITE IMPACT RESISTANCE FROM KAWNEER

High Performance. Larger Spans. Increased Impact Resistance. Kawneer's new 1630 SS IR Curtain Wall – an impact resistant 3" sightline curtain wall system – offers an additional line of defense against high winds, heavy rains and hurricanes. Having undergone rigorous testing, our new curtain wall meets increasing design pressure requirements in impact zones and can deliver larger spans. And, screw-spline architecture with both dry and wet glazing options makes the 1630 SS IR easy and fast to install. Kawneer knows how to protect buildings and occupants. **1630 SS IR Curtain Wall is performance under pressure.**

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kawneer.com



NEW & IMPROVED!

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On the (Soft)Mark Summit Glass Coatings' ChrismaColor™

Due to their light etched finish, Summit Glass Coatings' ChrismaColor™ Softmark glass marker boards are ideal for use as a projection board, and with the magnetic option, can function as a magnet board.

According to Summit, the anti-reflective dry-erase glass marker boards are manufactured using a lightly etched, low-iron glass substrate, allowing dry-erase markers to be wiped off with ease.

SoftMark glass marker boards are also available framed for efficient installation, according to the company.

► www.summitglasscoatings.com

doors Sliders: Series 3000 CRL-U.S. Sliding Doors



The CRL-U.S. Aluminum Series 3000 high performance sliding door is a high thermal two-track sliding door designed for exterior applications, for either fin or block frame applications and has optional thermally broken head channels and bottom tracks to provide thermal performance. Doors are equipped with heavy wall stiles and interlock, a multi-point locking system, heavy-duty adjustable tandem rollers, and floor track with stainless steel caps that the company says ensure smooth operation during years of service.

curtainwall and storefront Lookin' Good, Slim

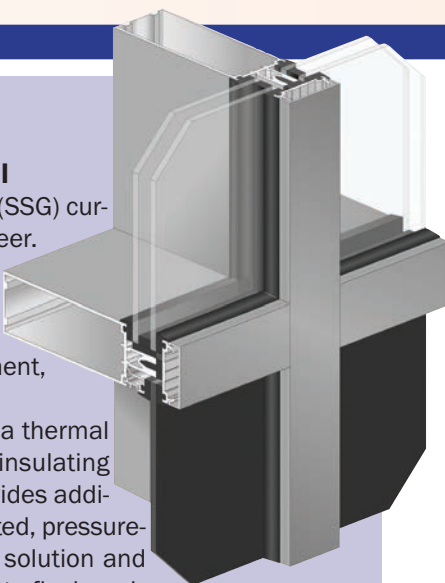
Kawneer's 1620/1620 SSG Curtainwall

The 1620/1620 structural silicone glazed (SSG) curtainwall system is now available from Kawneer. With a 2-inch profile, the 1620/1620 SSG system provides slim down sightlines that allow light to enter the building and contribute to an expanded view of the outside environment, according to the company.

The curtainwall system is engineered with a thermal break and can accommodate double pane insulating glass. A fiberglass pressure plate option provides additional thermal performance. The stick fabricated, pressure-glazed system offers a vertical SSG mullion solution and both options use concealed fasteners to create flush and unbroken sightlines, according to the company.

Straight cuts without notching help ease the fabrication process and further simplify installation, Kawneer says, adding that a pre-engineered rainscreen pressure-equalized back pan option offering easy-to-install spandrel adapters is available.

► www.kawneer.com



Tested to AAMA LC25, CW40 and CW60 for high performance, Series 3000 high performance sliding doors accommodate 1- and 1 1/4-inch glazing with a frame depth of 4 1/2-inches. They have an optional stacking subsill and available configurations in OX, XO, OXO, OXXO (LC25 only).

CRL also offers a face cap remover, designed to remove exterior face caps on a selection of curtainwalls by hooking one side of the face cap to pull and pop off the cap. This tool has what the company calls an easy grip, lightweight handle, and is described as quick and easy to adjust for use on varying size face caps.

► www.crlaurence.com

Find Serenity in Assa Abloy Door Products from Assa Abloy

The Assa Abloy Group Brands Frameworks, Graham and Maiman have launched Serenity, a first wood door and aluminum frame sound-rated door opening solution. Available in sizes up to nine feet, the wood doors and aluminum frames, together with the PEMKO seal kit, have been tested

together acoustically, to achieve a sound transmission class rating of 35 per ASTM E90 and ASTM E413.

The Serenity opening is available in various wood door options from Graham and Maiman, including a 20-minute fire rating, with any commercially available veneer, and must be ordered with a Frameworks Type II aluminum frame.

Meanwhile, the Assa Abloy Group Brands Ceco Door, Curries and Fleming have added fiberglass reinforced polyester (FRP) doors along with exterior aluminum frames to their lines of door opening solutions. This door and frame system is made for exterior openings in high abuse areas such as school buildings. A durable exterior embossed finish with aluminum alloy perimeter extrusions and foamed energy efficient core provide a lightweight door that provides extended life to the opening, according to the company. The exterior three-sided frame is manufactured with hardened aluminum alloy.

► www.assaabloydss.com

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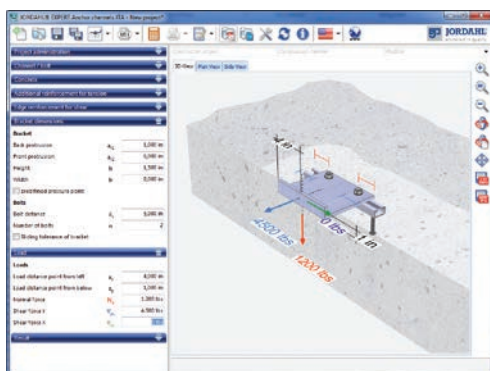
NEW & IMPROVED!

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software and web tools

A Decon Expert

Decon USA's Jordahl Expert JTA Anchor Channel Design Software



Decon USA announced the availability of Jordahl Expert JTA anchor channel design software. The software allows designers to evaluate both top of slab and edge of slab curtainwall anchoring conditions quickly, according to the company. Design inputs can be adjusted by

the designer to produce efficient results.

The software shows step-by-step calculation output to national building codes using ICC AC232 and ACI 318 Appendix D design criteria. It is available for download through the company website or may be requested in CD form.

► www.deconusa.com

Going on a Security Search Web Applications from Security Lock Distributors

Security Lock Distributors launched a new web application. SecuritySearch is an online tool that digitally aggregates all industry price books and catalogs into one centralized platform. Customers enter a part number, product, series or manufacturer and the application will bring back all relevant search results for that query.

SecuritySearch also includes a variety of embedded functionality that al-

lows customers to be more efficient in specifying and sourcing door security hardware and accessories, according to the company. These features include searching by multiple criteria, locating and downloading all sales brochures, cropping and emailing portions of pages.

► www.seclock.com

impact products

Targa Practice

Targa Windows from CGI



Named after an Old English word for shield, CGI has introduced Targa, a vinyl impact window with both Miami Dade and Florida building code approvals. The energy-efficient, impact-resistant vinyl windows were specifically designed for the Florida impact market and act as shields to safeguard homes and families with strength, security and style, according to the company.

► www.cgiwindows.com

(It Won't) Rock You Like a Hurricane

Saftifire Hurricane System from Safti First

Safti First's Saftifire Hurricane system now has Florida Product Approvals for 60- to 120-minute wall/window assemblies and 60- and 90-minute single and pair doors, in addition to the Miami Dade testing done and UL certification received in 2006.

The Saftifire Hurricane system has a maximum design load of +/- 80 psf and



surface protections

In the Clear

ClearShield from Ritec

Designed for producing glass with multi-functional, "super-green" performance, Ritec International offers its ClearShield Eco-Glass, which can be applied to any glass – new or old, exterior or interior – in a factory or on-site. The result, the company says, is a durable, "non-stick," easy-clean surface protection proven under real life conditions for more than 30 years.

Ritec calls ClearShield Eco-Glass "super-green" because its surface protection creates a range of eco-friendly benefits such as energy-saving—reducing by 50 percent, on average, the energy requirements, costs and carbon emissions for routine washing of exterior glass.

It also has anti-microbial properties via a transparent, re-treatable glass surface treatment to resist the adhesion and growth of bacteria, viruses and fungi, and meets EU and the USA Food & Drug Administration test requirements for direct food contact, according to the company.

► www.ritec.co.uk



complies with high velocity hurricane zone (HVHZ) testing requirements. The system also meets ASTM E-119/NFPA251/UL263 up to two hours with hose stream for fire resistance; ASTM E283 for air infiltration leakage; ASTM E331/ASTM 547 for water penetration; ASTM E330/TAS 202 for uniform static air pressure; FBC 1626.2 (TAS 201 and 203) for large missile impact and cyclic wind loading; AAMA 1302.5-76 and 1303.5-76 for forced entry (for doors); and ASTM E1300 for determining load resistance of glass in buildings.

The glazing is comprised of the company's clear fire-resistive SuperLite II-XL insulated with 3/16-inch DuPont Sentry Plus laminated glass. It can be customized to include energy-efficient, decorative or sound attenuating make-ups. The frames are offered in standard and custom finishes. In addition, the system is enrolled in Architectural Testing Inc.'s Quality Assurance Validation Program.

► www.safti.com



We Have Heard on HI The HI System from Vetrotech Saint-Gobain

Vetrotech HI System is an assembly of high-strength VDS curtain-wall and door profiles and Contraflam HI glazing available from Vetrotech Saint-Gobain.

The system has a

built-in curtainwall, designed with hurricane impact resistance and was created to allow users to bypass installation and maintenance of costly shutters.

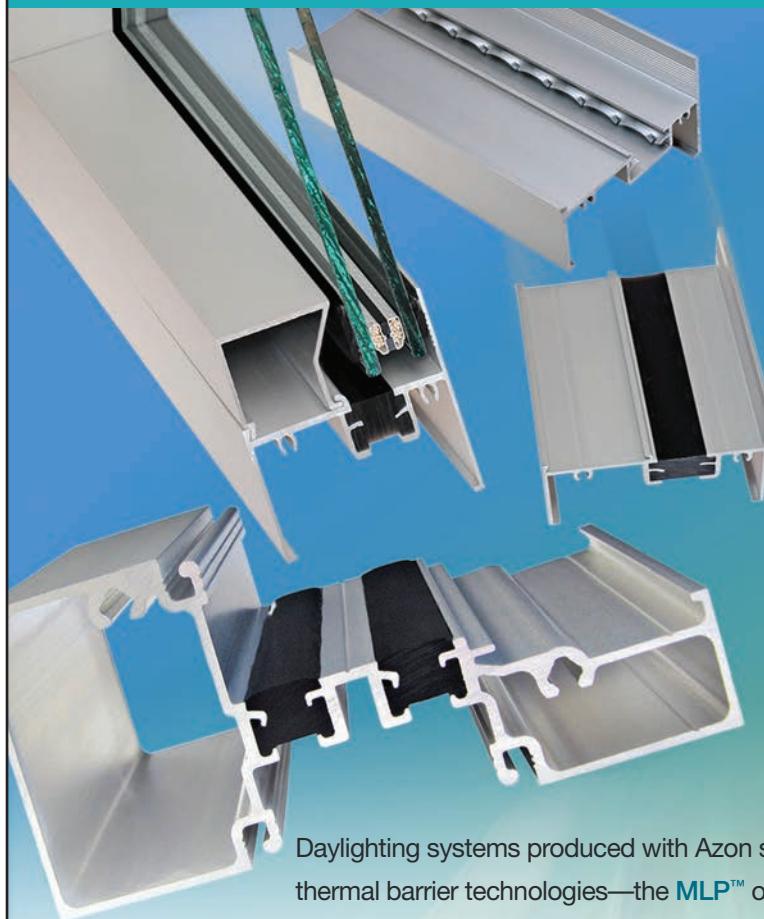
Vetrotech HI was tested to meet ASTM E 1996, ASTM E 1886 and ASTM E 330, as well as the TAS protocols required by the Florida Building Code, including Miami-Dade County. In addition to passing the requirements of the small and large missile test, testing included dynamic cycling and air and water infiltration tests. The system is

UL-listed for fire-resistance applications requiring ratings for up to two hours, according to the company.

With Design Pressure (DP) ratings of up to +/-65 psf, the system is designed to handle pressure of severe hurricane wind speeds and meets the requirements of TAS 201, 202, 203, in addition to passing ASTM E1996 / 1886 / 330 / 283-99 / 331-00 and AAMA 1304-02 test standards, according to the company.

► www.vetrotech.com

Azon Saves Energy



Daylighting systems produced with Azon structural thermal barrier technologies—the **MLP™** or **Dual Cavity**—for aluminum windows and high performance glazing components for insulating glass, will yield a fenestration system capable of upholding the highest efficiency and sustainability standards



1 LU/HSW

Contact us to learn about the role of Azon thermal barriers in energy conservation.



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NEW & IMPROVED!

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profile wrapping Expanding Exofol Films from Renolit

Renolit has been in the market for window frame enhancement with performance/decorative films for more than 30 years and now has expanded its offering of metallic finishes. This metallic range includes architectural bronze and other anodized type finishes, silver and aluminum, copper and black. The scratch-resistant surface emboss of this commercial range can have either a smooth stipple or an etched type finish.

The metallic finishes join the company's existing selection of woodgrain and solid color laminate films that Exofol offers to enhance the look of the interior or exterior of all types of window frames. It is suitable for substrates of PVC, fiberglass, wood, aluminum, composites and more, according to the company.

Renolit also released a new, expanded fan deck. This fan deck has a complete set of samples of the full Renolit Exofol FX range, including newly released colors.

► www.renolit.com

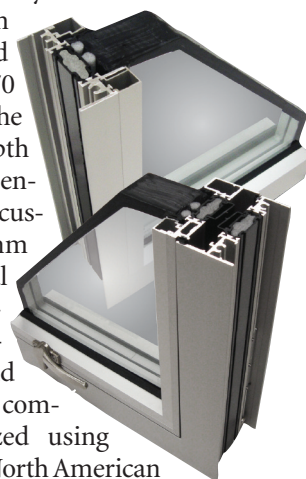


dows to support buildings' goals for energy efficiency and occupant comfort.

Invent.Plus windows' composite framing combines 55 percent engineered polymers and 45 percent aluminum extrusions by volume.

The aluminum contains recycled content averaging 70 percent or greater. The 3 11/16-inch frame depth incorporates several energy-saving features: custom-designed 44-mm polyamide thermal barriers from Technoform Bautec, convective baffles and foam cavity fillers, combined and optimized using both European and North American finite element thermal modeling software tools.

► www.wausauwindow.com



Always Win with Winco Aluminum Replacement Window from Winco



Winco's Series 3250 steel replica architectural aluminum replacement window is now available in fixed and project-out configurations that resist wind velocity over 150 mph according to ASTM E 1886 and ASTM E 1996 standards.

The windows are made with reinforced aluminum frames and feature a PVB laminated interlayer providing

longevity, according to the company.

The doors and windows are displayed in two frame styles: North American 3 1/4-inch frame with nailing fins and European 2 3/8-inch frame. Dual overlapping neoprene gaskets provide a seal against air and water infiltration. One-inch insulating glass is standard, and 1-3/8-inch triple pane insulating glass is available, which allows fixed windows to achieve U-values as low as 0.17.

Teutonic Series products may also be specified for buildings with blast mitigation needs and those in high wind zones and coastal areas.

► www.kolbecommercial.com

The Plus Side of Composite Framing Invent.Plus Windows from Wausau

Wausau Window and Wall Systems offers the Invent.Plus series windows, which meet European benchmarks for thermal performance and fit the current North American aesthetic for clean style and narrow sightlines. The composite framing delivers R5 performance for operable units and R6 for fixed win-



windows Serious Teutonic Strength The Teutonic Series from Kolbe

The Teutonic Series door and window product line for commercial buildings is now available from Kolbe. Made for hospitality, multi-family and mixed-use projects, the series includes fixed and tilt-turn windows, tilt and slide doors and outswing hinged doors. The steel-reinforced uPVC products are designed to meet commercial buildings' requirements for enhanced energy efficiency, occupant safety, low-maintenance and

protection from noise, wind and water infiltration, as well as a 0.33 U-value.

Winco Series 3250 windows are an architectural grade thermal window system featuring a 3 1/4-inch deep frame with 1/8-inch wall thickness, permitting large window sizes without reinforcement. The project-out vents in a fixed window replicate steel window construction and have stack joints only 2 3/4-inch wide to meet historic sightline requirements. Optional accessories include sub-frames, mullions, panning and trim, as well as optional extruded aluminum screens.

➡ www.winowindow.com

panels and railings
**From Columbia
to Cambridge**

**Cambridge System from Columbia
Commercial Building Products**



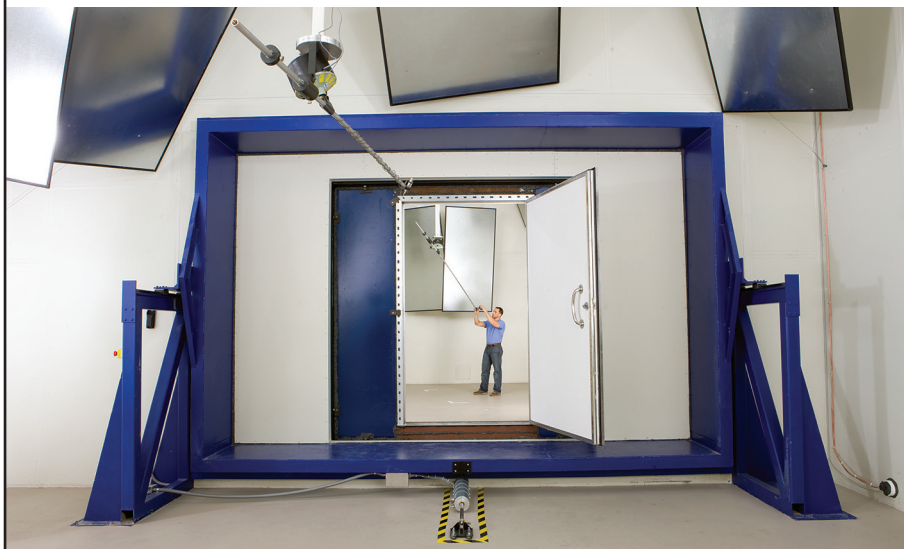
Columbia Commercial Building Products introduced the Cambridge System as a member of its railing family. The Cambridge is a classic base shoe and glass design and includes shoe railing in surface or fascia mount versions.

The Cambridge accommodates 1/2-, 5/8- or 3/4-inch glass, uses taper system or grout to secure the glass and has a variety of cap rail designs. It is available in six standard factory powder coat colors, though other options include custom colors, frit and digital printed designs.

➡ www.ccbpwin.com

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Unlock This PanelGrip Wagner Companies' PanelGrip System

The PanelGrip system utilizes what the Wagner Companies calls a unique locking mechanism of high strength aluminum and pvc isolators



combined with a lightweight aluminum shoe moulding. When assembled with tempered or laminated tempered glass of the appropriate size, PanelGrip enables the installer to fabricate a structural glass railing system with significant reductions in labor and freight costs over standard wet glaze options, according to the company.

➡ www.wagnercompanies.com

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NEW & IMPROVED!

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hardware

Time to Select Some Safe, New Hinges

Select SL71 from Select Products



The Select SL71 safety hinge is now available from Select Products Ltd. According to the company, it is designed to help prevent people from trapping their fingers between the hinge leaves when the door closes. The recently designed SL71 concealed geared continuous hinge provides a $19/32$ -

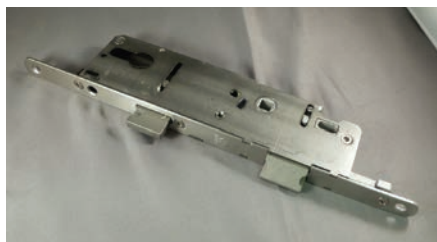
inch clearance between the door and frame on the hinge side when used without a frame stop.

Pair-matched hinge leaves, lifetime lubrication and anodizing after machining make for a durable product, according to the company. The hinges are subjected to more than 25,000,000 cycles in independent testing — equivalent to more

than 60 years of high-traffic use and 10 times beyond BHMA Grade 1 cycle count — and have a never-ending continuous warranty.

► www.select-hinges.com

What's Your Multipoint? Multipoint Locks from Strybuc



Strybuc added a complete line of multipoint locking systems that it says help secure residential and/or commercial buildings. The company's hardware includes a range of products such as multipoint locks, handle sets with cylinders, adjustable hinges for doors and repair parts for multipoint locks. Strybuc is the national distributor for Hoppe, G-U Hardware, Truth Hardware, Amesbury, Roto, Ashland, KfV and Fuhr among others.

► www.strybuc.com

aluminum extrusions

An (Am)Azon' Energy-Saving Guide

Azon's Guide to Energy Saving Technology

Azon has released a new guide to energy-saving technology, one that it says explains how the pour and debridge process works to optimize the energy-savings and structural performance in commercial fenestration. Azon is a partner in a growing network of aluminum extruders and window manufacturers and says it recognizes the need to continually improve the energy-saving properties of the thermal barrier materials it provides.

The company describes the highlights of the literature as including new techniques to increase efficiency, such as the dual thermal barrier technology and how by adding a second thermal barrier cavity in a profile or utilizing the wider MLP™ cavity design, the U-factor may be lowered as much as 36 percent—creating what Azon calls a very significant overall improvement for meeting ever-increasing stringent energy codes while maintaining high structural shear.

► www.azonintl.com



insulating glass

Poliver Power

Fenzi North America's Poliver Polyurethane

Fenzi North America added Poliver Polyurethane to its list of IG sealants. The Fenzi Poliver is a two-part polyurethane specially formulated for sealing insulating glass for use in commercial and residential window applications. Available in 55 gallon drum and pail kits, Poliver is available for manual and robotic line sealing in traditional polyurethane viscosities and varying curing times.

Chromatech and Chromatech Ultra stainless steel warm edge spacers also are available. They are manufactured by Roll Tech, a Fenzi-owned company. These spacers are available with corner keys and connectors for those wishing to use on bending equipment, providing improved thermal properties over traditional aluminum spacer, according to the company.

Both Chromatech and Chromatech Ultra spacers are available in a range of air space widths. The Chromatech Ultra has a polycarbonate bridge across the top, available in traditional white, gray and black colors.

► www.fenzi-na.com

Close to the Edge Endur IG from Cardinal

Cardinal has introduced a new warm-edge spacer for insulating glass. Depending on window design, Endur IG improves performance, increasing sightline temperature by 1 to 2 degrees and provides better resistance to condensation, according to the company.

Endur IG builds on the technologies that help Cardinal IG units achieve the industry's lowest failure rate—only 0.2 percent over 20 years—and has a comprehensive 20-year factory warranty.

Cardinal IG Company is a fully owned subsidiary of Cardinal Glass Industries Inc.

► www.cardinalcorp.com

IG: Now In 3Seal 3Seal Spacer System from J.E. Berkowitz

The JEB 3Seal spacer system for insulating glass is the newest development from J.E. Berkowitz (JEB). The JEB 3Seal IG spacer system is designed for tough commercial glazing demands, according to the company, and is made from structural thermoset silicone with integral 3A desiccant. It features a triple-seal design consisting of a pre-applied acrylic adhesive for spacer-to-glass bonding, a hot-applied captive polyisobutylene primary seal and a two-part structural silicone secondary seal.

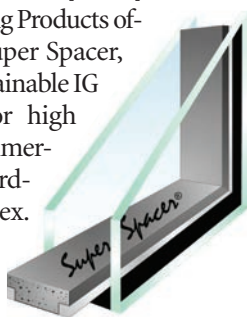
With its no-metal design, JEB 3Seal has shock-absorbing properties that the company says counteract glazing stresses caused by wind, snow, driving rain, fluctuating temperatures and barometric pressure. In addition, the spacer has minimal thermal conductivity, providing high glass edge surface temperature, and a multi-layer vapor barrier to enhance condensation resistance, according to the company.

► www.jeberkowitz.com

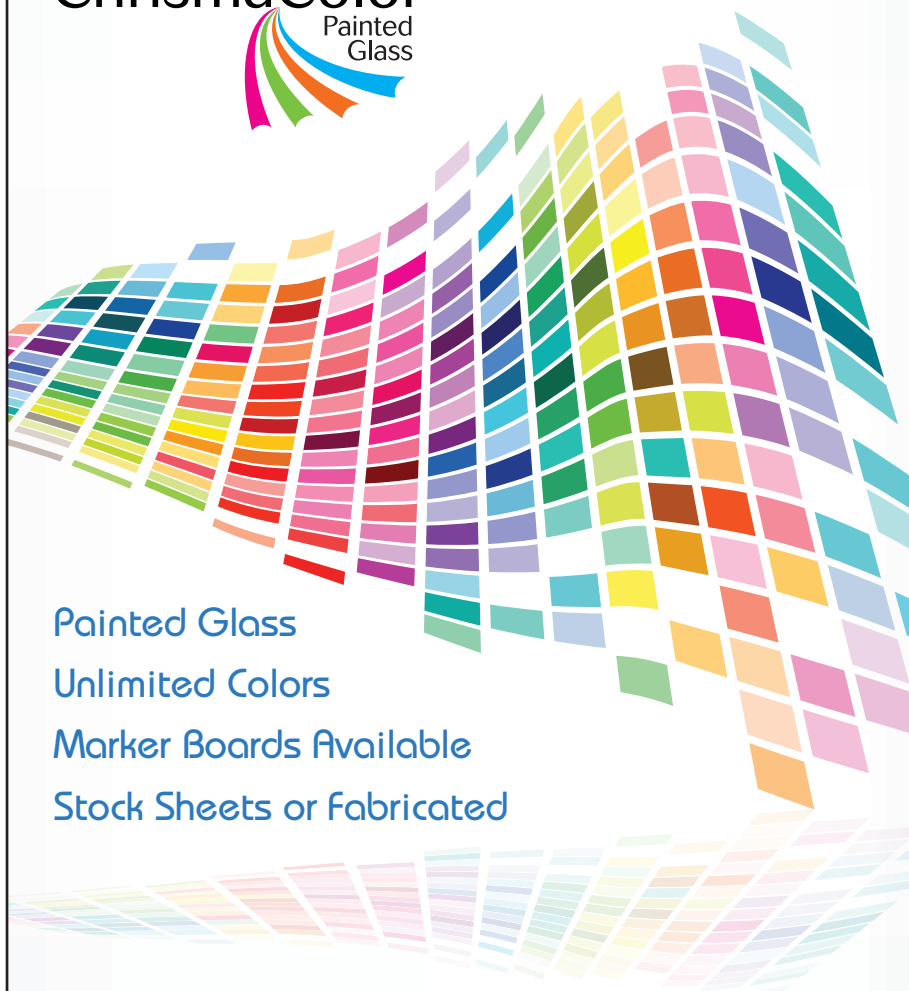
Thrice as Nice Quanex's TriSeal Super Spacer

Quanex Building Products offers its TriSeal Super Spacer, billed as "the sustainable IG spacer choice for high performance commercial glazing," according to Quanex. Insulating glass edged with Super Spacer satisfies warm edge demands, such as optimized energy savings with what the company says is low total U-Value; high condensation resistance; clean, consistent sightline; production efficiency for maximum ROI and quality. According to the company TriSeal Super Spacers dramatically reduce seal failure and stress crack callbacks while reducing noise by up to 2 Db.

► www.quanex.com



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The New Black is—Black ExtremEdge from Viracon

Viracon is now offering the ExtremEdge warm-edge spacer in a black finish, which distinguishes itself from other finishes by its ability to reduce interior reflection through glass. ExtremEdge is positioned between two lites of glass and is designed to improve the U-value of an insulating unit.



According to Viracon, the new spacer helps reduce edge conductivity and thus, heat transfer into buildings. It offers condensation-resistance values as

high as 64, minimizing the formation of condensation on glass surfaces.

► www.viracon.com

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NEW & IMPROVED!

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machinery and equipment

Build a Benteler Washing Machine Benteler's tecWasher



German company Benteler Maschinenbau has a new generation of its flat glass washing machine, tecWasher. The tecWasher, made for horizontally cleaning small- and middle-sized flat glasses, has been completely redesigned with special respect to the

ease of operation and ergonomic properties. All key machine parts are easy to approach and logically located, according to the company.

The company adds that special attention was given to improve the drying process, which now incorporates aluminum air knives with a new shape for what the company says is a better drying process.

► www.benteler.com

Don't Blow a FuseCube DFI's FuseCube

Diamon-Fusion International Inc. has developed the FuseCube, an automated vapor deposition machine to apply its Diamon-Fusion protective coating to glass and other silica-based surfaces.

The company says fabricators can



coat thousands of square feet of glass – on both sides and all exposed edges – in less than an hour, all while reducing costs up to 75 percent compared to spray-applied coatings. Operators load the glass, drop in the cartridges and press a button. The machine coats 5,400 square feet or more in less than an hour with no cure time required. A green light indicates when the cycle is done and the glass can be removed.

The FuseCube is offered in three sizes, all of which can handle lites up to 36- x 96-inches: small (with capacity for 75 pieces per run); medium (with capacity for 225 pieces per run); and jumbo (with capacity to treat 450 pieces or several jumbo panels per run).

The FuseCube is exclusively distributed, installed and serviced in the U.S. and Canada by IGE Glass Technologies Inc.

► dfinotechnology.com or www.igesolutions.com

Do UC All that Glaston Has to Offer? Cutting Lines and More from Glaston

Glaston's UC cutting line series includes a new generation of versatile loaders and break-out tables complemented with the UC200 stand-alone model for half-jumbo glass sheet cutting. The company now offers three models depending on the customer need.

In addition, the company's Omnia double edging machines with peripheral

machinery and equipment

The Need for Speed IG Lines from Bystronic

The speed'line from Bystronic glass is designed to produce triple insulating glass in the same time it takes other lines to produce double units. The production line consists of two tps'applicator components arranged one after the other, the new speed'assembler for quick assembly and gas-filling of insulating glass units as well as the speed'sealer sealing robot.

On the speed'line, the fully automated application of the spacers is performed by two tps'applicator components arranged one after the other. In order to achieve the maximum throughput, the thermoplastic TPS warm edge spacers are applied to glass lites two and three of the triple insulating glass units almost simultaneously. The company says this ensures the continuous and quick supply of glass plates with spacers—no separate pre-production or provision of suitable spacers is required. The material from the drum is applied as a strand at approximately 120 degrees Celsius in a patented process.

The quick assembling, gas-filling and pressing of triple insulating glass units is performed by the speed'assembler. This new filling technology is present upon the inlet and outlet sides respectively in the tandem version of the speed'assembler, making it possible to simultaneously create two gas-filled triple insulating glass units. The speed'sealer makes the sealing of triple insulating glass units in two cycles possible in the last stage of glass production. It ensures that no equipping times are required to exchange nozzles, even when producing units with alternating or asymmetric spaces between the lites, according to Bystronic.

► www.bystronic-glass.com



wheels are available in two machine versions, specifically addressing manufacturers' needs for high productivity and glass finishing. The double edging machines process pencil edges with peripheral wheels using the latest technology in their design and construction, according to the company, which adds that the Omnia series offers high performance, reliability and user friendliness.

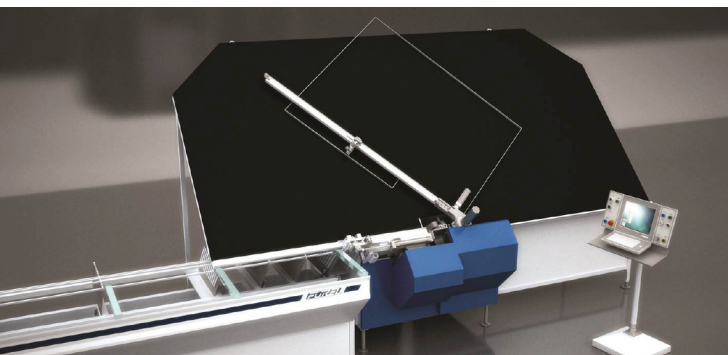


Also available is the company's IriControl technology, designed to enable glass fabricators to measure iridescence in real numerical values and minimize the iridescence phenomena in tempered glass. The measurement system and technology overcomes iridescence, which the company says raises the quality of tempered glass.

► www.glaston.net

What an Arm! Forel Spa's Smart Arm

The Smart Arm by Forel Spa is a spacer profile bending system that controls the insulating glass rigid spacer profile from swinging freely while bending. Smart Arm allows for fast bending since the equipment blocks the profile with an exclusive system that supports the spacer throughout the process preventing medium and large-size frames from collapsing or deforming due to their weight, inertia and friction, accord-



ing to the company. There is a continuous belt feeding system for the spacer profiles rather than the standard repetitive 'grab and move' system. Each bend or corner is also measured and any growth or deformation is corrected automatically during the bending process.

► www.forelspa.com

Worth Its Weight in Gold(Glass) GoldGlass MRC 2350-C from Matodi USA

The GoldGlass MRC 2350-C automatic glass painting machine by GoldGlass Technologies group is represented in the U.S. by Matodi USA. The MRC 2350-C has an integrated extraction system and removes fumes into a condenser unit, which the com-

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NEW & IMPROVED!

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pany says allows the machine to be placed anywhere in the factory. It offers low paint consumption, and shaped glass surface spraying with a bonus of using a full color spectrum, with option for integration of ceramic inks.



It has dual paint containers for an efficient alteration between colors and PLC control via a full graphic, soft-touch, 7-inch screen that the company says allows manufacturers complete control of paint quality, spray gun speed and pace range. It has an easy to operate self-cleaning system and automatic piece scanning, so it sprays only on areas where the glass lies and avoids cut outs.

► www.matodiusa.com

Blend it Up

The ExactaBlend from Graco

Graco Inc. added two proportioning systems to its ExactaBlend family of advanced glazing Proportioners (AGP). Designed for manufacturers of curtainwall, insulating glass and specialty glass, the new ExactaBlend models handle two-part urethane sealants and adhesives, as well as polysulfides.

The ExactaBlend AGP provides on-ratio proportioning and optimal mixing capabilities that the company says increase quality assurance of the final product. Real-time on-ratio dispensing reduces material waste, scrap and rework, according to the company, which added that if an off-ratio condition occurs, the system automatically shuts down.

ExactaBlend has optional data reporting capabilities via USB downloads, which allow manufacturers to track key information such as ratio, material usage, flow rate, alarm events and system errors, information that can be used to streamline the production process and increase line efficiencies, according to the company.

► www.exactablend.com



A Vero Good Wheel

Polishing Wheels from Salem

Vero is the latest addition to the line of cerium-based composition polishing wheels from Salem Flat Glass. The Vero wheel operates on automatic edging/mitering machines to cost-effectively produce bright surface finishes in place of cerium oxide and felt wheels. The Vero wheel is the combination of cerium oxide and a durable "rubber" type bonding matrix that produces a polishing wheel that operates at low pressure and high speeds with long operational life, according to the company. The series of polishing wheels is available in sizes and configurations to fit Bovone edging equipment as well as other brands of edgers.

Salem has also introduced the Status Earth Wheel, part of its cerium-based composition polishing wheels. The Status Earth Wheel was designed to operate on automatic edging machines to cost-effectively produce bright surface finishes on any thickness of glass. It is the combination of a precision-grade cerium oxide and a unique bonding material that produces a polishing wheel that successfully operates at low pressure and high speeds, according to the company. The wheels are available mounted onto hubs to fit most popular edgers.

► www.salemdist.com

machinery and equipment

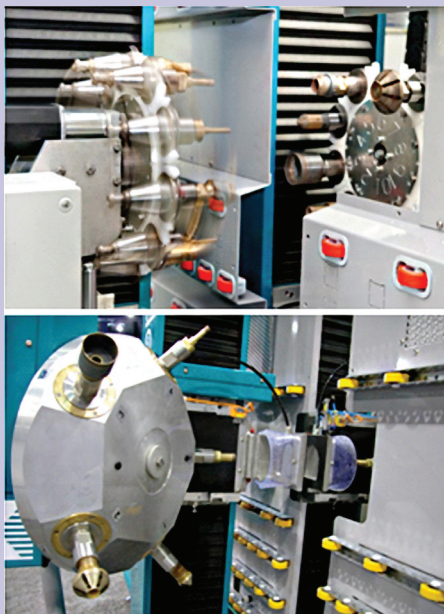
Take it From the Top

The topDrill from MPM

Marc Prevost Machinery (MPM) out of Quebec has partnered with topDrill, an Austrian-based company that has been in the business of vertical glass drilling machines since the 1990s. With the fourth generation (G4) of topDrill in production for three years, the fifth generation is ready for the market. The M-RX, as it is called, can be used for both drilling and milling, according to MPM.

TopDrill M-RX is a vertical, double-sided CNC machining center with automatic tool change that can be used for milling, grinding, drilling and countersinking.

► www.mpm.ca



Schiatti's Straight Edge

The Series 50M from Schiatti

Schiatti Angelo srl invested in improving its flagship products, such as the machine series 50M, which performs the grinding and the extra bright polishing of the flat edge with arris for glass thicknesses from 3- to 55-mm. The machines of this series are able to work lites from a minimum

of 100- by 100-mm to a maximum of 1.800Kg weight. All of these are equipped with a mitering group that can obtain a variable angle from 0° to 45°. The models FPS50M3 and FPS50M3B allow users to obtain an edge with two different angles with a high cerium oxide polish of the flat edge, the arris and the miter in a single pass.

The diamond wheels have independent settings to differentiate the glass removal per spindle and the polishing wheels are fully automatically engaged. Each polishing spindle may be manually isolated by a switch on the control panel.

In addition, the turnover unit was

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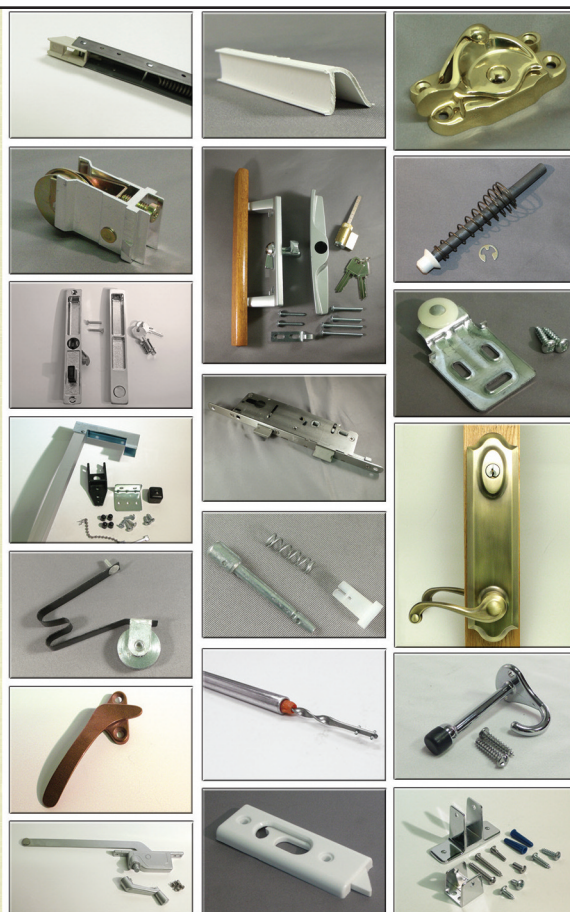
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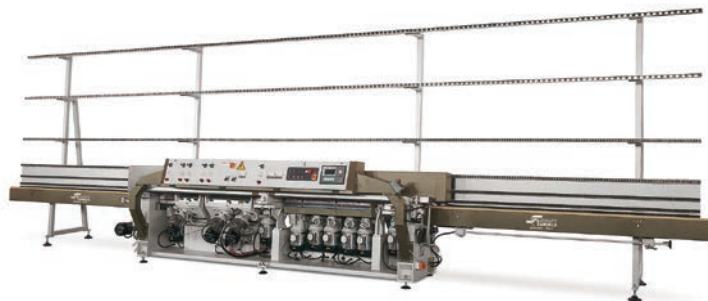
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NEW & IMPROVED!

continued from page 51



designed and manufactured to connect two or more edgers/bevellers in a straight line and has the function of rotating the glass-sheets through 90°. The complete line, for the automatic processing of the all four sides of glass, is generally composed by four edgers/bevellers and three turnover units. The rotating arm is fully automatic and controlled by a PLC. The gapping system prevents glass-sheets crashing into each other during rotation, even if the glasses are different dimensions.

▶▶ www.schiattiangelosrl.com

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components

Let's Be Frank

Frank Lowe Rubber and Gasket's Sill Pad Air Dam

Frank Lowe Rubber and Gasket offers a solution to whistling noise and air coming through the balance pocket and silt buildup collecting in the corners of the lock rail of single hung and double hung windows.

The Sill Pad Air Dam, the company says, works no matter what balance system is used (constant force, spiral or block and tackle) and with all sill systems – sloped or pocket.

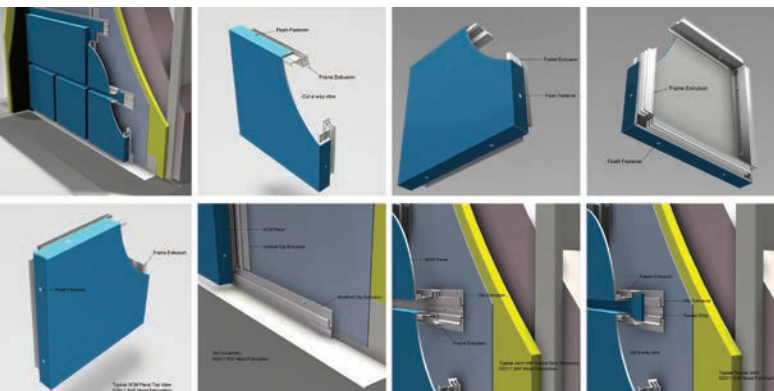
The lock rail will not need adjusting as the pad is engineered with what the company calls “revolutionary” space foam which easily compresses.

▶▶ www.franklowe.com

architectural metals

Blame it on the Rain

SAF's Series M4000 Rain Screen



Southern Aluminum Finishing Co. Inc. (SAF) introduced the SAF Series M4000 drained and back ventilated rain screen. The commercial building panel system is rated per AAMA 509-09 requirements, and was tested for air and water resistance per ASTM 283 and 331, according to the company.

The Series M4000 is similar to the company's Series 4000, but is manufactured with 0.125 aluminum panels instead of aluminum composite material (ACM). The fabricated panels in the Series M4000 system include a factory attached frame extrusion that the company says makes for an easy fit into the horizontal and vertical track extrusions on the job site. It comes with fabricated panels and track extrusions that are shipped loose.

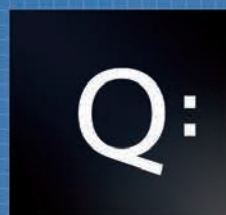
▶▶ www.saf.com

Use Acropon and Save

Acropon 2605 from Valspar

The Valspar Corp. offers Acropon 2605 extrusion coating system for extruded aluminum products, such as storefronts, entrances, windows, handrails, column covers and panel systems. The new coating system's high gloss, color palette and performance qualities are formulated for both exterior and interior applications on luxury condominiums and other high-end, high-rise residences, as well as low- to mid-rise commercial

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What's so innovative about new Keralite® Select?

NEW & IMPROVED!

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tornado-resistant doors and windows

Impact Products for Surviving the Storm

Over the past few years the glass and glazing industry has seen increasing awareness of the importance of products designed to withstand tornado forces. Just as hurricane-impact products are now common in areas such as South Florida, other regions of the country are also starting to seek out and call for products that can help save lives during tornados.

Survivalite based in Baton Rouge, La., is one such company that offers impact-rated products, including its Citadel windows and doors, which are fully tested for use as Federal Emergency Management Agency (FEMA) EF-5 tornado shelters, as well as FEMA 201 MPH hurricane shelters.

The windows are available in sizes up to 5- by 8-feet and can also be constructed as continuous, fully-glazed storefront systems as well as curtainwall. In addition, they can incorporate a thermal break with insulating glass. According to the company, all locks and latches are released from standard panic bars. Doors are ADA-compliant with a ½-inch threshold.

In addition, the glazing products are tested to ± 300 pounds-per-square-foot (PSF) static pressure loads for 10 seconds and undergo multiple impacts by 15-pound 2- by-4s trav-

eling more than 100 miles per hour. The products are tested to 9,000 hurricane pressure cycles up to +110, -130 PSF.

Survivalite president Bill Sudlow explains the company has a unique business model. The company works closely with Capital Glass & Mirror in Baton Rouge, which handles the manufacturing. It also has a partnership with Saf-Glas in Riviera Beach, Fla., which supplies the glass used in its systems, and works with two extrusion suppliers, Bonnell in Newman, Ga., and International Extrusion in Waxahachie, Texas.

Sudlow explains that Survivalite owns the dies (at the extruders), the window designs, the testing, and exclusive rights with Saf-Glas for the FEMA glazing. Capital Glass owns the door design, but Survivalite owns the FEMA door testing giving Survivalite ownership of all FEMA products for the curtainwall and storefront systems, according to Sudlow.

"Over the years we have had contracts with two different companies to manufacture our products, but we now have an exclusive arrangement with Capital Glass for the fabrication of the windows and doors. Capital Glass was our customer on a FEMA project in Louisiana, and our work together

resulted in this long-term arrangement," says Sudlow, noting that both Survivalite and Capital Glass are involved in sales, but the primary responsibility is with Survivalite. "We are in our second year of this arrangement and it is working out very well for each of us. Survivalite brings national markets and FEMA expertise, and Capital Glass has an excellent, experienced work force that turns out a quality product - as well as a strong reputation in the Louisiana markets."

According to Sudlow, the company has seen a growing interest in the use of its impact-rated products for both hurricane and tornado protection. In fact, its doors are being used in domed school structures, such as a gymnasium in Woodsboro, Texas, among various other applications. He adds that they have been working closely with architect Leland Gray, based in Salt Lake City, Utah, who is converting some of the domed stadiums he has built into FEMA tornado shelters.

"The structures are already approved by FEMA, so by replacing the doors with our FEMA tested doors the entire facility becomes a FEMA shelter," says Sudlow.

▶ www.survivalite.com



Survivalite's products have been used in dome applications where the building is being converted into a FEMA shelter.

buildings with high-traffic areas, according to the company.

Valspar developed the proprietary, composite system of organic and inorganic polymers and says the resulting finish meets or exceeds AAMA 2605-13 specifications for 10-year South Florida exposure weathering conditions and resistance to salt spray, chalking and fading.

The two-coat system consists of a color coat and a clear coat, and is spray-applied to extruded aluminum.

▶▶ www.valsparcoilextrusion.com



handling and transportation

Same Woods' Time, Same Woods Channel

P1 Channel Vacuum Lifter from Wood's Powr-Grip

The design of the P1 Channel vacuum lifter from Wood's Powr-Grip has been re-engineered to incorporate features that the company says increase operator safety, while adding to versatility, usability, longevity and durability. A new lift bar for the P1 channel lifter now features what the company calls an easily replaceable spool, designed to provide extended service life. This lift bar is predrilled and ready for use with Powr-Grip's counter-balancer, which is used for glass installations in airport towers, as well as for installing glass under eaves and other obstructions.

The P1 channel lifter is available with an upgraded dual vacuum system (DVS) that features a new dual-head vacuum pump and blow-off to speed production with faster attach and release times, according to the company, which adds that the improved DVS increases productivity by requiring less power and providing longer battery life, for more time on the job between charges. According to the company, new push-button vacuum controls are conveniently located for ease of operation, stability and enhanced control.

▶▶ www.powrgrip.com



continued on page 56



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vetrotech
SAINT-GOBAIN

NEW & IMPROVED!

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Get Onto Dodge Dodge ProMaster Cargo Van from F. Barkow

F. Barkow Inc. offers glass racks to fit onto the new Dodge ProMaster cargo van. Custom racks up to 12 feet in length and 96 inches in height, fully



welded in aluminum and stainless steel, have been installed on this style of van so far. Included are Stake-Loc

stakes, full lower splash panels and load-holding slats as standard.

► www.barkow.com

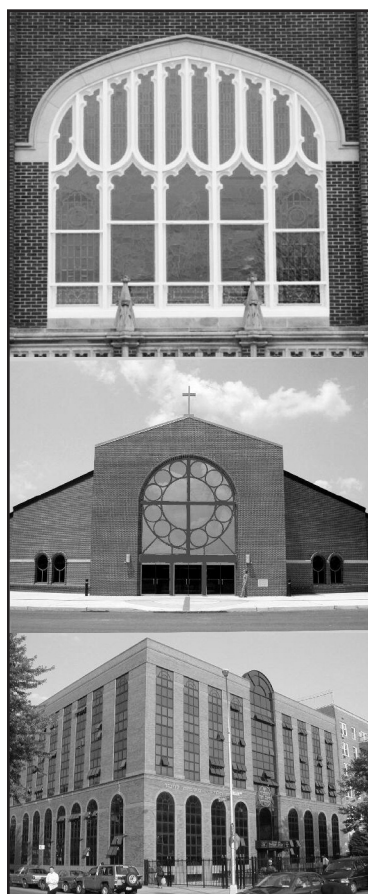
The Professional and the Pick Up Artist Unruh Fab's Van and Pickup Racks

The professional van and pickup racks by Unruh Fab offer quick loading and unloading while offering maximum glass protection, according to the company. The Professional racks, with the new additional horizontal slats, offer solid slat back-support for more sizes of glass. The stake guides at the top of the rack save time and effort in securing the load, according to Unruh. The load bearing under body supports the pickup bed and the new, higher splash panels protect glass from road debris. The standard Professional racks



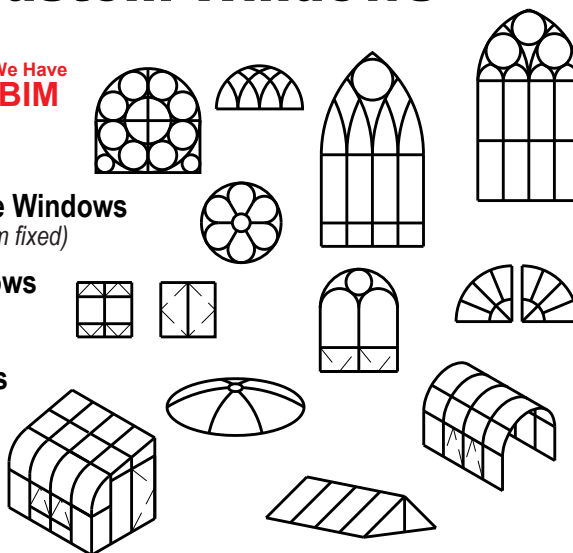
offer 5 inches of usable ledge-boards and 84 inches of usable height and now come standard with a swing-up or removable wheel panel for easy access to wheels.

► www.unruhfab.com



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A Harp Day's Night Groves Inc.'s Harp Rack

Groves Inc. of Woodstock, Ill., introduced its new harp rack for storing glass lites. It features a polyethylene floor for easy sliding of glass and a non-stick surface for insulating glass. The harp rack comes with 60 long and 60 short plastic covered steel rods which can be placed as needed in the 80 location points to hold individual lites of glass of varying thicknesses. Built of heavy gauge steel with durable powder coat finish, the harp rack includes four non-marking swivel casters rated at 1,000 pounds capacity each and two front mounted foot locks.



Groves also introduced its GLC family of rugged glass carts. It includes four models ranging from 54- by 32- by 55-inches to 96- by 48- by 98-inches with capacities from 4,000 to 8,000 pounds. Carts feature heavy gauge powder coated steel framework with plywood shelf bases and durable steel impregnated, riveted rubber padding mounted on uprights. Models GLC-3248, GLC-3660 and GLC-3672 have two rigid casters and two swivel casters with foot operated brakes rated at 1,000 pounds each. The GLC-4878 has two rigid casters and two swivel casters with foot operated brakes rated at 2,000 pounds each.

► www.groves.com



Draw Back the Curtain Curtain-Side Glass Truck Body from MyGlassTruck.com

MyGlassTruck.com says its newest curtain-side glass truck body combines the accessibility of open racks for side loading with the added security of retractable curtains to protect glass in transit. These truck bodies have continuous front-to-rear outer glass support ledges for transport of wider sheets of glass and the shorter wheel-base of the cab over chassis provides maneuverability for deliveries in tight areas according to the company.

Available in 12- to 18-foot lengths, this truck body features a galvanized steel frame that supports heavy-duty double-weave PVC coated curtains; a ply-metal front bulkhead; full-width rear double doors; and a translucent ceiling with LED dome lights. The reinforced curtain is lockable and all buckles and hardware are bolted-on. LED lights provide visibility around the body's exterior and a welded steel sub-frame provides a stable base for transporting payloads of up to 8,000 pounds.

The curtain-side's exterior and interior glass transport racks are fabricated from custom-extruded, T6 aluminum posts and slats utilizing Huck aircraft-grade fasteners that the company says won't crack or loosen from vibration. Thick rubber padding is also integrated into every rack surface that touches glass. E-track and cargo straps secure glass in place and interior racks are accessed by a rear step bumper and fold-down stirrup steps.

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Out of the Box

Advancing Façade Developments Call for a New Way of Thinking

by Ellen Rogers

The idea of collaboration always sounds good on paper, but for those in the building envelope industry it can sometimes be a challenge to bring multiple parties together early on in the design process. The rapidly evolving technologies and increasingly stringent regulations may soon bring advanced façade developments to fruition.

"It's like what we were going through seven or eight years ago. It was unimaginable there would ever be any other smart phone device other than Blackberry," says Attila Arian, president of Schuco USA LLLP. "But people saw a trend [in changing products] and they reacted. It's the same thing in the glazing indus-

try." Three-D designs, Arian says "have changed the way we deliver a project. If we don't react and become a part of it we may be left out. If we don't, we may be out of business. [The industry needs to work toward] a joint effort in technology."

So, just how, exactly, are façades evolving? The industry is seeing a transition from static façades to ones that are dynamic. These changes are driven primarily by a need and/or desire to control heating and cooling costs, as well as ensure occupant comfort. At the same time, technologies are making it possible to design and build increasingly geometric buildings.

"People don't want to be in boxy square buildings any-

Illustration by Courtney Shackelford

Advanced façade applications, including the recently termed "kinetic architecture," which moves or changes as a result of seasonal, functional or daylight requirements, is starting to see increasing interest.



During the Bau Show in Germany, Schuco displayed its Parametric Façades, which follow the concept of structural modeling, where algorithms are used to improve function and design.

more,” says Arian. “The architect’s expression has become more drastic. People are looking to make a statement with buildings.” Glass has a significant role to play in the development of these advanced façades, increasing the need for more education, knowledge and collaboration.

“The technology involved in dynamic façade solutions is challenging from design through installation,” says Mic Patterson, with Enclos’ Advanced Façade Studio in Los Angeles, “and these projects are most successfully done under a design-assist project delivery strategy that accommodates the very early participation of key suppliers, contractors and consultants.”

continued on page 60



Photos: Schuco

Parametric Façades, which Schuco offers, can provide architects with an integrated system that optimizes both design and energy efficiency.

“High-performance façade systems are challenging enough in themselves. Requiring them to move increases the complexity tenfold, and this must be reflected in the cost.”

—Mic Patterson, Enclos

Out of the Box

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Movers and Shakers

If the days of the boxy, simple structure are behind us, where, then, is this new age of building façades headed?

"If you think about curtainwalls in buildings today, normally you find a static, fixed structure with lots of glass. In media images of architectural spaces the views from the windows are typically clear and unobstructed," says Stephen Selkowitz, who works in the Building Technology and Urban Systems Department in Lawrence Berkeley National Laboratories. "In the real world that does not always work, especially with a highly glazed curtainwall, because glare, solar gain and privacy will dictate some form of management. So occupants try to control these impacts with shades and blinds, but they don't reliably do a very good job of it. For example, blinds are lowered on the east to control morning sun and glare, and then never raised during the day. And architects hate the random appearance of blinds/shades closed or open."

Patterson adds that the term "dynamic" is a good counterpart to the term static.

"Interactive/intelligent façades are often referred to as dynamic, meaning that they change in behavior or form in response to some stimulus," he says. "Electrochromic glazing materials, for example, can vary light transmission in response to an environmental or user-provided stimulus. In this case, nothing moves. Kinetic façades (*see sidebar on page 62*) are a subset of dynamic façades, in which elements of the façade actually move."

Of course much of the growing interest in façade materials, such as the electrochromic glass and integrated shading devices (*see sidebar on page 61*) is a response to increased demand for energy reduction and occupant comfort.

"If you want to use a lot of glass for view and other market reasons, the reality is you need control over the properties of the curtainwall," says

Selkowitz. "The most important step, in my opinion, is that the curtainwall needs to be designed and operated dynamically. Think about the variability between winter/summer; day/night; sunny/cloudy, etc., in terms of temperature, energy, glare and light. So the idea that a fixed/static wall will be perfect in all conditions simply does not make sense."

The envelope, then, should be dynamic in order to accommodate all the ranges of activity going on outside and inside. But how is this accomplished?

"The good news is that there are a myriad of options on the technology side. You can change the glass (i.e., use electrochromic glass) or use external, between-the-glass, or internal shading devices, for solar control and daylight management. The key is you're adding a layer of dynamic control to what historically has been a fixed element," Selkowitz says, explaining that the questions then become how are these systems operated, by whom and when? For private offices and some small buildings Selkowitz notes that well designed manual controls may work well, but for open office space where occupancy varies and in larger buildings he believes the future belongs to smart controls.

"This gets into the realm of automated, intelligent control," says Selkowitz. "If you want to optimize energy performance of the window throughout the year and you cannot consistently rely on a person, then you want a 'smart' system to assess conditions and respond appropriately. You will need sensors to gather data and conditions and 'actuators' to control glass transmission, blind position and light output in response to what's going on inside and outside the building. I'm convinced this can be done reliably and unobtrusively, and will improve comfort and performance as well as reducing energy use."

He adds, "In many commercial buildings the single largest energy end use is

Statement Pieces

In addition to becoming more dynamic, façades are also taking on unique forms. This, according to Attila Arian, president of Schuco USA LLLP, goes back to architects and owners who want to make a statement with the building. As a result, his company has developed what's called the Parametric Façade.

Arian explains that Parametric Façades are the company's "first stab at providing an integrated system that optimizes design and energy efficiency while giving the architect the utmost flexibility when it comes to form and functionality. It follows the concept of the structural modeling, where algorithms are used to improve function and design.

"It is essentially a vertical unitized shell consisting of nodes and members that allow unusual geometries based on 3-D designs, flexibility in design and scalability of fabrication through the application of modeling software in combination with standardized aluminum systems that allow for more unusual designs and not just squares and boxes."

He continues, "I think when you look at designs becoming more complicated today there is also a need to look into digital fabrication—a setting that will allow you to fabricate right off the 3D model in economic ways, granting the freedom to design [unique] entities ... We all have to work harder to come up with unusual designs and be prepared for a tight budget."

As a result, Arian says he's also seen increasing use of Building Information Modeling (BIM) tools.

"Three-D modeling and BIM have changed the whole industry, creating a different environment. Companies are modeling entire jobs in the bid phase and doing estimating and take-offs based on 3D models. Once they are awarded they can hit the ground running."

continued on page 62

Is North America Ready for Integrated Glass Shading?

The incorporation of advanced shading into insulating glass units (IGUs) may be more prevalent in Europe than it is in North America and, while market barriers, such as cost do exist, the technology may also present a growth opportunity here.

"I think the big advantage is that IGU shading is geometric," says Erik Olsen, managing partner at Transsolar Inc., a consultancy that brings engineering expertise to architecture, specifically on energy matters. "Any kind of geometric shading device is always higher performance" than a coating-technology product, he explains.

Viviane Chan, director of sales and marketing at Unicel Architectural, echoed that point. Aesthetics aside, the most effective means of controlling solar impact, both she and Olsen say, is to place the barrier on the outside; the least effective option, meanwhile, would be to place it on the inside (e.g., traditional blinds or shades), allowing heat to penetrate the glass and get inside.

But then there's the third way, via the IGU. "I'd say those types of products are not extremely widely used [in Europe], but they're certainly more commonplace and more available than they are in the U.S.," said Olsen.

External shading is often not a preference of architects for aesthetic reasons. But with IGU integrated shading, designs can maintain a "smooth, glassy skin," as Olsen says, to the exterior of the building.

Is the North American market simply unaware of the availability of such offerings? "Architects are aware that these products exist, but there are a lot of other ways to control light," says Chan, citing various options such as diffused daylighting systems and translucent panels.

Much of the barrier, then, comes down to cost. Unicel's factory is in Quebec, but many other manufacturers are located in Europe, requiring U.S. customers to absorb the cost of importing, not to mention the product cost itself.

Nevertheless, Transsolar recently worked on a project at Princeton University that employed the use of DLS Coolshade, a product from Eckelt Glas GmbH, for a skylight—a limited application, thus containing cost.

These systems also are effective for certain applications that address solar-oriented goals, says Chan. "One of the advantages is that you can use them for overhead glazing and anything in a slanted or angled position such as skylights," she says.

That's because basic, older-generation IGU shades can sag, whereas other products that incorporate extruded aluminum louvers never touch the inside face of the glass, Chan says.

So, is there market potential here in the U.S.?

"The potential for using that kind of product is tremendous," says Olsen. "The issues are availability and cost—which are always the two issues."

—Carl Levesque



Photo: Unicel Architectural

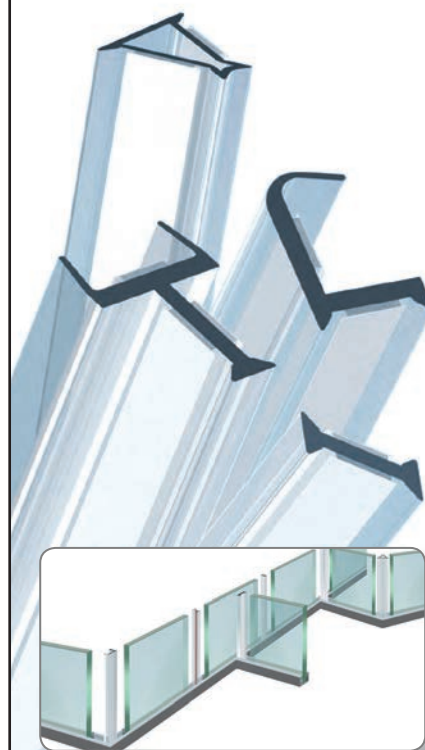
IGU louvers were installed by Unicel in the Butterfly Vivarium in Milwaukee.



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Out of the Box

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Photo: FAB Photo

The recently opened Tilt! attraction at Chicago's John Hancock Tower, which features glass panels that move forward, is an example of kinetic architecture.

Kinetic Reaction

Kinetics, in a traditional thought process, is the science and study of the human body's movement. Some in the architectural industry have taken that term and given it a new spin. The term "kinetic architecture" describes façades, for example, that move or change to adapt to seasonal, functional or daylight requirements.

According to Mic Patterson, with Enclos' Advanced Façade Studio in Los Angeles, there is currently a great deal of interest in kinetics.

Russell Fortmeyer, LEED AP, a design journalist, electrical engineer, and sustainability consultant with the LA office of global engineering firm, Arup, and Charles Linn, an architect who has specialized in architectural journalism for the past 25 years, recently authored the book, *Kinetic Architecture*. Through the use of various case studies, the book explains "how complex multilayered façade systems create energy efficient, architecturally distinctive, and sought-after places to live and work."

Likewise, Patterson adds, "At Enclos, we have launched a division we are calling Enclos Kinetics that is already involved in implementing a number of projects involving operable elements."

lighting while the largest peak electric load comes from cooling. So we want to control the solar gain coming through the window; but also manage the curtainwall for adequate daylight. You need to let enough daylight in to reduce electric lighting, but not too much because you don't want to create glare. It's a challenge to continuously adjust all of this; which is why we propose automated controls to balance daylight savings with management of glare and cooling loads. This becomes a moderately complex problem that needs reliable, cost effective solutions, which fortunately are available."

Arian has seen interest in bringing integrated photovoltaics into the façade. One example he gives is work being done by the company HeliOptix.

"They are essentially creating lenses that move through a sensor," says Arian. He explains the technology can be used to reduce solar heat gain by about 80 percent while generating electricity at the same time.

The company's ICSF System, for example, is described on its website as "the first architectural daylighting system integrated with concentrating photovoltaic solar cells that will substantially reduce overall energy consumption for buildings

and provide facilities owners with a short-term payback."

Market Acceptance

Just as façades become increasingly dynamic, they also become more complex.

"Static façades are a challenge in themselves," says Patterson. "Layer on the systems integration, kinetic elements, innovative materials, and novel products that often accompany a dynamic façade, and the complexity can easily escalate by an order of magnitude. This impacts cost, of course, and this becomes the biggest barrier to integrating dynamics into the building skin."

Adding to this, he says cost can be a significant concern.

"High-performance façade systems are challenging enough in themselves. Requiring them to move increases the complexity tenfold, and this must be reflected in the cost. Even something as basic as operable vents represents a challenge, which is why they are so often excluded in high-rise office building design."

Arian agrees that the biggest challenge is cost.

"In Europe buildings are built to last 60-100 years. In the U.S. they are built to last 25 years and everything is cost-

driven. Every new product you have has to be prepared for economies of scale and this has been a big problem in the U.S. ... [Either the] budget is not there or the owners are not willing to spend the money. It takes courage and takes money [to build these façades]," he says, explaining he most commonly sees such an installation on a university or private building."

National policy and regulation are also drivers in Europe.

"We can look for other examples where investments are being made in high performance façades," says Selkowitz. "In Europe the governments have consistent policies to push energy efficiency and carbon reductions, so investors, owners and design teams think about energy efficiency as a major design driver. Energy costs are also much more expensive there. So when policy is reinforced by fiscal realities it results in building designs and façades that are more efficient. Owners value the increased performance (comfort as well as energy) and are willing to put more investment into a high performance envelope and less into the HVAC and monthly energy bills."

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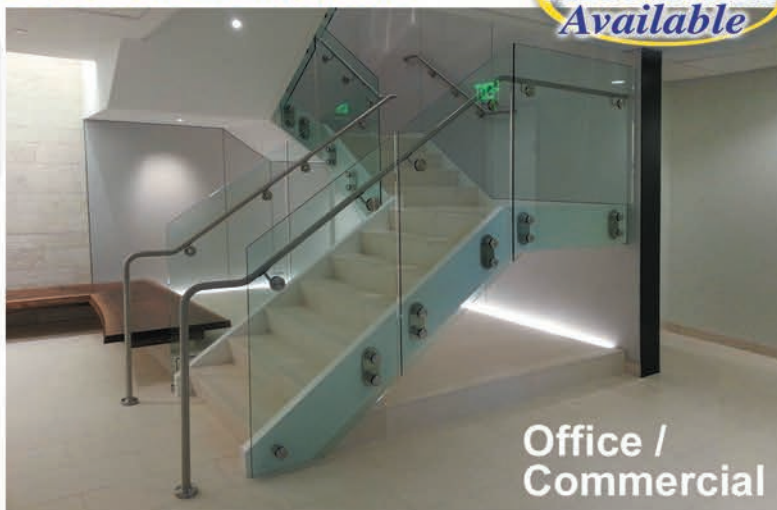
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Landscape



Out of the Box

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Patterson adds, "We are burdened in the U.S. by cheap energy prices and lax building codes. We simply don't have the performance drivers in our domestic market that exist in European markets."

He continues, "We hear a lot from vested interests that more aggressive building codes will negatively impact our sector economies, while quite the opposite is true. The legislated mandates for dramatically improved energy efficiency in European buildings in the wake of the 1970s oil crisis drove their façade technology probably two decades ahead of ours. We are only now beginning to catch up."

Another reason, according to Arian, that the North American market is slower to embrace such technologies involves the legal liability the owner takes.

"People are afraid to be sued," he says, "And in the U.S. people overdesign and engineer to be 100-percent sure it won't fail so the risk of liability is somewhat managed."

Benefits at Best

Yes, advanced façades present challenges and yes they are expensive. However, they can also bring significant opportunities for both building owners and occupants. Capitalizing on this is crucial for the glass industry.

Patterson adds, "The opportunity for the glass industry is to help the design community produce more efficient façade systems, combining relative economy and absolute performance. Balancing the many, often competing, considerations that merge at the building skin has become an increasingly sophisticated and challenging problem, and one that the design community is struggling with."

He points out that when another recently completed LEED certified glass tower is revealed as an energy hog, glass often gets the blame. "This is bad for the entire

building industry, and certainly represents a threat to the glass industry. It's a threat that can be addressed with education, but only at the very highest level, and involves investment in research and development because the required tools and techniques do not all exist."

Designing and constructing an energy-efficient building is not a luxury. Arian adds, "The industry must learn to build in energy-efficiency, high-quality systems. We all need to be thinking about this. Energy-efficiency is not just an idea it will impact us all drastically on multiple levels." ■

the author



Ellen Rogers is the editor of USGlass magazine. Follow her on Twitter @USGlass and like USGlass on Facebook to receive updates.

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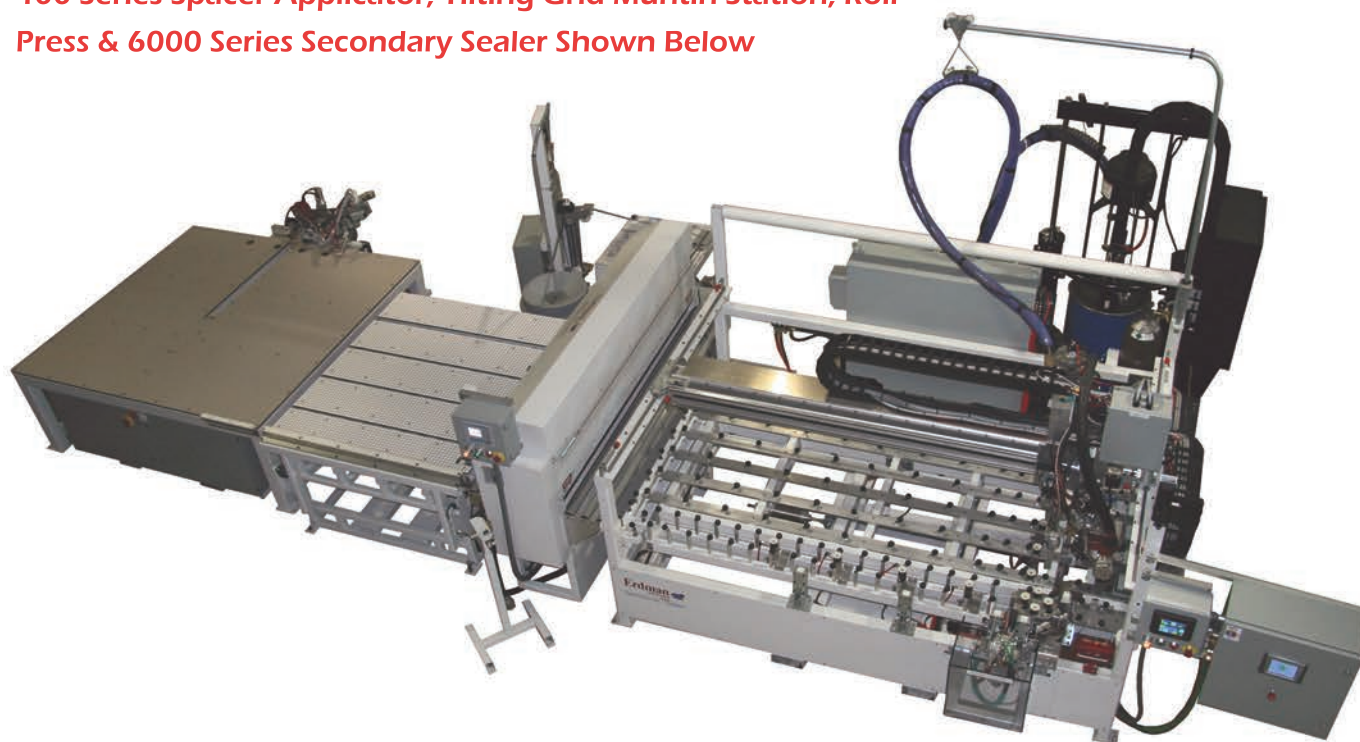
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ONE LITE AT A TIME

Glass Retrofit Options Begin to See Increasing Interest

By Megan Headley

THE NUMBERS: EMPIRE STATE BUILDING WINDOW RETROFIT

- On-site processing of the Empire State Building's 6,514 windows provided cost **SAVINGS OF MORE THAN \$15 MILLION** over the purchase and installation of similarly efficient new windows.
- Through reductions in use of air conditioning and heating, the windows should provide CO2 emissions **SAVINGS OF 105,000 METRIC TONS** in the next 15 years.
- Installation and manufacturing savings: **\$14.95 MILLION**
- Estimated annual energy savings: **\$410,000**

Source: Natural Resource Defense Council

Deep retrofits can make good business sense for building owners wanting to reduce the cost of utilities dramatically. And, while the upfront cost of reglazing can be a deterrent, some experts say it's a lack of education that is keeping more building owners from requesting your glazing services.

Others say it's the fact that there are newer, cheaper and less disruptive options available competing for this business.

INTEREST IS OUT THERE

Overall, retrofits are on the uptick.

"We are definitely seeing an uptick in inquiries regarding façade renovation," says Mic Patterson, vice president of strategic development with the Enclos Advanced Technology Studio in Los Angeles. "The early generation curtain-walls are now approaching 50 years old and older, and they were not particularly high performers to begin with."

"We are actually seeing a lot more people doing these," agrees Victor Olgyay, a principal with Rocky Mountain Institute in Colorado. "In the last six years or



53%

OF COMMERCIAL BUILDINGS IN THE U.S. STILL HAD SINGLE-PANE GLASS IN 2011.

so we really started to double-down on existing buildings and trying to demonstrate the amount of energy savings that is available in existing buildings.”

Steve Champlin, president of Thermo-lite Inc. in South Bend, Ind., has seen his supplemental interior window system earn increased interest in the last year. “This winter really woke people up,” he says.

January 2014 saw historic freezes in many parts of the country. Champlin recalled one Chicago building manager in particular who had been saying no to a window upgrade for years suddenly asking to install samples. “It’s an older building, built in the 1960s, with single pane glass and a lot of air infiltration at the openings. His systems were running 24 hours a day every day during the winter, and they really couldn’t keep up so a lot of pipes froze. This was the first time he had seen anything like this and he had been there for 26 years in Chicago,” Champlin says.

On the other hand, building owners who are already in touch with the sustainability movement see window upgrades as a next logical step. As Champlin points out, “A lot of building owners have already gone after the low-hanging fruit and now they’re looking at the more significant, substantial projects. Window retrofits are very effective and very cost-effective.”

It’s difficult to argue with the numbers when comparing the utility savings seen with today’s windows versus those of 20 or more years ago “When owners and tenants replace older, less energy-efficient window systems with today’s energy-efficient windows, building and unit values increase significantly and monthly energy bills go way down,” agrees Bill Jones, Eastern regional sales manager for EFCO Corp. in Monett, Mo.

By way of example, Jones cites a recent coastal condominium retrofit where his company supplied all of the doors and windows. “The homeowner’s association president told us their tenants’ monthly energy bills went down significantly and the average unit value increased by more than \$10,000 each within 90 days of completion. Regardless of building or project type, energy efficiency, cost sav-

Photo: Advanced Technology Studio of Enclos.



Enclos has been working on the renovation of the Jacob K. Javits Convention Center in New York, giving it a new high-performance glass façade.

ings and increased property value are a real impetus for change.”

Patterson, however, says that few building owners pursue the performance benefits of these windows. “What has driven the majority of façade retrofits to date is aesthetics, not performance; performance has yet to emerge as a prominent driver,” he says. “Building owners are interested in modernizing building appearance, often as part of a renovation program with the intent of bumping the building from a Class B or C to a Class A, with the goal of higher lease and occupancy rates. So they do a little research and consider the scope and cost of a façade retrofit, and often decide to exclude the façade from the renovation program, instead pursuing the low-hanging fruit, like new HVAC and mechanical systems, lighting and control systems.”

As the corporate push for sustainable buildings continues, and energy-efficient solutions become more affordable, building owners are increasingly looking to reach out to new solutions. Those made aware of the benefits to upgrading glass will have two options for pursuing these savings: a deep retrofit or secondary glazing.

HOLISTIC RETROFITS

A new guide on the topic from the American Institute of Architects and Rocky Mountain Institute (RMI), *Deep Energy Retrofits: An Emerging Opportunity*, explains that “planned roof, window and other major envelope replacements provide opportunities for significant improvements in daylighting and efficiency at minor incremental costs, providing the leverage for a deep retrofit that reduces loads and potentially the cost of replacing major equipment such as HVAC and lighting.”

“Deep energy retrofitting of the existing building stock, including the façade systems, is the most effective strategy to transform the problematic energy and carbon performance of the commercial building sector,” Patterson says. He adds, “There are significant barriers to the adoption of this strategy, however, including cost, disruption, risk and the split incentive conflict resulting from the owner paying renovation costs but the reduced energy savings going to the tenants. A strategy of appropriate incentives to motivate building owners to undertake deep energy retrofits combined

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ONE LITE AT A TIME

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“A LOT OF BUILDING OWNERS HAVE ALREADY GONE AFTER THE LOW-HANGING FRUIT AND NOW THEY’RE LOOKING AT THE MORE SIGNIFICANT, SUBSTANTIAL PROJECTS.”

—STEVE CHAMPLIN, THERM-O-LITE



Illustration by Courtney Shackelford

According to some manufacturers, many building owners have already tried upgrading the “low-hanging fruit” such as HVAC and lighting systems and are now looking toward more significant retrofit options, like windows.

with the implementation of more aggressive building code requirements could significantly accelerate the conversion of existing buildings.”

In many cases, building owners see the most benefit of a full glass retrofit when they are already seeking to replace their HVAC system.

That was the case with the well-publicized 2009 retrofit of the Empire State Building’s windows.

“It’s a lot about timing, especially when we’re making those large capital incentives,” Olgyay agrees. “One reason the Empire State Building worked out so well from a financial perspective is that if you took the windows as a separate item from the building, they had an [approximately] 17-year payback. Because it was being done in conjunction with various other improvements to the building ... we reduced the cooling loads enough to then downsize the investment in the central cooling equipment. We avoided \$17 million or so in capital cooling costs and that essentially paid for the windows.”

Champlin has seen this scenario play out time and again. “On buildings that are 30 or more years old, it might be time for a heating or air conditioning upgrade. For large facilities, many times [widow upgrades] are used to reduce the total demand on the building. So if there’s a 2,000 ton chiller [used now], they may instead put in a 1,500 ton chiller and the savings between the two would more than pay for a window retrofit,” Champlin says.

While this holistic approach to building retrofits can save money for building owners in the long run, it’s a new way for glazing contractors to make money since these building overhauls

are likely to use premium products.

Olgay says that timing is the key incentive for these full glass retrofits. "Time it right so [the owner is] not just paying for reglazing your whole building but also doing blast mitigation or other things that have to be done. If the building has to be resealed for some other reason or the curtainwall is at the end of life, then it makes a lot more sense to get the deep energy retrofit benefits," he says.

Of course, few glazing contractors are likely privy to information about when owners of older buildings are ready to upgrade their HVAC. However it is the job of building energy modeling firms to know exactly this and glazing contractors looking to specialize in retrofits can become valuable resources for these firms.

"We work with several," Champlin says.

Building modeling pinpoints where a building is losing the most energy and where upgrades can be most beneficial. According to Champlin, prices for these services are going down as more companies are offering these simulations, and more building owners are making use of them.

"You can easily swap in different window types," Champlin explains. Building owners can see their existing windows as a baseline then calculate the cost savings of new windows provided by your company to demonstrate how they can change energy consumption.

SECONDARY GLAZING

Other solutions have emerged for when the disruption of removal isn't an option or when existing anchors can't support the load of today's new products. Secondary glazing is becoming an increasingly popular way to upgrade windows and curtainwall alike.

"Other options, beside replacement, involve some form of over-clad strategy: adding a new skin atop the old one," Patterson says. "This can provide an excellent solution depending upon a number of often complex and interrelated vari-

ables, and holds the potential to reuse at least some of the existing materials. One form of over-clad is to add an outboard skin, actually creating a double-skin system with a cavity between the two skins that can act as an environmental buffer to the interior, or even be integrated into the building HVAC system."

When it comes to windows, rather than curtainwall, another picture emerges.

Champlin is the first to admit that when he came into the business of secondary glazing, "I was very skeptical of

what I heard ... I thought, '[Energy savings] from a storm window?'"

Not exactly.

"Usually you're installing a window on the interior of the existing window," explains Vincent Grieco, New York regional sales manager for Crystal Window & Door Systems in Flushing, N.Y. "That [new] window can be single- or double-glazed and it offers thermal efficiency as well as noise, dust or soot control." Crystal has supplied its prod-

continued on page 70

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ONE LITE AT A TIME

continued from page 69

ucts for this application in historic buildings. “They’ll use an actual vinyl window and because the building is historic you have to line up the window with the existing profiles to match the frame,” Grieco says.

“For buildings where [the owners] like the exterior design or for historic buildings where they really can’t change the look of the building or if it’s a high-rise where they don’t want to mess with taking glass out and maybe having it pop out—there’s a lot of reasons why interior windows work. We can build a frame on the inside and put a window system on the inside to make it look new from the inside,” Champlin says.

Grieco says historic buildings are the biggest market for this technology. “A lot of these historic or pre-war buildings are built with solid walls where you have 18-inch-deep jambs. You can put in a full 3 ¼-inch window and sit it on the interior without touching the exterior window. It’s quick, you don’t need an engineer, all you need to do is match up the sight lines. It’s pretty straightforward,” he says.

In many cases, this might be the simplest sell for a window upgrade, but not necessarily one the window replacement company is eager to promote.

“I think the glazing industry is geared against interior retrofits,” Champlin says.

And why not? After all, Champlin promotes the ease of his product to building owners as something that they can install themselves to significantly improve a window U-value for the fraction of a full replacement. But it’s an option that is gaining some traction and that glazing contractors will need to become familiar with as a competitive product.

Champlin explains the product’s benefits: “In an existing building, we won’t disrupt tenants, they don’t have to move. We can be in and out in under an hour, where in other cases you might have to relocate the person from the of-

fice and they rip out the whole window and you have to do it during certain times of the year.”

IT’S COMING

Both approaches have merit. Unfortunately, both also have drawbacks.

And as Patterson points out, the sustainability of going in and retrofitting dated curtainwall at the end of a set life cycle is a questionable practice. “Can we really afford to replace the façade systems of our urban high-rise buildings every 40 or 50 years?” he asks. “There are few options at this point; the die was cast when the façade systems were designed. But it’s worthwhile to consider how the façade systems we are designing and constructing today will adapt to the conditions of an increasingly uncertain future.”

In general, few curtainwall contractors are considering the building skin’s full life cycle

“Façade design practices typically do not anticipate and accommodate the need for a future retrofit,” Patterson suggests. “As a result, completely removing the entire façade system and replacing it with a new one is often the only viable option. This same problem holds with our current façade design practices as well. It is very possible that we continue to build problems for future generations of building owners and façade contractors.”

More manufacturers agree new products, from anchors to frame, are being adapted for simpler retrofits. But those solutions are still generally few and far between. Explaining the full benefits of a glass upgrade, including the ease of use for future retrofits, could be a way to help ensure glass gets on the drawing board as a means for significantly improving a building owner’s bottom line.

“I think the glass industry has been underselling itself,” Olgyay says. “There’s been a huge focus on the aesthetics of glass, but glass is a critical element in the building envelope and to show that it has multiple benefits is really something that hasn’t been advertised by the industry.”

Glass companies and glazing contractors need to continue to sell the full story, encouraging architects to look beyond the product as a simple piece to be installed in a larger puzzle.

“For example, you’ve heard the stories in hospitals about people healing more quickly when they have a view out their window,” Olgyay says. “Well, that’s a great benefit to the insurance industry and the insurance industry should be encouraging that. Similarly, the window industry should be espousing those non-energy cost benefits of windows: comfort, satisfaction, employee turnover, all of those things that then allow them to get to this higher performance. It’s a little bit of a harder story to tell.”

But this multi-angled approach should prove valuable to companies seeking to expand their market share by offering retrofit services.

Jones points out that these energy efficiency upgrades “translate into cost savings, increased property values and satisfied owners and tenants.” That’s the message to be spread, and there are plenty of places to spread it.

“According to the Department of Energy’s Building Performance Database, in 2011 53 percent of the commercial buildings in the United States still had single-pane glass,” Champlin says. “That’s where the market is.” ■

the author



Megan Headley is special projects editor for USGlass magazine. She can be reached at mheadley@glass.com.

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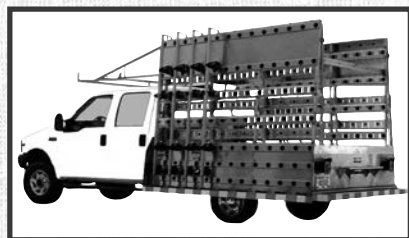
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Sound Advice

Ten Things to Know About Acoustical Testing

by Brian Stahnke and Douglas F. Winker



“You are the expert in the products you send in for testing. The lab staff should be experts in acoustical testing and accurately report testing results for the specimen provided.”

How well do you know your windows? If you have never tested them at an acoustical testing laboratory, you probably don't know them as well as you should. The information gained from acoustical testing is an essential part of architectural specifying and manufacturing and can have an impact on your clients' satisfaction, contracts and bottom line. Testing shows the acoustical performance of your window and easily identifies leaks and underperformance that can lead to unhappy customers and possibly legal actions. Typically, architects call for Sound Transmission Class (STC) ratings for windows and other

noise isolation partitions in buildings; these ratings come from an ASTM E90 test that can only be conducted in a test laboratory. In trying to satisfy ratings requirements, many manufacturers overdesign their products to ensure conformance. A series of laboratory tests with detailed results can identify components that can be modified or even eliminated to meet the needed performance. The end result could likely add up to significant cost savings for a product line.

So what do you need to know to get your money's worth out of acoustical testing? Following are some tips to ensure a successful acoustical test experience.

Select a Quality Acoustical Testing Laboratory

1 Use a testing laboratory that is third-party accredited to test to the latest requirements of a specific standard, such as ASTM E90. Examples of widely accepted accrediting bodies are the National Voluntary Laboratory Accreditation Program (NVLAP), the American Association for Laboratory Accreditation (A2LA), and the International Accreditation Service (IAS). Accreditation is a demanding but extremely important process for any testing laboratory. Accreditation is designed to guarantee that the laboratory has a quality program that helps assure results provided to you are verified, open to audit, and meet all requirements of the test standard. These accrediting bodies also ensure that all testing equipment is within current calibration intervals to ensure proper measurements. If you would like to know more about equipment calibration, you can ask to see laboratory accreditation and equipment calibration records.

2 Choose a lab with demonstrated quality procedures and oversight; accredited laboratories are independently verified to have well-documented testing procedures. This is very important as technical competence alone is not enough to be considered a superior

acoustical laboratory. A reputable quality policy ensures that staff is well trained and tests are repeatable and reliable. A good example is ISO 17025: 2005, a thorough and rigorous quality program. It is subjected to internal audits on both a scheduled and unscheduled basis. These audits are detailed and company management is required to follow any findings and resolutions. In addition, external assessors that are expert in the acoustical field visit each accredited laboratory biannually. The National Institute of Standards and Technology (NIST) ensures that these assessments are thorough, both from a documentation and technical basis. The unofficial slogan of "continuous improvement" is something that all testing laboratories should take to heart.

3 Pick your laboratory with care and foresight. Many acoustical testing laboratories test for both internal and external clients. Talk to the laboratory staff to confirm that they treat both internal and external clients in the

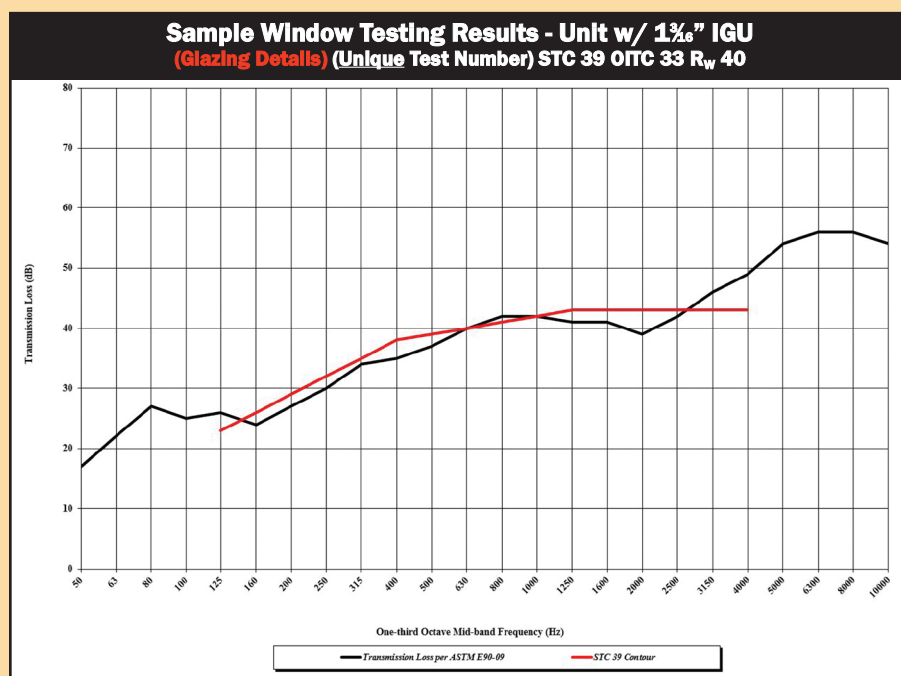


Testing laboratories will produce signals of more than 100 dBA to measure the specimen. This image shows the tunnel view from the source to receive reverberation rooms.

same manner; that is, the same level of service, integrity of staffing, and confidentiality of results are unmistakably maintained throughout the process. It is essential that all results and data are stored separately from other computer users to maintain control of this confidentiality. Accrediting bodies assure confidentiality of client results to protect your product. With strict controls in place, any experienced acoustical lab can function as an independent test facility for your needs. The performance of the products a lab tests should be just that — a metric that stands on its own irrespective of any specific job or past performance claims. This is the only fair and impartial way to test for all laboratory clients.

4 Select a lab where you are welcome to visit, participate in, and witness the test program. At the end of the program you should feel confident in the laboratory's capabilities and have a better understanding of the STC rating that your product received. Be sure to ask questions about any part of the testing process that you do not comprehend and expect a technical but understandable answer.

5 Ensure the lab's confidentiality program is verified by a third party. A top quality laboratory should have a vigorous, established confidentiality program. At all labora-



This graphical test example shows the results for a well-defined sample window specimen.

continued on page 74

Sound Advice

 continued
from page 73

tories, the information, data, and accredited reports are yours alone. You paid a fee for these testing services and you own the results. For your product's protection, make sure that the testing lab cannot discuss or disseminate in any manner these results to others without your prior written consent.

6 Know that the testing laboratory will produce signals of over 100 dBA to measure your specimen. This high level is needed to ensure test results are not biased due to facility limitations. Sounds used to test the products are closely controlled by the test standard, such as ASTM E90. Know that these test signals will not sound like something you'd expect (traffic, railroad, aircraft noise, etc.). The specific noise spectrum is designed to ensure that the fenestration product being tested is equally subjected to noise at all frequencies so that the specimen's acoustical performance strengths and weaknesses are ascertained without bias to the test signal.

Efficient and Cost Effective Acoustical Testing

Now that you've selected your test lab using the criteria above, below are a few tips to get the best return on your investment in the acoustical testing of your product.

1 Accurately describe the product to be tested. This is crucial to the credibility placed on the product by you and, ultimately, your clients. You are the expert in the products you send in for testing. The lab staff should be experts in acoustical testing and accurately report testing results for the specimen provided. Laboratory staff should be deemed proficient in the specific test methods you are requesting to guarantee proper measurements and precise results. It is the laboratory's responsibility to confirm independently as much informa-

tion about the products as is technically feasible. There should be no ambiguity in what was tested and what was reported. Sometimes the laboratory will seek your help with specimen information that is specific to your industry.

2 Request a detailed testing proposal that clearly defines the scope of work being contracted. Communication is key before the test program begins or is undertaken to ensure that everyone has the same understanding. The test proposal should cover all window configurations you anticipate testing, clearly define pricing, and allocate appropriate time for the test series. The test plan agreed upon by you and the laboratory should demonstrate knowledge and foresight by the lab on proper specimen handling and give you a clear point of contact for the day of testing. Having a formal proposal and agreed upon test plan make the entire test program much quicker and more efficient.

3 Provide testing specimens of the size requested and stated in the mutually agreed upon proposal. Most laboratories have specific window size test capabilities and deviations from the agreed upon size can delay testing your product. Efficient labs have specific sizes to increase throughput of test samples. Ask for the lab's specimen throughput and price advantages for multiple tests of the same size and type. Remember to supply all associated hardware for operation and set-up shipping/specimen return instructions. Good communication between you and the laboratory will ensure that test results are received in a timely manner.

4 Review, evaluate and approve test results individually. It is important to know that all test results apply only to the sample tested. The graph on page 73 shows the graphical test results for a well-defined sample window specimen; it is important to discuss anything you don't understand about the transmission loss curve

and test report with your testing laboratory. Remember that significant effort goes into testing before the test specimen arrives on-site. Quality assurance initiatives, calibration programs, and proficiency test programs ensure the test equipment is ready to use and the personnel are continually trained and provide exemplary service, which are all part of your window ratings.

Once you are onsite at your test lab, be patient and keep in mind acoustical testing involves much more than the time the data is collected. The pivotal part of a product test takes under 30 minutes in most labs once the test is set up. Much more time is normally spent on receiving the specimen, uncrating it, ensuring appropriate climate acclimation, properly mounting the specimen in the test opening, and sealing the specimen in place so as not to influence the results. These are all activities that are part of the final acoustical test. After testing is complete, laboratories can provide preliminary test results the same day. If final reports bearing the accrediting body's logo are requested, these should be available within two weeks.

These tips have been provided to aid in the selection of a quality acoustical test lab and help prepare manufacturers for cost-effective use of their test time on site at the acoustical laboratory.

Acoustical testing can be an expensive undertaking, but expenses can be minimized by selecting a credible acoustical testing lab and adequately preparing for the test in advance. In addition, quality test results can determine if you are overdesigning a product to pass industry standards; in which case, product designs may be revised to lower manufacturing costs.

the authors

Brian Stahnke is a laboratory engineer at ETS-Lindgren's Acoustic Research Laboratory.

Dr. Douglas F. Winker is the acoustics product line manager for ETS-Lindgren.



A Glance at OITC vs. STC Ratings

Almost all fenestration products provide both Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC) ratings, but the former is the inherited and informal standard—despite what might be its shortcomings.

While the range in which both ratings are calculated goes all the way to 4000 hertz (hz), there is a significant difference between the two on the lower end.

STC is calculated from 125 hz and up, while OITC uses frequencies all the way down to 80. Because of that, OITC is more precise as it encompasses a wider frequency range. And the lower-end of the spectrum is especially important when looking at sound transmission loss from the outside buildings to in. Hence the name.

According to information from Architectural Testing Inc., STC was created to provide a rating for interior building partitions subjected to mid- to high-frequency noises, such as speech and radio, while OITC was created to provide a rating for exterior walls, doors and windows subjected to low- to mid-frequency noises caused by cars, trains and airplanes.

Still, STC rules the roost in North America despite the advantages of OITC.

“The industry is somewhat split on this,” says Valerie Block, senior marketing specialist at Kuraray America Inc. “The proper use of the OITC would be to look at sound

transmission loss from outside the building to in. But everybody is very comfortable with STC, and, for most people, it’s the most commonly asked for form.”

Adds Kolbe & Kolbe product and marketing manager Lance Premeau, “STC is kind of just the general term used in the industry ... Most window and door manufacturers will report both, but in my opinion, people just associate with STC.”

OITC has, however, built somewhat of a presence in U.S. metropolitan areas. New York City for example has used OITC requirements in its building department regulations and technical manual in the last ten years.

“Basically there are parts of the city where there’s a certain sound attenuation requirement for people living in that area or working in that area,” says Block. “They made this transition (to OITC) because they knew they were looking at this relationship between outdoor noise and sound attenuation in inside space.”

According to a report, in 2011, most cities have “gradually made the transition from the STC metric to the OITC metric for building façade design evaluation,” but New York’s implementation of OITC in its technical manual is the “first time this design requirement has been officially prescribed.”

—Nick St. Denis

Differences Between STC and OITC Ratings

Calculated in accordance with...

STC: ASTM E413 (Originally published in 1970).

OITC: ASTM E1332 (Originally published in 1990).

Created to provide single number rating for...

STC: Interior building partitions that are subjected to noises from speech, television, radio, office equipment and other mid to high frequency noise sources.

OITC: Façades (exterior walls) and facade elements (windows and doors) that are subjected to transportation noises (aircraft, trains, automobiles, and other low to mid frequency noise sources).

Calculated over frequency range of...

STC: 125 to 4000 hertz.

OITC: 80 to 4000 hertz.

Calculated by...

STC: Comparing the measured sound transmission loss to a reference contour curve.

OITC: Subtracting the logarithmic summation of the transmission loss values from the logarithmic summation of the A-weighted transportation noise reference spectrum. ■

Source: Architectural Testing Inc.

NewsMakers

promotions

PGT Industries appointed **Jeff Jackson** president and chief operations officer. Jackson succeeds **Rod Hershberger** who will remain in his roles as chairperson of the PGT board of directors and CEO.

Jackson, who previously served as executive vice president and chief financial officer, joined PGT in November 2005 and helped lead the company's IPO in 2006.

Brad West will serve as the new CFO. He previously was vice president and controller, and joined the company in 2006.

Brett Danke was promoted to serve as director of manufacturing at Kolbe & Kolbe Millwork Co. Inc. He will work closely with the company's vice president of manufacturing, Keith Koenig, to oversee the company's manufacturing facilities in Wausau and its continuous improvement efforts.

For the past six years, Danke served as Kolbe's facility services manager responsible for inside and outside maintenance, electrical, machine shop and engineering areas. He joined the company in 2001 as a manufacturing engineer, advanced to senior process engineer and consulted as part of the company's continuous improvement team.

appointments

Quanex Building Products Corp. named **Michael B. Hovan** general manager of Mikron, its vinyl profile products division, effective June 2. Additionally, Hovan will continue to lead the company's marketing efforts.

Since 2011, Hovan has served as senior vice president of sales and marketing, for Quanex's Engineered Products busi-

nesses. Prior to joining Quanex, he served in various senior management positions for Lauren International Inc., from 1993-2011, including president of its Edgetech IG Inc. division from 2000-2011.

William Ostrander was appointed chief technology officer for Glass Apps. He most recently served as vice president and general manager at Citata US and will report to Thomas Lee, CEO.

Ostrander has both bachelor's and master's degrees in mechanical engineering from the University of Michigan

C.R. Laurence Co. Inc. (CRL) appointed **Jeff Phillips** as its sales and marketing director of interior office systems. Phillips has more than 28 years of industry experience, most recently at Dorma Interior.

Phillips holds a Bachelor's of Science degree in public affairs management and business from Michigan State University. He will be based out of the company's Los Angeles corporate headquarters.



Bob Lalonde

Fenzi North America announced it appointed **Bob Lalonde**, based in Montreal, Quebec, and **Joe Ruggiero**, based in Philadelphia, to regional sales manager and technical sales and service, respectively, for its insulating glass components business in Canada, the U.S. and Latin America.

"With Bob's extensive background in IG sealants, his knowledge and support to all his customers will prove invaluable as we move forward with our expansion

plans," says Fenzi general manager David Devenish. "The recent opening of our new warehouse in LaSalle, Quebec is the first step under Bob's direction."



Joe Ruggiero

Devenish adds, "The opportunity to bring Joe to our team for additional support in the U.S. was something all on our management team agreed upon immediately. Joe's extensive knowledge on two-component pumping equipment and the solid customer base he grew as a Bostik technician over 30 years fills a void in Fenzi's Northeast market."

new hires



Jason Pratt

Rockwell, Texas-based manufacturer and fabricator Columbia Commercial Building Products (CCBP) has named **Jason Pratt** as its new vice president and general manager.

Pratt will be in charge of the operations and management of CCBP's high-performance facility.

Prior to joining CCBP, Pratt was a general manager at Hartung Glass and also worked with Phillips Products, Traco and Silverline.



Frank Buchholz

Southern Aluminum Finishing Co. Inc. (SAF) hired **Frank Buchholz** as the branch manager of SAF Metal Fabrication in Villa Rica, Ga. Buchholz has 25 years of experience in fabricated metal products manufacturing, including a five-year stint at AGC with a focus on architectural metals. He will take on the general management of SAF Metal Fabrication.



Chris Cotton

appointments

Dlubak Specialty Glass Corp. named **Chris Cotton** as its new general manager. Cotton has almost 30 years in the industry and previously served as vice president of engineering for the company. He became an employee of the new Dlubak after Consolidated Glass Holdings (Grey Mountain Partners) purchased the assets of Dlubak Corp. last September. As general manager, he is responsible for all day-to-day operations as well as the strategic direction of the business.

continued on page 78



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MICHAEL MEASURE, BIRD-FRIENDLY GLAZING

Michael Measure is the Founder and Executive Director for the Fatal Light Awareness Program (FLAP). Through innovative research, FLAP provides resources and guidelines for architects, engineers building owners and managers to minimize bird-building collisions.



DWAYNE TORREY, THE DEVELOPMENT & HISTORY OF CSA A500

CSA Group is an independent, non-profit association dedicated to advancing safety, sustainability and social good. Join Dwayne Torrey, CSA Program Manager, Built Environment, for an overview of the stages CSA Group uses to develop a standard and the history of the development of CSA A500.

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NewsMakers

continued

Ralph Ignasky is the new engineering manager for Charlevoix, Mich.-based Wojan Window & Door. Ignasky brings with him more than 32 years of experience in the window industry.

His career in engineering has included positions in management, design and development, product testing and code compliance on both the commercial and residential sides. He's been with Wojan since the beginning of April.



Bob Cummings

Bob Cummings is the new southwest regional sales manager for Hartung Glass Industries. Cummings will work out of the company's Dallas location.

Cummings has more than 30 years of experience in the industry, spending long stints with Standard Bent Glass Corp. and PDC Glass & Metal Services in Pennsylvania and most recently with Guardian Industries and Vitro America.

At Hartung, Cummings' responsibilities will include architectural, commercial, decorative, and shower door sales for two locations in California, one in Texas and one in Colorado.

Blake O'Halloran is serving the Chicagoland market as the new business development manager for Chicago Heights Glass Inc. He will be responsible for both sales and business development in this region. O'Halloran has 25 years of selling experience and is a graduate of the University of Iowa with a bachelor's degree in marketing.



Blake O'Halloran

Walker Glass hired **Steve Morren** to serve as manager of market development for the Walker Textures architectural team. He will be responsible for promoting products in Ontario and upstate New York. He also will be responsible for developing and promoting the company's programs to OEMs across the U.S. and Canada. He has more than 30 years of experience in the glass industry, beginning in 1978 with PPG Industries.

In addition, **Julie Huelle** and **John Dunn** have also joined Walker's sales and architectural promotion team.

Huelle brings ten years' experience as a product representative specializing in glazing products. She is a California native and resides in the greater Los Angeles area. She will handle sales in Southern California, Arizona and Nevada.

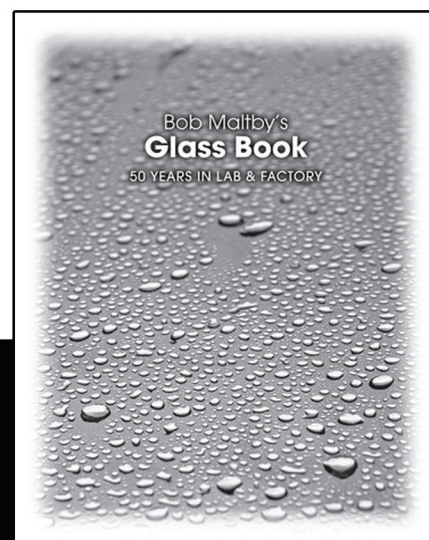
Dunn has more than two decades of experience in the window and window wall industry. He has worked for several manufac-

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turers, most recently with Custom Window of Englewood, Colo. He will be responsible for sales in Michigan, Ohio, Indiana, the Pittsburgh area, Kentucky and West Virginia.

Dave Potter has joined Monett, Mo.-based EFCO's corporate sales team. According to the company, Potter will work closely with customers, architects and EFCO independent sales agencies in the development of high profile and custom curtainwall projects.

According to the release, Potter is a seasoned veteran and has spent considerable time selling major projects and custom engineered projects.



Troy Lentner

Forel North America hired **Troy Lentner** as its service and parts manager. He will oversee the establishment of the company's service and parts program to support its growth in the U.S. and Canada.

He has nearly 15 years of production management experience with OCBE fabrication, in addition to corporate-wide initiatives and projects.



Toby West

Toby West is a new project manager at Metropolitan Glass in Denver. West is a Colorado native who brings seven years of project management experience. He began working for Enclos Corp. in 2008, where he worked in the positions of project coordinator and assistant project manager. In 2013 he became a project manager for Blocka Construction.

West holds a bachelor's degree in construction management from Colorado State University.

Obituary

Bill Enderle of Key Glass Passes Away



Bill Enderle

Bill Enderle, a highly valued senior estimator for Key Glass for 15 years, passed away May 26.

"Bill had the special talent to bring the vision of building owners, architects and contractors into reality by actively working to solve the many issues unique to each project," the company told USGlass magazine. "His work on these projects is something that Bill was very proud of and it is a legacy that will endure."

"Bill was also proud of the relationships he developed during his over 30 years in the construction industry. He was active in many construction organizations; a past president of CSI-Sarasota, The American Society of Professional Estimators-Tampa, the Gulf Coast Builders Exchange and the Association of Builders and Contractors." ■

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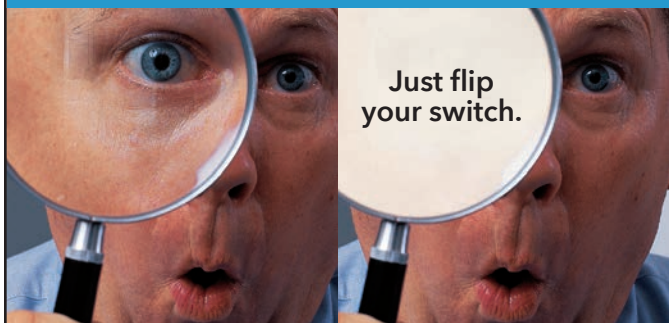


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Reviews & Previews

Get Ready for Auto Glass Week™

Auto Glass Week™ 2014 will be held October 7-9, 2014, at the Baltimore Convention Center and Renaissance Baltimore Harborplace Hotel in Baltimore, Md. Auto Glass Week is once again sponsored by the Auto Glass Safety Council, Independent Glass Association, National Glass Association, National Windshield Repair Association and **AGRR™** magazine, a **USGlass** sister publication.



Get your hands on the latest mouldings, urethanes, computer programs, tools and more at Auto Glass Week™ 2014.

The annual event will bring together all aspects of the automotive glass industry. Tools, mouldings, adhesive systems, automotive glass and more will be on display, discussed in seminars and incorporated within demonstrations and the two high-energy competitions, the Pilkington Clear Advantage Auto Glass Technician Olympics (AGTO) and the GlasWeld Windshield Repair Olympics in Honor of Walt Gorman (WRO).

In addition, the 2014 International Window Film Conference and Tint-Off™ (WFCT) is also set to take place October 7-9 at the Baltimore Convention Center in Baltimore, Md. Now in its 14th year, the annual event, once again sponsored by WINDOW FILM magazine, also a **USGlass**



The International Window Film Conference and Tint-Off™ is set for October 7-9 in Baltimore.

sister publication, will bring together all aspects of the window film industry. Architectural, decorative, security, automotive, paint protection films and more will be on display, discussed in seminars and incorporated within demonstrations and competitions. ■

To register or learn more, visit the event websites at www.autoglassweek.com and windowfilmmag.com/wfct



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October 6-9, 2015Vitrum 2015

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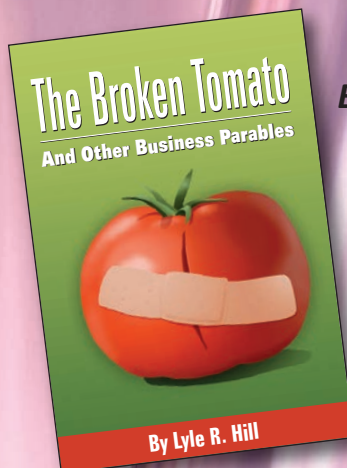
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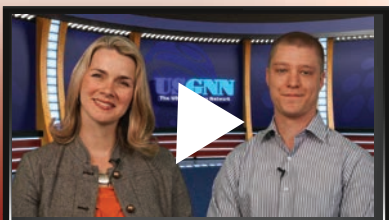
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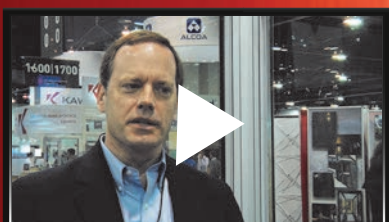


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theBusiness

Say What ... Part Two

by Lyle R. Hill

I reached for the phone half way through its second ring and offered up my usual salutation. The call came in the mid-morning of what had, at that point, been a very windy, rainy and dull day.

"So," the caller began in a somewhat gruff sounding manner, "are you da Lyle Hill dat writes for some magazine by the name of USGlass or do I got da wrong guy?"

"I think you have the right guy," I answered, "but could you maybe tell me your name?"

"Yeah sure, maybe I can tell you my name, but not until I knows I got the right guy. So let me ask ya, are you da guy who wrote dat article by the name of "Say What" in the September issue of USGlass or not?"

"Yes, that would be me," I replied. "Are you a regular reader of the magazine?"

"No, I never saw da thing before," he began, "but I was in the waitin' room at Loyola Hospital in Maywood, Ill., and picked it up and read dat article you wrote. You knows da one. It had dose little quotes in it. I think maybe you called them clickets or somthin' like dat."

"I think you mean clichés."

"Yeah, dat sounds right. Anyway, I read da article and I realizes in a flash me and you are exactly alike."

"Okay, I can see this is going somewhere, although heaven knows where," I replied, "but before we get any farther along, could you at least give me your name?"

"My name is Darby."

"I take it that's your last name. Would you mind giving me your first name or do you prefer I call you Mr. Darby?"

"Stumpy."

"Your name is Stumpy Darby? Your parents named you Stumpy?"

"Stumpy is my nickname. Da boys in the Forestry Department—you see, I worked for da city my whole life and just retired a few months ago—started calling me Stumpy after a tree we was cuttin'

down more or less, accidently of course, took out a lady's front porch and a car or two. Right after dat, I got transferred to the sanitation department and the nicknames dey hung on me over dere are not fit for printin' so I am just Stumpy, dat's all."

"Listen, I'm okay with whatever you want to say your name is, but can you now tell me why you called? Was it to complain about my article?"

"Not at all, Hill. After I read dat article, I realized dat we are like literary brudders, and so I just had to track you down. In dat article thing, you said hows you love little quotes and sayings and how you save dem and den organize dem. Well, me too. You see, all dos years I worked in the sanitation department—34 to be exact—I wrote down all of da sayings dat I thought was kinda good. Of course, most of dem came from my co-workers at da city. And I saved dem all—hundreds of dem—and den I organized dem."

"How did you organize them Stumpy?"

"By who said dem, Hill." Like I got a section for the teamsters, and another one for things said by the union stewards, and a really big section for things said by management cause you know they talk a lot, although I gotta tell ya, most of what they say doesn't make much sense."

"I see, Stumpy, and I take it you decided to call to share some of your collection with me because as you said, we are kinda like brothers."

"You got it, Hill. And den maybe we can like do a book together or somethin'."

"And I suppose we could call it *The Book of Famous Quotations* by Lyle Hill and Stumpy Darby?"

"Actually Hill, I was thinkin' my name would be first."

"Well, we can work out the details of that later. For now, let me hear a little sample of what you got."

"Okay, Hill, but I'm just gonna give you ten for now until we ne-

gotiate the book deal. So here we go ..."

1. *Just because my word means nothing does not mean it is cheap.*

2. *The greatest word in the English language ... overtime.*

3. *Never make a decision. It can only lead to trouble.*

4. *A job not finished today means work for tomorrow.*

5. *Money scammed is better than money earned.*

6. *A bottle of luck is worth a barrel full of wisdom and talent.*

7. *Silence makes no mistakes. A fish is only killed when it opens its mouth.*

8. *If you're going to sit in the truck all day doing nothing, always sit in the driver's seat.*

9. *Always take credit for things that get done – even if you had nothing to do with it.*

"So what do you think, Hill? Pretty good, right?"

"Well they are certainly interesting, Stumpy, but you said you had ten of them for me but you only read me nine."

"Yeah, I saved my favorite one for last, Hill. It was our department's motto actually."

"Go ahead, Stumpy."

10. *If you ain't stealing from the man, you're stealing from yourself.*

"So what do ya think, Hill? What do you say to dat?"

"Just one thing, Stumpy ... *don't call me, I'll call you.*" ■

the author



Lyle R. Hill is the managing director of Keytech North America, a company providing research and technical services for the glass and metal industry. Hill has more than 40 years experience in the glass and metal industry and can be reached at lhil@glass.com. You can read his blog on Wednesdays at lyleblog.usglassmag.com.

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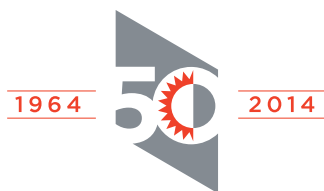
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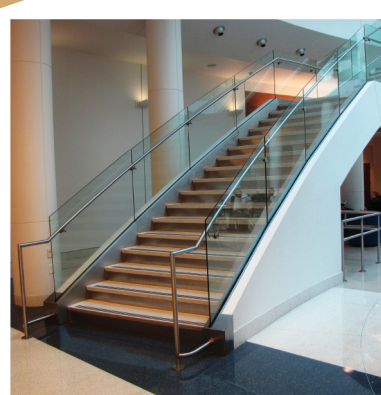
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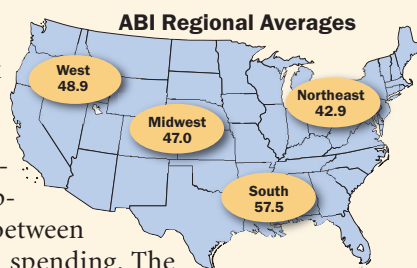
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Industry Outlook

ABI Scores Remain Low in April

The Architecture Billings Index (ABI) reverted into negative territory in both March and April. As a leading economic indicator of construction activity, the ABI reflects the approximate nine to 12 month lead time between architecture billings and construction spending. The



April 2013	April 2014
ABI Score	
48.6	49.6
New Projects Inquiry Score	
58.5	59.1

American Institute of Architects (AIA) reported the April ABI score was 49.6. Though up slightly from a mark of 48.8 in March, the April score still reflects a decrease in design activity (any score above 50 indicates an increase in billings). The new projects inquiry index was 59.1, up from 57.9 the previous month.

Uneven Pattern in Construction Spending 'Likely to Last'

For the third straight month, total construction spending rose at a modest rate in April, though Associated General Contractors (AGC) of America officials caution its recovery remains "fragile and fragmented" with an uneven pattern "likely to last." According to new Census Bureau data, the AGC analyzed that construction put in place in April totaled \$954 billion, 0.2 percent above the revised February total and 8.6 percent higher than in April of last year. The year-over-year growth so far in 2014 has exceeded the full-year increase of 5.0 percent recorded from 2012 to 2013.

▲ 4.4% for April	▲ 31% over 12 months
▼ 0.1% for April	▲ 5.6% over 12 months
▲ 0.8% for April	▲ 1.2% over 12 months

Dodge Momentum Continues to Climb

Following weather-induced declines in February and March, the Dodge Momentum Index is ascending, according to McGraw Hill Construction. The index, which is a monthly measure of the first report for nonresidential building projects in planning, gained 2 percent in May to 125.2 after a strong rebound in April and is now 17.6 percent higher than a year earlier.

The May index was bolstered by a 4.5-percent monthly gain in commercial planning projects, though it was

held in check by a 1.3-percent decline in institutional plans.

Dodge Momentum Index (Year 2000=100)

	April 2014	May 2014	% Change	May 2013	May 2014
Dodge Momentum Index	122.7	125.2	2.0	117.4	125.2
Commercial Building	128.1	133.9	4.5	113.1	133.9
Institutional Building	115.9	114.4	-1.3	122.6	114.4

Source: McGraw Hill Construction Dodge

AAMA Predicts Commercial Windows Slow to Bounce Back in 2014

The American Architectural Manufacturers Association (AAMA) released the AAMA 2013/2014 Study of the U.S. Market for Windows, Doors and Skylights. The annual report shows total window demand slowly will recover in 2014.

The nonresidential window market includes commercial windows, curtainwall and storefront systems. After several years of decline, the market is forecast to rebound at a relatively slow rate. The nonresidential market increased 9 per-

cent in 2013 and is expected to continue to increase in 2014 throughout 2017. Floor area of stores/mercantile buildings increased 14 percent during 2013, while offices, hotels and institutional buildings increased 10 percent. Among all buildings and regions, the West experienced the largest increase.

In 2014, demand for nonresidential (commercial) entry doors is predicted to increase at an accelerated pace and sustain growth through 2016.

The market for commercial skylight

units has increased 10 percent since 2012 and 20 percent since 2011.

The report provides details for geographic regions and commercial market segments, as well as framing materials, glass usage and configuration types. Historic data for 2006 through 2013 and forecast data for 2014 through 2016 are also included in the report. Forecasts are based on projections of construction activity as of March 2014.

► www.aamanet.org