

# Door Security + Safety

DHI'S PUBLICATION FOR DOOR SECURITY + SAFETY PROFESSIONALS

JUNE/JULY 2023



## Leading the DHI Family

**2023–2024  
DHI President  
Cortney Anderson Wascher**

### INSIDE:

- + WHAT CHATGPT KNOWS ABOUT DOORS, SCHOOL SECURITY AND SAFETY
- + DIVISION 10 INFLUENCES AND TRENDS
- + A GUIDE TO BALLISTIC PROTECTION
- + THE HAY-DAY OF HOSPITALITY
- + HOW TO CLEAN POLYCARBONATE SECURITY GLAZING

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**Chief Executive Officer**  
Cedric Calhoun, FASAE, CAE  
ccalhoun@dhi.org

**Director of Publications**  
Kristin Frankiewicz  
kfrankiewicz@dhi.org

**Editor**  
Al Rickard, CAE  
arickard@dhi.org  
703.402.9713

**Associate Editor**  
Alexandra Walsh  
awalsh@dhi.org  
301.523.3318

**Advertising Manager**  
Hallie Brown  
hbrown@dhi.org  
202.367.1229

**Design**  
tgdcom.com

## Media & Editorial Board

**Chair**  
Ginny Powell,  
Hager Companies

Steve Adams, DHT,  
HMF Express

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*Door Security + Safety* (ISSN 2577-0128 (online)) ISSN 2576-4608 (print). Copyright © 2023 by the Door and Hardware Institute is published nine times per year by DHI, 2001 K Street, NW, 3rd Floor North, Washington, DC 20006. Issues are published monthly except for combined issues in January-February, June-July, and November-December. Business and Editorial Offices: DHI, 2001 K Street, NW, 3rd Floor North, Washington, DC 20006. Accounting and Circulation Offices: DHI, 2001 K Street, NW, 3rd Floor North, Washington, DC 20006. Call (202) 367-1134 to subscribe. Periodicals postage paid at Washington, D.C. 20036, and additional mailing offices (if applicable). **Postmaster:** Send address changes to DHI, 2001 K Street, NW, 3rd Floor North, Washington, DC 20006. Email [publications@dhi.org](mailto:publications@dhi.org). Website [www.dhi.org](http://www.dhi.org).

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# TRANSITIONS AND TRENDS



**GINNY POWELL** is Architectural Specification Liaison at Hager Companies and Chair of the DHI Media + Editorial Board. Email: [gipowell@hagerco.com](mailto:gipowell@hagerco.com).

## AS DHI APPROACHES ITS NEW FISCAL YEAR STARTING JULY 1, 2023, THE ASSOCIATION WILL BEGIN ITS VOLUNTEER LEADERSHIP TRANSITIONS.

*Door Security + Safety* magazine is proud to feature 2023-2024 DHI President Cortney Anderson Wascher in our cover article on page 8. She has a distinguished career as a door security and safety professional and has volunteered with DHI and many other industry and governmental organizations. Her experience and expertise will serve DHI well during the coming year.

This time marks a transition for me as well; my term as Chair of the DHI Media + Editorial Board (M+EB) is concluding. I have been honored to serve on the M+EB during the past several years and thank all the members of the 2022-2023 M+EB. Our goal has been to provide excellent ideas and content for *Door Security + Safety* magazine and I know the good work of this group will continue under new leadership during the coming year.

In this issue we discuss industry trends, case studies and more. I encourage you to take time out of your busy day to explore this issue and share with your colleagues.

Everyone is talking about the rapid advance of artificial intelligence, which is permeating the digital world in ways few could have predicted just a few years ago. While programs such as the well-known ChatGPT have proven to be adept at synthesizing online information and writing cogent narratives about many topics, there are concerns about its accuracy. We "interviewed" ChatGPT in the article on page 14. Read what it had to say about doors, school security and safety. Is it coming for your job? We asked it that too.

Are you interested in the latest trends in premanufactured specialty products classified under Division 10 of the Construction Specifications Institute (CSI) MasterFormat? The article on page 21 delves into that area, including the role of user experience in driving new products.

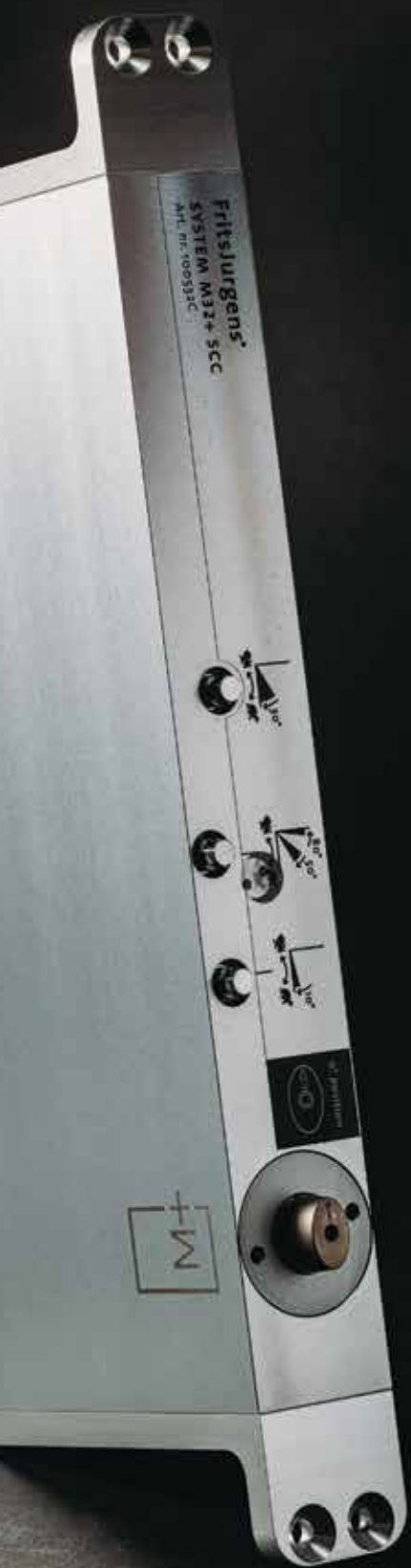
Ballistic protection continues to be a concern, and the article on page 26 explores bullet-resistant glazing and what safety and security it offers.

This issue of the magazine is also focused on hospitality, and we feature two case studies highlighting creative applications.

The Hay-Adams Hotel in Washington, DC, located just across Lafayette Park from The White House, has strict historic architectural requirements. Read how one company met this challenge and implemented creative solutions to improve the visitor experience and build a stunning rooftop meeting space. This article begins on page 32.

The Loews Kansas City Hotel in Missouri is another remarkable space, and this one displays a modern look. Learn how the architectural vision was brought to life with curtainwall, window wall, entrance and interior aluminum framing systems. The article begins on page 36.

Thank you for reading *Door Security + Safety* magazine. I wish you all a successful year ahead. +



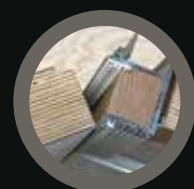
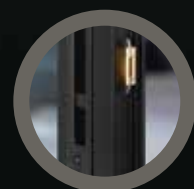
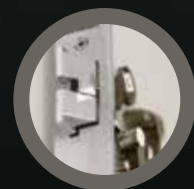
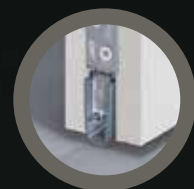
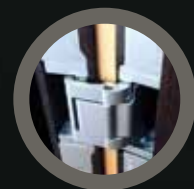
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## CHUCK RICHARD, AHC

**PRESIDENT, BUILDERS DOOR & HARDWARE, INC.**

*DHI MEMBER SINCE 2001*

### BE A FACE OF DHI WE'D LIKE TO GET TO KNOW YOU!

Volunteering to be a "Face" of DHI is a great way to expand your professional network. It allows *Door Security + Safety* readers to get to know you better and also gives you a chance to share your accomplishments and career highlights in our industry. Not ready to be a "Face" but know someone who is? Email Alexandra Walsh at [awalsh@dhi.org](mailto:awalsh@dhi.org) with your nominee. We'll take care of the rest!

#### WHAT WERE YOUR CHILDHOOD AMBITIONS?

I was involved in football, wrestling and baseball from age 6 through college. As a child, of course I thought I was going to be a professional athlete.

#### WHAT WAS YOUR FIRST JOB?

A paperboy at age 10. Up at 5 a.m. every day, bringing the daily news to my immediate five-block radius.

#### WHAT LED YOU TO OUR INDUSTRY?

I was born into it. Is there any other way? My brother and I are second-generation owners. I started as a warehouse assistant and truck driver in high school, then warehouse manager and counter sales, project management, estimating and detailing, and now president.

#### WHAT'S YOUR PROUDEST PROFESSIONAL MOMENT?

Maintaining, and constantly growing, our family business from one generation to the next. After 37 years, we continue to grow annually.

#### WHAT'S BEEN YOUR BIGGEST CHALLENGE?

Working with family certainly brings additional challenges to the daily workplace. Post-COVID, our biggest challenge is the wood door industry's lead times and unreliability.

#### WHAT'S YOUR GUILTY PLEASURE?

Jumping on the John Deere with a cold beer and my earbuds to cut a few acres of grass. Maybe sneak a few chips in while I'm out there as well.

#### WHAT'S YOUR FAVORITE BOOK/MOVIE?

"The Seven Habits of Highly Effective People" by Steven Covey and "Fight Club" by Chuck Palahniuk—a great book and movie!

#### WHO DO YOU CONSIDER A MENTOR OR HERO?

Mike Richard and Don Hinkle, the first-generation owners of Builders Door & Hardware, Inc. Both have molded me into the door professional that I am today. Working with them over the past 25 years has shown me what to do. At the same time, they showed what doesn't work and what not to do.

#### WHAT'S THE BEST ADVICE YOU'VE EVER RECEIVED?

"Do what you said you were going to do, when you said you were going to do it, exactly how you said you were going to do it." —L. Winget

#### WHAT'S THE BEST ADVICE YOU NEVER RECEIVED?

Get out of your own way. Spend your time and resources on the things that really matter. Nothing changes if nothing changes.

#### HOW HAS YOUR INVOLVEMENT WITH DHI SUPPORTED YOUR CAREER?

Coming up through DHI education and conferences was an excellent way to meet different distributors from different parts of the country. Benchmarking and seeing how others succeed in this industry is a must. Don't reinvent the wheel. Focus on serving your customers every day. We work for them.

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# Leading the DHI Family

Cortney Anderson Wascher began working in the door and hardware industry at age 11, and her love for the business grew ever stronger as she ascended to lead the company founded by her father in 1960. Now she will also lead DHI as its 2023-2024 President.

BY CORTNEY ANDERSON WASCHER



PHOTOS COURTESY OF CORTNEY ANDERSON WASCHER



Cortney stands next to antique keys collected by her grandfather that were first displayed in her father's locksmith store, representing the company's legacy.



Cortney (center) and her sister, Britt, at an Associated Locksmiths of America convention in 1984.



Cortney and her father, Gene Anderson, at an industry event.

## I am honored and humbled to take the helm of the Door and Hardware Institute as 2023-2024 President.

My first official participation in the door and hardware industry dates back to age 11 when my sister and I worked in the Anderson Lock Company booth at an Associated Locksmiths of America (ALOA) Convention.

As a member of DHI since 1996, I have attended numerous national conventions, training seminars and management workshops. In addition, I chaired the Host Committee for the Chicago DHI Convention in 2002 and have served on additional national committees.

After earning my bachelor's degree in economics from Vanderbilt University in 1995, I joined the Ingersoll Rand hardware sales team, first in Indianapolis at Von Duprin and later in Pittsburgh, working for an independent representative agency. Then, late in 1997, I returned to my hometown to work at Anderson Lock, the company my father, Gene Anderson, founded in 1960.

My dad was influential in developing my love of business and this industry. I learned about door hardware through osmosis from dinner table conversations and could relate business concepts learned in school to our family business. Many people work as interns for short periods, but I lived my internship for many years growing up and am so grateful for that experience.

The time I spent at Von Duprin allowed me to see the entire sales and manufacturing process. I trained in each aspect of the factory, including assembly,

polishing and technical support. Traveling with independent representatives from agencies across the country allowed me to network with industry professionals, many of whom I still connect with at DHI events.

Working in Pittsburgh as an independent representative gave me another vantage point of hardware applications. Our industry responds to ever-changing and often tragic events with innovative products that save lives. My meetings with architects, end users and distributors were opportunities for them to mentor me while I introduced new solutions to them.

I continued with on-the-job training, working as a member of Anderson Lock's hardware sales and marketing teams and even as a lock technician. I also took several DHI classes starting with the basics such as Architectural Hardware 1, 2 and 3 to DHI's current in-person and online offerings.

My DHI experiences, and my terms serving on industry advisory boards, introduced me to people and places I would not have otherwise known. And, although it was oftentimes difficult to be away from my young children for several days at a time, I feel the benefits outweighed the sacrifices.

Working alongside my father gave me an open door to apply my education and training to daily challenges. As a result, I began implementing my vision for widening opportunities for growth by becoming a provider of electronic access controls, doors and frames for new and existing

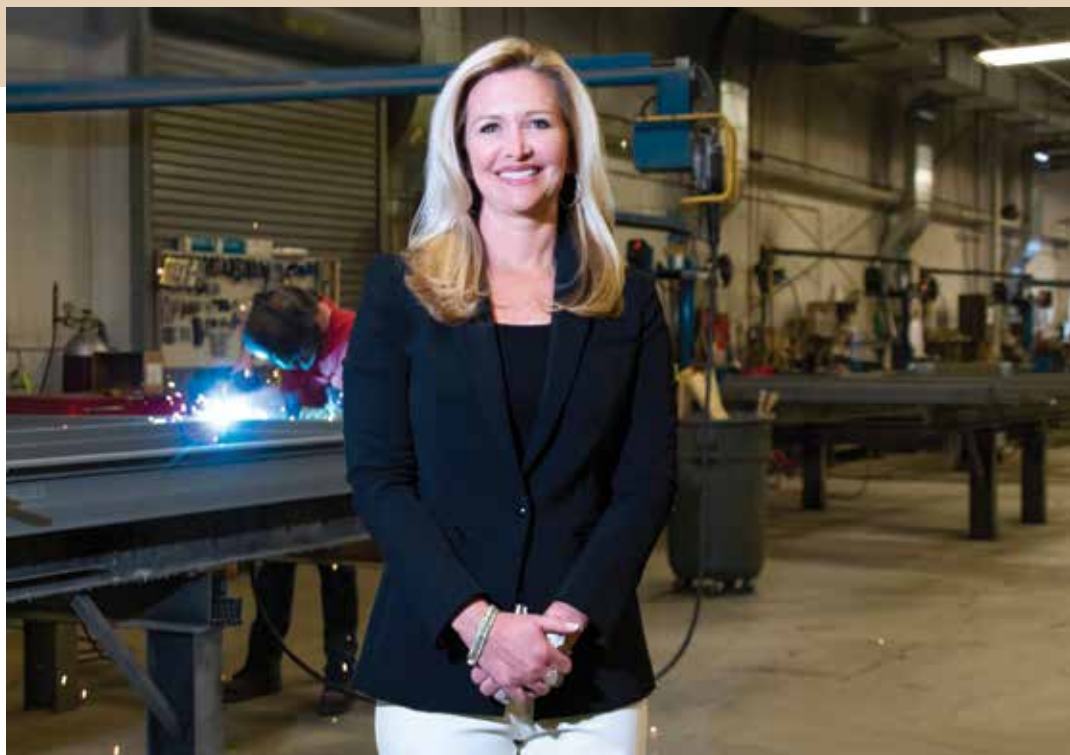
construction. I introduced new technology, processes and products but endeavored to keep the same family-friendly work environment. In the early 2000s, we opened our Door Division, managed by my husband, Devin Wascher, AHC, FDAI, making us a total openings solution provider.

When my dad retired, I was named president; soon after, I became an owner. We are now a certified WBENC (Women's Business Enterprise National Council), with two locations and more than 100 employees.

In 2017, I received the DHI Award of Merit, and in 2018, I was honored with a Builders Hardware Manufacturers Association Award of Excellence. I'm also a former president of the Des Plaines Chamber of Commerce and the local chapter of the National Association of Women in Construction.

Before being elected to the DHI Board of Governors, I also served on the State of Illinois Private Detective, Private Alarm, Private Security, Fingerprint Vendor and Locksmith Board within the Department of Financial and Professional Regulation. I was one of two locksmiths in Illinois appointed to this advisory board, which reviews cases brought before the state and makes recommendations for punitive action according to current laws and practices. I represented locksmiths and the door security industry on this critical advisory board from 2009 until 2021.

One of my passions is protecting consumers and the industry's reputation by helping to eliminate phony locksmiths who inundate the internet with faux business listings that link back to a call center and circumvent fire and life safety codes. As door and hardware



A welder fabricates a door frame behind Cortney in Anderson Lock's Door Division.

professionals, we have a great opportunity to protect others and our industry at large.

An even larger passion is my family. Devin and I have two children. Our son Will studies business at Texas Christian University (TCU), where he will be a sophomore. We became fans of the TCU Horned Frogs last year and hope for another fun football season! Our daughter Cathryn, an incoming junior at Prospect High School, plays golf and travel soccer. They have spent portions of their summers and school holidays working at Anderson Lock and helping to lead our Team Gene walk for amyotrophic lateral sclerosis (ALS).

My family keeps me grounded and gives my life balance as I continue to grow in my career.

### **Vision for the Future**

Our industry continues to evolve from primarily selling mechanical devices to electronic locking products, requiring more testing, training and installation time. Increased dependence on technology is transforming

traditional ways of doing business. Although keys will never go away, security is becoming more about collecting and analyzing data and integrating our products with third-party providers to support real-time alerts and facility lockdowns.

Staying up-to-date in the security and life safety sector is essential to serving our customers and communities. My mother, Teresa, taught school. Like her, I believe strongly in the value of education. Whereas most of the DHI classes I took were in person, often in another state, today's online offerings make technical training more accessible, flexible and economical. The internet allows us to access information in the fastest way possible. It gives us digital resources and materials with immense data and knowledge.

The technical skill set of new employees illustrates the paradigm shift in how they acquire knowledge because they are digital natives. The skills they contribute are new and will positively influence our industry.

**"My dad was influential in developing my love of business and this industry. I learned about door hardware through osmosis from dinner table conversations and could relate business concepts learned in school to our family business."**

Post-pandemic training reflects cultural trends toward doing (nearly) everything online. DHI's impressive expanded and updated educational offerings break the molds of yesteryear, appealing to young professionals and industry experts seeking the next level of learning, but wanting to take classes at their own pace and on their own schedule.

During the past few months, Fundamentals of Architectural Doors and Hardware (COR101) and Introduction to Building Codes (COR102) self-study courses were redesigned and relaunched; they currently lead our robust course catalog.

DHI continues to invest significant time and resources into our educational offerings. On-demand learning classes will appeal to employers looking to train industry newcomers. Like the classes mentioned above, DHI will invest in more self-paced course conversions this year; however, instructor-led online options and in-person class offerings will grow.

While I fully endorse online DHI courses and require all new Anderson Lock employees to complete COR101 and COR102, I also know I would not be who I am today without in-person classes, conventions and connections. I also encourage DHI members to support their local chapters and to attend off-site training and leadership summits whenever possible.

As I mentioned, demands are higher for electronic solutions. School security, in particular, continues to transform classroom security locks due to all-too-common school shootings. DHI recognizes the need for technical class offerings; however, not all



Cortney Anderson Wascher shown in Anderson Lock's expansive Door Division warehouse.



Cortney and Devin with their children, Will and Cathryn.

classes are appropriate to be held online. During the pandemic, our family noted the value of in-person education with our children. DHI acknowledges that not everyone learns the same way. Some skills and techniques are better learned through hands-on training.

Developing an understanding of codes and standards is essential for specifiers, suppliers, installers, and anyone who maintains doors, frames and hardware. DHI serves the life safety and security industry

by focusing on our commitment to educate, advocate, innovate and facilitate strategic paths forward.

Attracting and developing a new generation of industry leaders is becoming crucial for meeting the ever-changing demands of our industry. By offering step-by-step training courses that do not require prior experience, DHI helps develop and assimilate new talent. Knowledge empowers people, keeping them moving forward in their professional lives.

As veteran employees retire, it is essential that our industry becomes more proactive with onboarding, mentoring and retaining skilled workers. In addition, by leveraging education and the culture of caring deeply about maintaining codes and standards, we will improve security and life safety in all facilities.

DHI's rich legacy of door and hardware leaders who contributed their time and talents for the benefit not only of our industry but for the betterment of our society should be celebrated to inspire the next generation of certified professionals. DHI remains the gold standard for its class offerings and credentialing programs.

The best way to connect with past and future leaders is by attending meetings such as the DHI conNextions conference and trade show, which will be held in Boston, October 25-26, 2023. Another excellent opportunity is the DHI Management Summit, to be held July 19-21, 2023 in Colorado Springs.

I thank all volunteers who share their expertise and bring DHI to new heights. Like you, I am passionate about our industry. Our responsibility is to ensure that our environments are safe and secure.

DHI goes beyond "doorknobs and frame sticks." By elevating our image as cutting-edge solution providers with security and life safety expertise, I am confident we will attract talented, driven team members who will find meaningful careers in doors and hardware.

Our doors are open to a progressive future. I look forward to working with you this year. +

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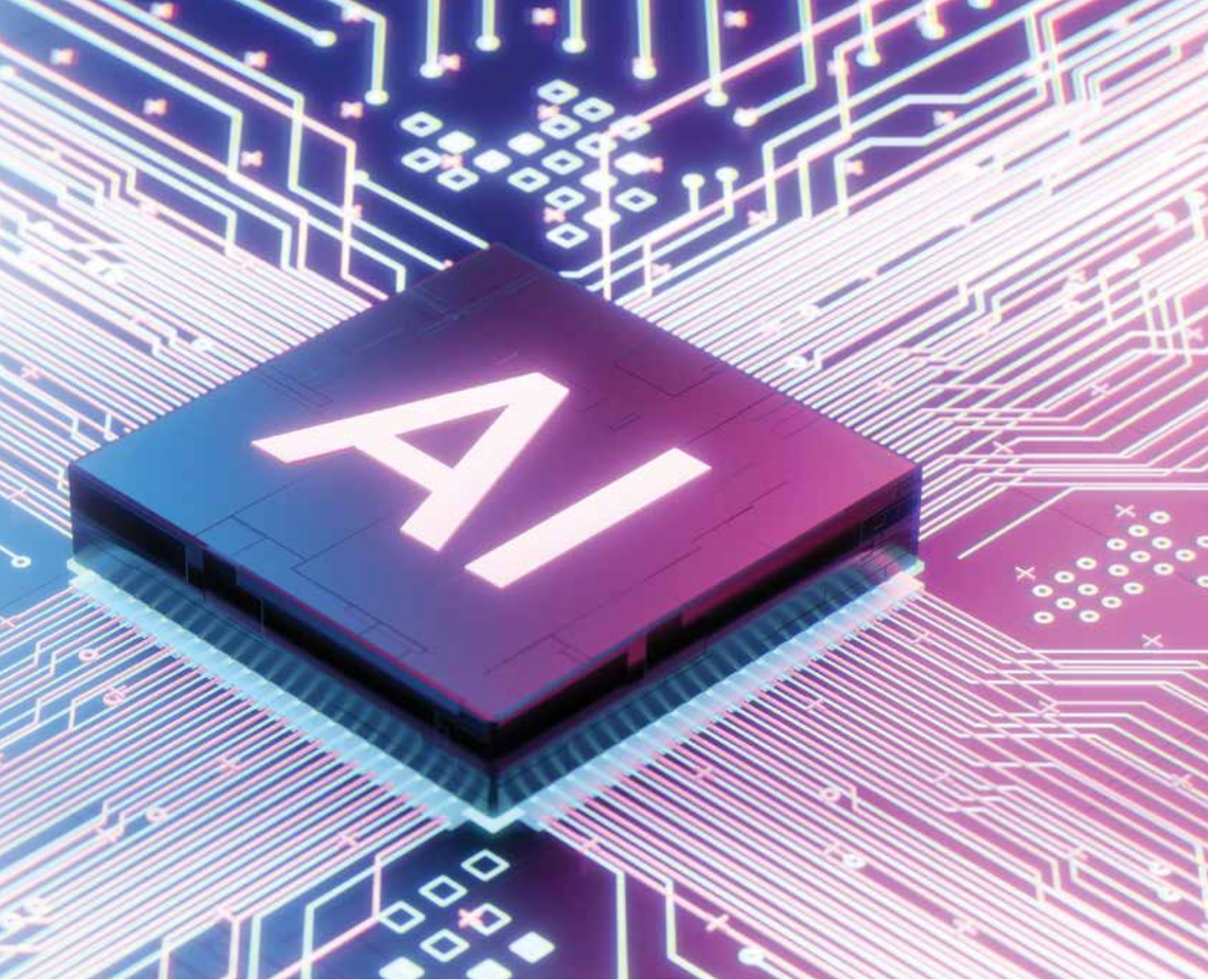
**CORTNEY ANDERSON WASCHER** is  
President/Owner of Anderson Lock  
Company. Email: [caw@andersonlock.com](mailto:caw@andersonlock.com).



# What ChatGPT Knows About Doors, School Security and Safety

BY AL RICKARD, CAE

Knowing the ins and outs of manufacturing and installing doors, hardware and security systems takes years of experience. In an interview, the artificial intelligence program ChatGPT provided some of the basics, but it's not coming for your job anytime soon.



Many people are talking about ChatGPT, the new artificial intelligence program that can write anything from a paragraph about your organization to a term paper. (Just don't tell your professor!)

*Door Security + Safety* magazine wondered what it might have to say about our industry, and school security and safety in particular. Here are a few prompts we gave it in a short interview.

**DS+S: Tell us about DHI door security and safety professionals.**


**ChatGPT:** DHI (Door and Hardware Institute) is an organization dedicated to advancing the art and science of door security and safety. They provide education, training, certification and advocacy for professionals in the industry, including architects, engineers, builders, contractors, and others who design, build and maintain doors and hardware.

DHI offers a range of programs and resources to help professionals improve their knowledge and skills in door security and safety. These include certification programs for door security and safety professionals, as well as education and training courses on topics such as fire and

life safety, security hardware, accessibility, and codes and standards.

DHI's members include manufacturers, distributors and service providers who are committed to delivering high-quality products and services that meet the highest standards of safety and security. They work with architects, builders and other professionals to ensure that doors and hardware are designed and installed properly, and that they meet all relevant codes and standards.

Overall, DHI plays an important role in promoting door security and safety and ensuring that professionals in the industry have the knowledge and skills they need to do their jobs effectively. If you are interested in door security and safety, or



“By investing in high-quality secure doors and locks, and by establishing effective security procedures, schools can help prevent unauthorized individuals from entering the building and can respond quickly and effectively in the event of an emergency.”

—ChatGPT

if you are looking for a professional in this field, DHI is a valuable resource to consider.

Not bad. We did note that in saying DHI members “work with architects, builders and other professionals to ensure that doors and hardware are designed and installed properly, and that they meet all relevant codes and standards,” it might have mentioned that DHI members actually *do* the installing. But it’s close to the mark, and it did mention meeting “all relevant codes and standards,” so kudos there.

Let’s move on.

### **DS+S: What are the major issues facing the door and hardware industry?**

**ChatGPT:** There are several major issues facing the door and hardware industry today, including:

1. *Security:* With increasing concerns about security, there is a growing demand for stronger, more secure doors and hardware. This has led to the development of new technologies and products, such as access control systems, smart locks and biometric readers, to help improve security.
2. *Safety:* Safety is also a major concern in the door and hardware industry, particularly when it comes to fire safety and accessibility. There is a need to ensure that doors and hardware meet all relevant safety standards, and that they are designed and installed properly to prevent accidents and injuries.

3. *Sustainability:* Many companies in the door and hardware industry are also focusing on sustainability and are working to reduce their environmental impact through the use of eco-friendly materials and manufacturing processes.
4. *Supply chain disruptions:* The COVID-19 pandemic has led to significant disruptions in global supply chains, which has impacted the availability and cost of materials and products in the door and hardware industry.
5. *Labor shortages:* The door and hardware industry, like many other industries, is also facing labor shortages, which has made it more difficult to find skilled workers and has led to longer lead times for projects.

Overall, these issues highlight the need for continued innovation and collaboration within the door and hardware industry, as well as a commitment to safety, security and sustainability.

We can’t argue with those. But it didn’t specifically mention school safety, so we prompted it with that next.

### **DS+S: How can doors and locks be used to enhance school safety?**

**ChatGPT:** Doors and locks can play an important role in enhancing school safety. Here are a few ways that they can be used to improve security:

1. *Access control systems:* Schools can install access control systems that require visitors to be buzzed in or use a card or code to enter the building.

This can help prevent unauthorized individuals from entering the school.

2. *Reinforced doors and frames:* Schools can install doors and frames that are reinforced to prevent them from being kicked in or forced open. These doors can also be equipped with locks that are difficult to pick or tamper with.
3. *Lockdown procedures:* Schools can establish lockdown procedures that include locking all classroom doors and turning off lights to make it more difficult for an intruder to enter the room. Locks that can be activated quickly and easily, such as push-button locks, can be particularly useful in this scenario.
4. *Security film:* Schools can install security film on windows and doors to prevent them from shattering if they are broken. This can help prevent intruders from entering the building and can also protect students and staff from flying glass.
5. *Panic hardware:* Schools can install panic hardware on doors that allows them to be easily opened from the inside in the event of an emergency. This can help ensure that students and staff can quickly evacuate the building if necessary.

Overall, doors and locks can be used in a variety of ways to enhance school safety. By investing in high-quality secure doors and locks, and by establishing effective security procedures, schools can help prevent unauthorized individuals from

entering the building and can respond quickly and effectively in the event of an emergency.

A good answer. Then we tested it with a more specific question:

**DS+S: How would you install doors in a school to meet applicable codes and regulations?**

**ChatGPT:** Installing doors in a school to meet applicable codes and regulations requires careful attention to detail and a thorough understanding of the requirements set forth by local, state and federal authorities. Here are some general guidelines to follow when installing doors in a school:

1. *Determine the applicable codes and regulations:* Before installing doors in a school, it's important to determine the

applicable codes and regulations that apply to your specific location. This may include building codes, fire codes, ADA regulations and other requirements.

2. *Choose appropriate door types:* Depending on the location and function of the doors, different types of doors may be required to meet applicable codes and regulations. For example, fire-rated doors may be required in certain locations, and doors may need to be rated for sound transmission or have certain levels of impact resistance.

3. *Ensure proper installation:* Proper installation is critical to ensuring that doors meet applicable codes and regulations. This may include proper hardware installation, proper alignment of the door and frame, and ensuring that the door operates smoothly and doesn't bind or stick.

4. *Consider accessibility:* When installing doors in a school, it's important to consider accessibility requirements for individuals with disabilities. This may include ensuring that doors have sufficient clear width, proper hardware and other features that make them accessible to individuals with disabilities.

5. *Test and inspect doors:* After installation, doors should be tested and inspected to ensure that they meet applicable codes and regulations. This may include fire door inspections, smoke seal testing, and other checks to ensure that the doors operate properly and meet all necessary requirements.

Overall, installing doors in a school to meet applicable codes and regulations requires careful planning, attention to detail, and a commitment to safety and



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accessibility. By following best practices and working closely with code officials and other stakeholders, you can help ensure that your school's doors meet all necessary requirements and provide a safe and secure environment for students and staff.

Interestingly, ChatGPT invites you to “regenerate” an answer using the same prompt, which yields a slightly different response along the same theme:

**DS+S: How would you install doors in a school to meet applicable codes and regulations? (Repeated)**

**ChatGPT:** When installing doors in a school, it's important to ensure that they meet all applicable codes and regulations to ensure the safety of students, teachers and staff. Here are the general steps to follow when installing doors in a school:

1. *Identify applicable codes and regulations:* Before beginning any work, you'll need to research and identify all applicable codes and regulations that govern the installation of doors in schools. This may include state and local building codes, fire codes and accessibility codes.
2. *Choose appropriate doors and hardware:* Once you know the applicable codes and regulations, you'll need to choose doors and hardware that meet those requirements. For example, you may need to select doors with a certain fire rating or install hardware that is compliant with accessibility standards.
3. *Ensure proper installation:* Doors and hardware must be installed correctly to ensure that they function properly and meet all applicable codes and regulations. This may require specialized installation techniques or the use of certain tools or equipment.
4. *Conduct testing and inspection:* After installation is complete, the doors and hardware must be tested and inspected to ensure that they meet all applicable codes and regulations. This may involve testing the doors

and hardware for fire resistance, or checking that they are properly aligned and operate smoothly.

5. *Maintain and repair doors and hardware:* Once the doors and hardware are installed and tested, they must be properly maintained and repaired as needed to ensure that they continue to meet all applicable codes and regulations.

Overall, installing doors in a school to meet applicable codes and regulations requires careful planning, attention to detail, and a thorough understanding of building codes and regulations. By following these steps, you can help ensure that the doors in your school are safe, secure and compliant with all applicable standards.

Then we threw it a ringer, prompting it to talk about using barricade devices:

**DS+S:** When should barricade devices be used in schools?

**ChatGPT:** Barricade devices should generally not be used in schools, except in very specific circumstances where there is no other viable option for securing a room or providing protection in an emergency situation.

The reason for this is that many barricade devices can create additional risks and hazards in an emergency situation. For example, a barricade device that completely prevents a door from opening could make it difficult for first responders to gain entry to a room in an emergency situation, potentially delaying response times and putting occupants at greater risk.

Instead of using barricade devices, schools should focus on implementing other measures that are more effective and safer, such as:

1. Locks that can be locked from the inside and opened from the outside with a key or tool, to ensure that first responders can gain entry in an emergency.
2. Door reinforcement systems that make it more difficult for doors to be breached or forced open.



3. Security film that can be applied to windows and glass doors to make them more resistant to impact and shattering.
4. Emergency preparedness training and drills for teachers and staff, so they know how to respond in an emergency situation.

By implementing these measures, schools can create a safe and secure learning environment while minimizing the risks and hazards associated with the use of barricade devices.

Very good, although it did say, “Barricade devices should generally not be used in schools, except in very specific circumstances. . .,” which is not what any door security and safety professional would say—there are no circumstances where barricade devices should be used.

We also tested its knowledge of life safety with this prompt:

**DS+S: What does life safety mean?**

**ChatGPT:** Life safety refers to the set of measures and practices designed to protect people from the risks of fire, smoke, toxic gases, and other hazards that can cause injury or loss of life. Life safety measures are intended to provide a safe environment for people to live, work and play in, and to minimize the risk of injury or loss of life in the event of an emergency.



In the context of building design and construction, life safety measures typically include things like fire alarms, sprinkler systems, fire-rated walls and doors, and emergency lighting. These systems and features are designed to provide early warning of a fire or other emergency, and to help occupants evacuate the building safely and quickly.

In addition to building design and construction, life safety also encompasses practices like fire drills, emergency preparedness planning, and training for building occupants and first responders. By taking a comprehensive approach to life safety, building owners and managers can help ensure that their facilities are as safe as possible, and that they are prepared to respond effectively in the event of an emergency.

An excellent answer. We closed by asking it this:

**DS+S: Can artificial intelligence replace humans in the door and hardware industry?**

**ChatGPT:** Artificial intelligence (AI) has the potential to transform many industries, including the door and hardware industry. However, it is unlikely that AI will completely replace humans in this industry, at least not in the foreseeable future.

While AI can automate certain tasks and processes, such as design, analysis and quality control, there are many aspects

of the door and hardware industry that still require human expertise and intervention. For example, human engineers and designers are needed to create customized solutions for specific projects, and skilled technicians are needed to install and maintain doors and hardware in buildings.

In addition, there are many social and ethical considerations to be taken into account when implementing AI in the door and hardware industry. For example, AI-powered security systems must be designed and implemented in a way that respects individual privacy rights and avoids discrimination.

Overall, while AI has the potential to improve the efficiency and effectiveness of the door and hardware industry, it is unlikely to completely replace humans in this field. Instead, AI is likely to be used in combination with human expertise to create innovative, safe and efficient solutions for building design, construction and maintenance.

Whew. +

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**AL RICKARD, CAE**, is Editor-in-Chief of Door Security + Safety magazine. Email: [arickard@dhi.org](mailto:arickard@dhi.org).

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# DIVISION 10

# INFLUENCES

# AND TRENDS





## User experience is driving the way forward.

BY MIKE DELIN

Whether it's for hotel guests, patients, students or staff, enhanced user experience is undoubtedly one of the main influences on trends in premanufactured specialty products classified under Division 10 of the Construction Specifications Institute (CSI) MasterFormat.

### Easier Cleanability

As product designers, we're accustomed to prioritizing customer or client needs when developing solutions for commercial interior spaces. But one recent evolution we've seen is an increase in prioritizing improved staff experiences. Recent labor shortages are likely a factor behind this focus. It's a drive to increase retention in competitive industries, or it's to show recognition that employee satisfaction is important for overall success. Those employees include cleaning and maintenance staff as well.

Calming imagery such as this mural in Shriners Hospital in Galveston, Texas, features complementary colors and touches on residents' sense of community pride and belonging.

PHOTOS: COURTESY OF CONSTRUCTION SPECIALTIES/SKYWORKS PHOTOGRAPHY

For example, cleaning staff in a variety of industries were already used to cleaning and sanitization schedules long before COVID-19. But frequency, time requirement and monitoring expectations all increased precipitously during the pandemic. Unfortunately, so did aesthetic damage to surfaces. While some of that has relaxed, it hasn't returned to pre-pandemic levels in all industries. Staff have been looking for ways to meet sanitation standards more efficiently with less resulting damage to surfaces.

One solution we're seeing is disposable curtains in certain health care settings. In critical care, isolation and emergency care areas, removing curtains and laundering them presents a risk of exposure to pathogens. It also may not be cost-effective in terms of time and the system needed to sanitize and return curtains to use.

Disposable curtains, as opposed to sterile-feeling vinyl, give patients the familiar and comfortable look of textiles. Some manufacturers offer disposable curtains that can be easily added to the recycling stream. Replacement curtains are stocked just like paper gowns, bed linens and other

items that are part of the normal room turndown process between patients or incidents.

Doors represent another opportunity to make staff lives a little easier. Typically, if a door is painted or powder coated, additional care is required. The correct cleaning solution, tools and methods are used to avoid damaging the finish. However, you can't always trust that cleaning specifications will be accurately conveyed.

Over the years, custodial staff turnover. Plus, well-meaning staff sometimes use whatever is at hand, or works at home, in a pinch. Another challenge is that doors with more deeply textured finishes—such as varnished wood—tend to be harder to clean. Therefore, they retain more oil or solvent residues.

To eliminate these concerns, manufacturers are offering door finishes that are resistant to bacterial growth (ASTM G-22-96 and ASTM G-22-2013), fungal growth (ASTM G-21-96 and ASTM G-21-2013) and common stains (ASTM D1308-93). They feature a shallow surface texture that hides scuffs and scrapes, but also

wipes clean without collecting oils and liquid residues. The door finishes can withstand normal, non-abrasive, commercially available cleaners. Unlike painted or varnished doors, the finish material holds up well to multiple cleanings. There is no discoloration or degradation in the design.

These finishes come in a variety of designs (including simulated woodgrain), patterns and custom graphic prints. Aesthetics do not have to be sacrificed for functionality. Some designs even facilitate finish panel replacements without having to replace the entire door.


### Flexibility

The pandemic also reinforced something that hospital facility planners learned decades ago in response to natural disasters: It is important to intentionally build spaces that can be repurposed for multiple uses, and can scale up or down based on patient load.

We witnessed hallways, waiting rooms, parking lots and custodial closets suddenly become valuable bed space or testing areas. During the height of the pandemic, it happened in health care facilities around the world. There is no better proof of the need for and value of that kind of spatial planning.

Installing curtain rails into the ceiling is a turnkey method for future flexibility. Designers have developed ways to incorporate curved or straight rails into a ceiling pattern. When an emergency hits and additional exam space is needed, staff simply hang curtains and continue to care for patients.

If additional conversational privacy is desired, sound-absorbing curtains are now commercially available. If not, a simple fabric curtain will give visual privacy or create walkways.



Door finishes that are resistant to bacterial growth, fungal growth and common stains feature a shallow surface texture that hides scuffs and scrapes and wipes clean without collecting oils and liquid residues. These finishes come in a variety of designs, including simulated woodgrain, patterns and custom graphic prints.



To enhance visibility into patient rooms, radiused bathroom walls were installed at the University of Virginia Hospital. Without a boxy corner obscuring the sightline, it's easier for staff to see in from their duty stations or as they make rounds. These radiused bathroom openings required curved doors that glide on a track following the wall's curve. Patients can easily close them for full privacy.

## Supporting Staff Efficiencies

As of April 2023, the country was experiencing a 4.4% unemployment rate following a 17-month period of unemployment at 5% or below. Recruiting and retaining sufficient capable staff to meet customer, client or patient needs has been difficult for an extended period. Design professionals are being urged to find ways buildings can help a smaller number of staff do their work well.

A recent expansion project completed at the University of Virginia Hospital is a good example. Architects envisioned replacing straight hallways with nontraditional angular hallways. The intention was to give patients more privacy and give staff easier access from duty stations.

Nursing staff were intentionally included in design conversations. They requested the ability to see into patient rooms without long walks. Saving a few seconds walking to a patient room, across multiple patients under care over a full-duty shift, adds up

to significant time for nursing staff. These professionals are under a lot of pressure during a normal work week, much less during periods with heavy patient loads.

The answer was introducing radiused bathroom walls in patient rooms. Without a boxy corner obscuring the sightline, it is easier for staff to see in from their duty stations or as they make rounds. These radiused bathroom openings required curved doors that glide on a track following the wall's curve. That means patients can easily close them for full privacy.

## More Privacy

There was a time when expectations of privacy were mostly limited to certain spaces such as patient exam rooms, attorney conference rooms or a manager's office for closed-door meetings. Today's digitally mobile workforce has made video conference calls the norm and co-working spaces common. These workers are seeking ways to have semi-private

conversations just about anywhere they can open a laptop.

Legacy room and floor layouts make that challenging. Headphones and wireless earbuds may provide privacy for one half of a conversation. However, the other half can still be intelligible several feet away or in another room. Depending on the microphone, noises outside a room easily bleed into Zoom calls as fingers hover over the mute button.

It falls to designers to find simple ways to drop sound bleed by a few decibels. One tactic is sound control doors. It can be cost advantageous and comparatively easy to replace existing doors with sound control doors for an instantly noticeable reduction in sound transmission.

Sound control doors are generally made with structural composite lumber (SLC) cores, or mineral cores for additional fire rating. Typically, they can be hung in existing door framing if the thickness matches.

Disposable curtains, as opposed to sterile-feeling vinyl, give patients the familiar and comfortable look of textiles.



These doors vary in Sound Transmission Class (STC) rating. A 30 STC rating will provide some privacy for low-volume conversations while reducing the distraction of conversations happening in the hallway or adjoining office. To provide privacy for normal speech—such that you cannot understand the conversation—an STC rating of 35 or higher is recommended. A door with STC 45 is the starting point for full privacy. Even a loud conversation becomes unintelligible in adjacent rooms. Manufacturers offer sound control doors in non-rated, 45-minute, 60-minute and 90-minute fire-rated versions.

For additional open-space situations or where multiple people use the same room, sound-absorbing curtains on a track provide a flexible and cost-effective solution. These curtains cannot block sound as completely as a door. Acoustical panels either sewn in or inserted into pockets within the curtains help to lower noise levels and muffle conversations.

Sound-absorbing curtains are especially effective in health care settings. Replacing standard curtains between hospital beds with sound-absorbing curtains can make a world of difference for patients, families and medical staff.

### Immersion in Cohesive Design

Manufacturers are taking strides to create finishes for walls, doors and other products that work together as a design system and offer complementary aesthetics.

If you've recently stayed in a boutique hotel, you may have noticed artwork from local artists or large-format images reflecting local culture, rotating artwork with the seasons or using cultural attractions on each floor to help guests remember which is theirs. Hotels are attempting to immerse customers in local flavor.

Immersive design is seen in assisted-living communities as well. These facilities provide designers an opportunity to create a sense of place for residents. They use visuals drawn from the area's familiar, beloved past and its exciting present. Calming imagery dovetails with complementary colors and other finishes. It touches on residents' sense of community pride and belonging and presents shared storytelling opportunities for friends and family to enjoy. Custom visuals on doors serve as memory touchpoints, as well as helpful wayfinding signage for residents moving about their day.

In both examples, all finishes in the building are seen as potential bonding

agents in a cohesive user experience. But it's also important that these finishes hold up to the high traffic and cleaning expectations of these spaces. Wall-covering products that use a thick, clear, PVC-free rigid sheet can cover a printed high-resolution image. Form and function are combined into one commercially suited interior finish.

Manufacturers support designers by looking at design trends across multiple product categories, such as paint and flooring. This forward-looking design approach makes it easier for designers to select finishes for an entire room. They can be assured the design will be coordinated and cohesive.

Whether their designs call for impactful color contrasts, custom visuals for wayfinding or curved doors for better patient outcomes, manufacturers best serve their customers by always looking ahead. +

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**MIKE DELIN** is the Business Development Manager, Interior Product Solutions, at Construction Specialties.  
Email: [mdelin@c-sgroup.com](mailto:mdelin@c-sgroup.com).

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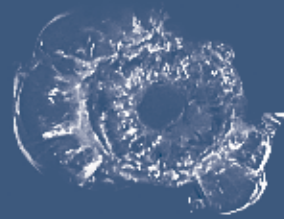


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# A GUIDE TO Ballistic Protection



Understanding bullet-resistant glazing is essential for security planning.

BY WADE ARNOLD, CSI, CDT

Security glazing is essential for ensuring the safety and security of people, buildings and property. It reduces potential threats and helps to prevent robberies, break-ins and other forms of intrusion.

Security glazing is often used in ballistic doors with stile and rail designs. It not only provides protection from attacks, but also the visibility to identify threats on the other side of the door.

Additionally, security glazing provides an extra layer of protection in storefronts, curtainwalls, punched windows and transaction systems. Educational, government, military, financial, corporate and health care facilities turn to security glazing to

fortify their building envelope from external threats.

No two buildings are the same. Every structure presents various and unique sets of risk factors that must be identified and addressed to maintain building safety. Buildings are designed in various shapes and sizes with different types of construction materials.

Bullet-resistant glass, also known as ballistic-rated or BR glazing,

also comes in various materials and configurations for different applications, rated based on threat levels.

It's critical to understand every project's individual characteristics when planning security programs. When the worst-case scenario has become a reality and shots are fired, you want to know your systems are functioning properly and providing the necessary protection.

The National Glass Association's "School Security Glazing Technical Paper, FB71-21," states "... bullet-resistant (BR) glazing is designed to resist penetration from a variety of firearm ammunitions. Bullet-resistant glazing provides an improved safety barrier against bullets and related flying glass or plastic fragments (spall or splinters)."

Glass-clad polycarbonate is arguably one of the strongest bullet-resistant glazing materials available.



A more accurate phrase than “bulletproof glass” is “ballistic-rated glazing.” No matter what the masses say, 1) every product has its limits, 2) there is no such thing as bulletproof and 3) glazing with less glass and more resins and plastics is done more than people think.

Examples of ballistic glazing include monocast acrylics, laminated polycarbonates, glass-clad polycarbonates and all-glass makeups. All of these have different strengths and weaknesses.

Acrylics and polycarbonates are half the weight but are not always more resilient. These plastics provide cost efficient options and shatter-resistance protection. In fact, acrylic has 10 times the impact resistance of some forms of glass, while polycarbonate packs 250 times the impact resistance.

### Acrylic

Monolithic polycast acrylic sheets are very common for security glazing applications. This type of glazing is one of the most common products in business applications requiring low-level ballistic protection.

Acrylic bullet-resistant products do not contain any actual glass. Therefore, acrylic is lighter than traditional glass products. It's also easily customizable. It can be cut, routed, drilled, polished and otherwise custom fabricated.

Colorless acrylic transmits visible light uniformly throughout the entire visible light spectrum. Clear acrylic is frequently used in interior applications. Tinted products are commonly used for openings facing the exterior.

In terms of ballistic resistance, tested and certified acrylic products can

protect against up to three 9mm rounds and up to three shots from a .44 Magnum.

### Polycarbonate

Polycarbonate is softer than acrylic. Polycarbonate BR glazing is a laminated system, which gives the product strength and accounts for its noticeable tint. Polycarbonate is lightweight and relatively easy to work with, even when installing various thicknesses.

An important item discussed in detail in this issue's Tech Tips (p. 44) is that polycarbonate requires a special cleaning process. Improper cleaning with soiled apparatuses or aggressive cleaning agents, including household window cleaner, can cause chemical attacks, scratch or deteriorate the polycarbonate makeup.

Depending on the thickness, tested and certified polycarbonate can also protect against three shots from a .44 Magnum. In addition to its bullet resistance, polycarbonate affords greater protection against forced-entry situations. Polycarbonate can withstand 15 minutes of consistent force from a sledgehammer that might breach acrylic in a matter of minutes.

In some cases, polycarbonate may be more expensive than acrylic or glass. This is why it's frequently laminated with other materials to reach necessary levels of ballistic resistance.

### Glass-Clad Polycarbonate

Glass-clad polycarbonate (GCP) is arguably one of the strongest BR glazing materials available.

GCP is two or more sheets of glass and polycarbonate laminated together with at least two interlayers of polymers. These polymers are usually polyvinyl butyral (PVB), ethylene vinyl acetate (EVA) or ionoplast. Think of a sandwich with multiple ingredients and condiments pressed together.

The interior polycarbonate sections provide excellent ballistic protection. The exterior glass protects the soft, vulnerable surface of the poly from scratches, cleaning chemicals and



penetration. Glass-clad products range in various thicknesses dependent on the level of ballistic protection required.

Fabricating glass-clad polycarbonate into a seamless system is challenging and energy intensive. However, it can be fabricated to greater thicknesses, offering higher levels of protection.

Glass-clad polycarbonate is tested and rated to resist anything from low-caliber handguns to high magazine rounds from semi-automatic weapons, while still combining protection for high risk, forced entry, blast and storm scenarios.

### All Glass

All-glass laminates are systems bonded together with one or more interlayers of resin. They are like glass-clad polycarbonates without poly interlayers.

During the laminating process, the multilayer glass is subjected to high pressure and heat inside of autoclaves.

This process ensures permanent adhesion of the different layers. It also allows for the creation of an integral unit with excellent optical quality, similar to a car windshield.

All-glass laminates are the heaviest ballistic-resistant glazing options and may pose installation and engineering challenges. All-glass laminates are used in interior and exterior applications to provide a wide range of ballistic-protection solutions. Like GCP, the scratch-resistant, nonporous glass surface is easy to clean and will not attract mold or bacteria.

### UL 752 Standards for Bullet-Resistant Glass

UL 752 is the most common ballistic protection standard in North America. Developed by UL Solutions, formally Underwriters Laboratories, this standard provides a benchmark framework for people who have the same expectations about BR glass.

The test determines whether “protection is provided against

complete penetration, passage of fragments of projectiles, or spalling (glass fragmentation) to the degree that injury would be caused to a person standing directly behind the bullet-resisting barrier.”
























In addition, UL 752 also states that after a test “there shall be no opening of sufficient size to permit insertion of the muzzle of a standard weapon designed to use the ammunition used for the test completely through the glass.”

This means no part of the bullet or firearm used in the test can pass through the glass after being shot. Furthermore, it also means the person on the safe side of the glass won’t be sprayed with flying glass shards, known as spall, if the glass experiences impact.

### Levels of Protection

The level of bullet resistance requested determines how much protection the glazing will provide based on the firearm, ammunition and the number

**THIS CHART SHOWS HOW DIFFERENT GLAZING RATING LEVELS RESIST BULLETS BASED ON THE FIREARM, AMMUNITION AND THE NUMBER OF SHOTS FIRED.**

RATING	WEAPON	AMMUNITION	WEIGHT (grains)	WEIGHT (grams)	MINIMUM FPS	MAXIMUM FPS	NO. OF SHOTS
Level 1	 Beretta 92 Compact	 9mm Full Metal Copper Jacket with Lead Core	124	8.0	1175	1293	3
Level 2	 S&W Model 686	 .357 Magnum Jacketed Lead Soft Point	158	10.2	1250	1375	3
Level 3	 Colt Anaconda	 .44 Magnum Lead Semi-Wadcutter Gas Checked	240	15.6	1350	1485	3
Level 4	 Ruger American	 .30 Caliber Rifle Lead Core Soft Point (.30-06 caliber)	180	11.7	2540	2794	1
Level 5	 Springfield Armory M14	 7.62mm Rifle Lead Core, Full Metal Copper Jacket Military Ball (.308 caliber)	150	9.7	2750	3025	1
Level 6	 UZI Submachine Gun	 9mm Full Metal Copper Jacket with Lead Core	124	8.0	1400	1540	5
Level 7	 Colt AR15	 5.56mm Rifle Full Metal Copper Jacket with Lead Core	55	3.56	3080	3383	5
Level 8	 Springfield Armory M14	 7.62mm Rifle Lead Core Full Metal Copper Jacket Military Ball (.308 caliber)	150	9.7	2750	3025	5
Level 9	 M1 Garand	 .30 Caliber .30-06 Armor Piercing Full Metal Copper Jacket	166	10.8	2715	2987	1
Level 10	 Barrett 82A1	 .50 Caliber Rifle, Lead Core Full Metal Copper Jacket, Military Ball (M2)	709.5	45.9	2810	3091	1
Shotgun	 Benelli M2	 12-Gauge Rifled Lead Slug	1.0 oz.	28.3	1585	1744	3
		 12-Gauge 00 Buckshot (12 pellets)	1.5 oz.	42.0	1200	1320	3

of shots fired. Every type of building within the construction design may need security glazing. This might include retail, recreational, offices, educational, places of worship, corporate, financial, government, military, etc.

**Level 1 Rating:** Provides protection from small caliber handguns up to 9mm and is often used for gas stations, transaction windows, retail/convenience stores and pharmacies.

**Level 2 Rating:** Provides protection from large caliber handguns up to .357 magnum and is commonly used in financial institutions such as banks, credit unions and check cashing businesses.

**Level 3 Rating:** Provides protection from large bore, large caliber handguns up to .44 magnum and is frequently specified in high-risk and high-occupancy public buildings, including school and government facilities, as well as law enforcement, courthouse and prisons.

**Level 6 Rating:** Provides protection from small caliber handguns up to 9mm as well. One of the main differences between Levels 1 and 6 is the number of shots per UL 752 standards.

**Levels 4-10 Ratings:** Provides protection against high caliber single-shot or semi-automatic rifle rounds. Levels 4-10 are normally utilized in embassies, government facilities and military applications.

**Shotgun Rating:** Provides protection from three single slugs or three buckshot 12-gauge shotguns.

### The Right Selection

Standardized testing and ratings for bullet-resistant glazing provide guidelines for protection levels in order to make informed specification decisions.

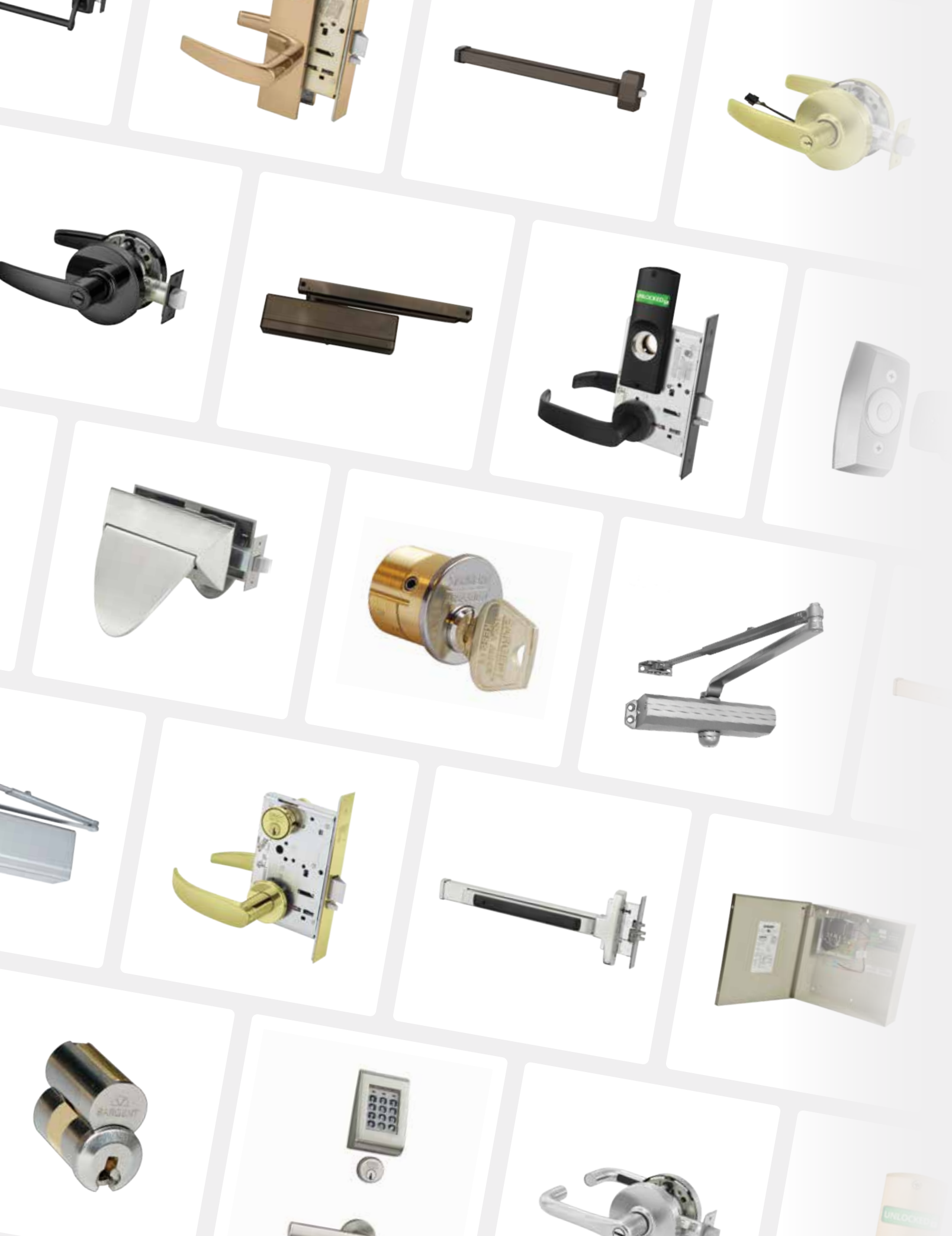
Security consultants uncover the most efficient and economical measures to safeguard a building. Proper risk assessments determine exactly which level of ballistic-resistant glazing an

organization needs by performing a thorough threat evaluation.

The UL 752 ballistic-resistance level and desired optical clarity, weight, budget and glazing pocket thicknesses are used to determine the final makeup of the BR glazing and specialized framing systems to protect the facility.

Consulting with security specialists ensures the glass, walls and framing match the security requirements necessary to keep people and property safe. +

**WADE ARNOLD, CSI, CDT** is the Commercial Sales Director at U.S. Bullet Proofing. Email: [warnold@usbp.com](mailto:warnold@usbp.com). Website: [www.usbp.com](http://www.usbp.com).





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THE HAY-DAY OF HOSPITALITY

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FRAMED IN KANSAS CITY

# The Hay-Day of Hospitality

*Custom opening solutions at the historic Hay-Adams Hotel in Washington, DC.*

BY NICHOLE BOTTINI

**"Nothing is overlooked but the White House." It's a fitting slogan for the Hay-Adams Hotel situated at the corner of 16th and H Streets in Washington, DC. The hotel is an anchor of the Northwest quadrant of the city and has hosted a long list of famous guests.**

The building is listed in the National Register of Historic Places, and all improvements, upgrades and renovations must be approved and remain consistent with the original design of the hotel. Nick Bottini, President of Comdor, LLC, provided the doors, frames and hardware for the renovations in the hotel from 2001 to the present. The most significant was the addition of the Top of the Hay event space in 2011.

### IF THESE WALLS (AND DOORS) COULD TALK

The Hay-Adams Hotel is situated atop the site of the homes of John Hay and Henry Adams. John Hay was the personal secretary of Abraham Lincoln and the Secretary of State under Presidents Theodore Roosevelt and William McKinley. Henry Adams, a descendent of John Quincy Adams, was a historian and Harvard professor.

The homes (built as a unified complex) were completed in 1885 and were the residences of both Hay and Adams until 1918. The building was then leased to the Brazilian Embassy.

While occupied by Hay and Adams, the complex hosted many prominent figures of the time for discussions of literature, politics and science. The complex was razed in 1927, with the intention of creating a 138-room hotel to be named the Hay-Adams.

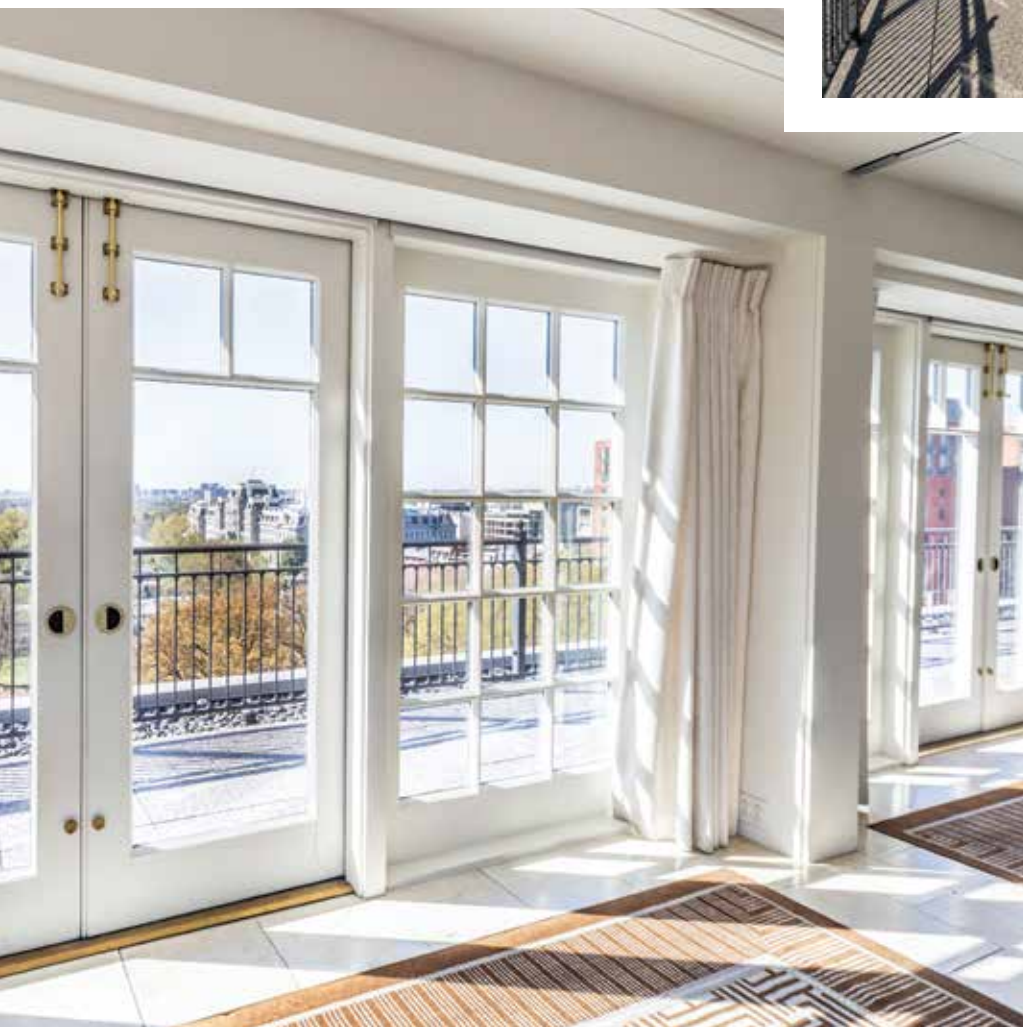
The hotel had the most luxurious features of the day: large suites, elevators and air conditioning. Ornately trimmed panel doors serve as the entrance to each guest room to match the many architectural embellishments of the hotel. The lobby doors are stained wood to match the paneling that was repurposed from John Hay's home.



### VIEW FROM THE TOP

The rooftop of the Hay-Adams is a desirable location for hosting events. It boasts an incredible view of Lafayette Square, the White House and the Washington Monument.

Prior to 2011, events were hosted on the gravel roof under lavish white tents. The



usability of this space was completely weather dependent. A change was needed to allow guests to utilize the space year-round.

The Top of the Hay was completed in 2011, to offer an all-seasons event space that featured the fantastic views the hotel is known for. A critical design element of this new space was

the ability to create the same open-air feel and sight lines allowed by the gravel rooftop. Just as important was a seamless cohesion with the existing hotel. Doors became an essential element of this design.

The perimeter of the space comprises divided lite doors, consistent with the historic divided lite windows of the

Above: Folding divided lite doors allow for an open-air feel and access to panoramic views of Washington, DC.

Left: Minimal brass hardware stays true to the finishes in the historic hotel but does not distract from sight lines to the White House.

floor below. The exterior hardware is unassuming and designed to blend with the doors to create the illusion of a fixed wall of windows.

Sliding systems were initially thought to be the solution to achieve an open-air feel. However, the sliding track that would be left on the floor would cause a tripping hazard.

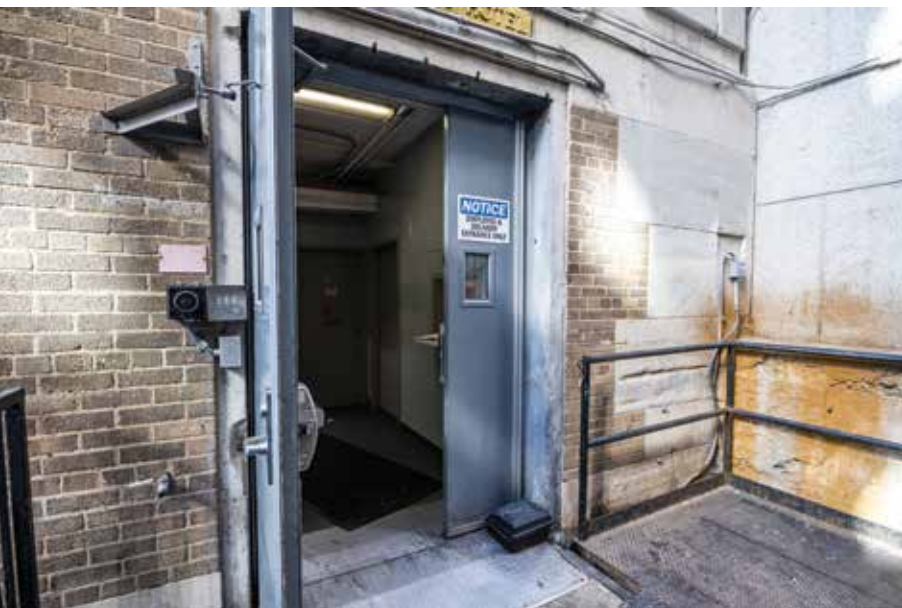
Bottini worked closely with the architect to create a one-of-a-kind folding door system. Several four-leaf openings are designed to fold back on themselves via custom-designed, wide-throw hinges. This creates large openings along the walls to mimic the feel of the open rooftop.

Inside, the hardware finish is brass, consistent with the finishes in the rest of the hotel. The doors have circular pulls and top surface bolts. Keyed bottom



Top: The high-traffic delivery opening is holding its own three years after much-needed upgrades.

Bottom: To meet the hold-open needs of this opening, a custom steel structure was created with a hook-and-ring holder and bumper.



flush bolts keep the hardware minimally imposing and allow guests to focus on the views. Divided mirrors on the interior walls reflect the views created by the doors, furthering the open-air aesthetics.

The hotel's chief engineer has been with the Hay-Adams since prior to the addition of the Top of the Hay, and spoke about the value it has added to the hotel and the importance of the folding openings. He indicated that most guests ask for all of the doors to be opened so the balcony and event space are one in the same.

## IMPROVING THE BACK OF THE HOUSE

The extremely high-traffic, back-of-house doors serve an important function at the busy hotel. They are the sole point of entry for deliveries from the narrow alley next to the hotel. Working with the existing masonry and steel-framed opening was a challenge, but the opening needed to be more functional for the Hay-Adams.

Prior to a much-needed upgrade, the flush unequal pair was fitted with a standard rim exit device and an electric strike in an aluminum box. The active leaf was narrow, causing delivery persons to always have to open both leaves when coming in with large carts of materials. The aluminum box around the electric strike was easily damaged by carts and trash cans. Bottini indicated that the electric strike was newly replaced, but previously the box took so much abuse, it was "literally hanging off the door" when the service call was made.

The door leaves were clumsy, held open by chains attached to railings on the exterior of the building.



*Bottini designed an exact replica of the existing openings using galvanized metal doors in lieu of the existing wood to ensure long-lasting function and durability.*



Staying consistent with the hotel's ornate design is important, even at the service closet openings. In addition, the two-panel metal doors are well-suited for heavy use by the hotel staff.

The steel plate below the doors had a curb in the middle, preventing carts from easily rolling into the hotel.

Bottini and the chief engineer worked together and used a lot of creative problem-solving to upgrade the opening and accommodate the high volume of deliveries. The existing frame was repaired to "like new" conditions in the field. This involved custom metal work and welding.

The unequal pair was replaced with a new unequal pair. The active leaf was significantly wider than the previous, eliminating the need to open both leaves for larger deliveries. Vision lites were added with insulated glass to prevent fogging due to the high humidity in the spring and summer.

Bottini and the installer designed a custom threshold that meets the requirements of the Americans with Disabilities Act. The threshold covered the curb and allowed carts to easily roll into the area. A custom reinforced steel box was fitted around the existing electric strike. In addition, a weatherized exit device with an angled end cap was installed to prevent damage from carts.

The chief engineer indicated that holding the active leaf open was still

essential to accommodate deliveries. This was solved with a custom hold-open mechanism. A steel structure was fixed to the exterior with a bumper and a hook-and-ring holder.

The changes are proving worthwhile. A brief visit to the loading dock revealed a steady stream of produce, laundry and linens rolling in with ease.

### DOOR UPGRADES

Guests and staff walking the halls of the Hay-Adams are treated to beautiful paneled doors with custom trim. Their appearance matches the elaborate aesthetics of the hotel at the guestroom entrances.

However, the service closets along the halls held a lackluster flush door with an aggressively large armor plate. The service closet doors can be seen from the hallways lined with the custom guestroom doors. Once again, an upgrade was needed.

These high-use openings house ice machines, room service carts and have access to the service elevators. Bottini suggested a metal two-panel door as a solution. The new openings complement the other doors in the hallway as they mimic the two-panel design of the guestroom doors. The metal doors in

these service closets are also more suited to sustain heavy use by guests and staff.

### ROOM FOR MORE

Door and hardware upgrades are far from finished at the Hay-Adams. Bottini and the chief engineer continue to work together and put creative problem solving to work.

The flush stairwell doors are due to be replaced with the same two-panel metal doors matching the service closets. The result will further streamline the appearance of the hallways.

The Top of the Hay folding doors have held up surprisingly well in the 12 years since they were installed. However, as they are wood, their expiration date draws closer every day. Bottini designed an exact replica of the existing openings using galvanized metal doors in lieu of the existing wood to ensure long-lasting function and durability.

All this preserves the historical integrity of the Hay-Adams Hotel and its commitment to providing luxury experiences for guests. +

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**NICHOLE BOTTINI** is Project Accountant at COMDOR LLC.  
Email: [nicholeb@comdor-dist.com](mailto:nicholeb@comdor-dist.com).



Cooper Carry's design of the Loews Kansas City is brought to life with Tubelite's curtainwall, window wall, entrance and interior aluminum framing systems.

## Framed in Kansas City

*The Loews Kansas City Hotel features curtainwall, window walls and aluminum framing systems.*

**BY BRIAN TOBIAS, LEED® AP**

The Loews Kansas City Hotel in Missouri is the first full-service luxury hotel to open in the city's downtown in more than 30 years. Rising 24 stories and encompassing 800 rooms, its crisp, modern, minimalist look was designed by Cooper Carry. That design was brought to life with Tubelite's curtainwall, window wall, entrance and interior aluminum framing systems.

One of the company's largest completed projects to date, the Loews Kansas City features approximately 122,000 square feet of Tubelite systems.

One of Tubelite's largest completed projects to date, Flynn Midwest LP installed approximately 122,000 square feet of Tubelite systems. All of Tubelite's aluminum framing was finished by Linetec in an Arcadia Silver color on the exterior.

The aluminum framing on the interior featured multiple paint and anodize finishes. The finished aluminum was paired with Viracon's VRE1-38, VRE1-4322 and VNE1-63 high-performance low-e products, all on a clear glass substrate. Archon Fenestration Technologies, LLC, served as the local manufacturers' representative assisting with glass and framing product selection, specifications and coordination.

### **CURTAINWALL TOWER**

Providing a visual landmark within the Kansas City skyline, the hotel's corner tower displays the red Loews' brand signage against a silver-reflective glass backdrop. The signature feature wall tower showcases Tubelite's 400IG series (inside glazed) curtainwall with 7-inch-deep tapered face caps. Engineered as an interior-glazed system, the curtainwall's offset glass pockets, removable glass stops and roll-over horizontal members save time and labor during installation.

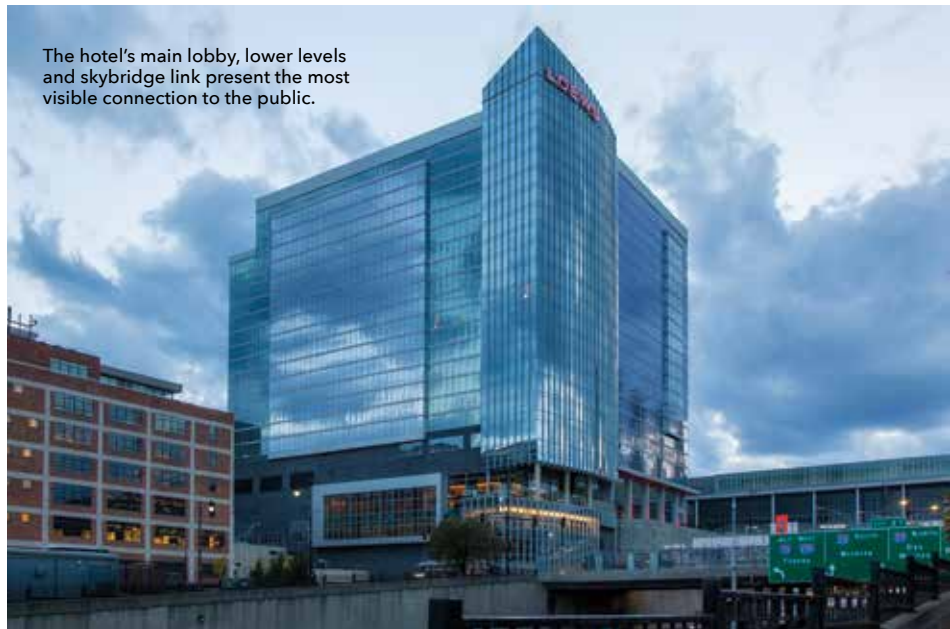
On the tower, Viracon's 1-inch insulating VRE1-38 glass achieves a 45% exterior reflectance and a solar heat gain coefficient (SHGC) of 0.23.

"In the majority of the hotel rooms and meeting areas, Viracon's VRE1-43 complements the overall aesthetic with a 25% exterior reflectance and a 0.22 SHGC. The glass is utilized in conjunction with Tubelite's 2.25-by-6-inch

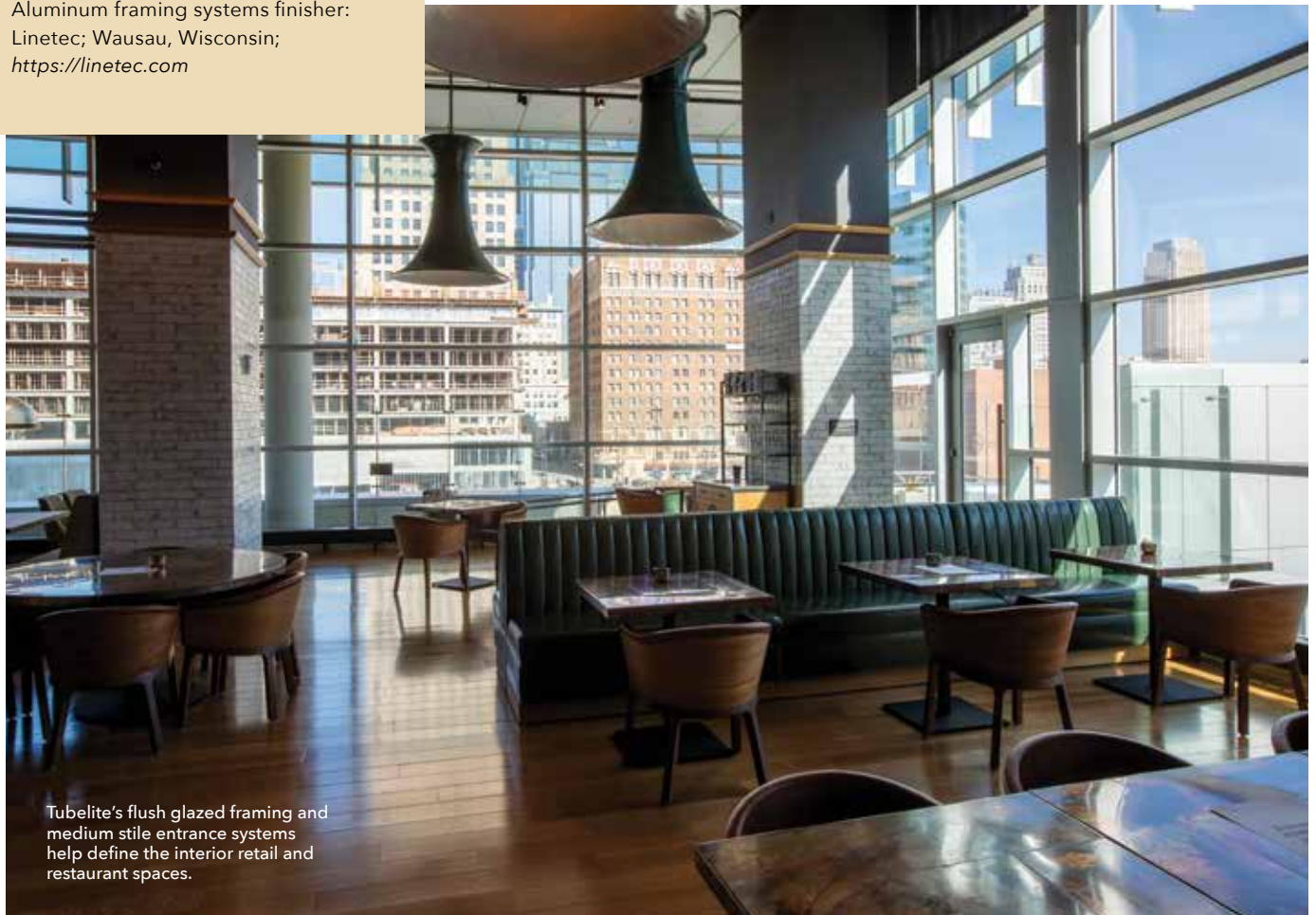


## RESOURCES

- Owner: Loews Hotel & Co; New York;  
[www.loewshotels.com](http://www.loewshotels.com)
- Owner: KC Hotel Developers LLC;  
Kansas City
- Architect: Cooper Carry; Atlanta;  
[www.coopercarry.com](http://www.coopercarry.com)
- General Contractor: J.E. Dunn  
Construction Group, Inc.; Kansas City,  
Missouri; [www.jedunn.com](http://www.jedunn.com)
- Glazing contractor - exterior framing  
systems: Flynn Midwest LP, a member  
of the Flynn Group of Companies;  
Kansas City, Missouri;  
<https://flynncompanies.com>
- Glazing contractor - interior framing  
systems: AGP, Inc.; Grandview, Missouri;  
<http://agpglassinc.com>
- Glass fabricator: Viracon; Owatonna,  
Minnesota; [www.viracon.com](http://www.viracon.com)
- Curtainwall, window wall, entrance and  
interior aluminum framing systems -  
manufacturer: Tubelite, Inc.; Walker,  
Michigan; <https://tubeliteinc.com>
- Aluminum framing systems finisher:  
Linetec; Wausau, Wisconsin;  
<https://linetec.com>



The hotel's main lobby, lower levels and skybridge link present the most visible connection to the public.



Tubelite's flush glazed framing and medium stile entrance systems help define the interior retail and restaurant spaces.



Curtainwalls in these high-traffic areas make a lasting impression.

900RW Series Thermal=Block® Window Wall system with split mullions to facilitate pre-glazed panels for expedited installation,” Doug Ulrich, President of Archon Fenestration Technologies, says. “Together, the high thermal performance glass and aluminum framing products keep guests comfortable and support the hotel’s energy-efficient operations.”

## LIGHT AND VIEWS

Entering through Tubelite’s wide stile entrance systems, visitors are greeted with natural light during the day and vibrant views at night. The interior scope of the project, installed by AGP Inc., features Tubelite’s INT45 interior flush glazed framing and medium stile entrance systems. They help define the interior retail and restaurant spaces.

Whether sipping a drink at the Horse Feather Social, dining at The Stilwell or crossing over to the convention center, the hotel’s main lobby, lower levels and skybridge link present the most visible connection to the public. All of these high-traffic areas rely on Tubelite’s 400CW series curtainwall with framing members up to 10 inches deep, supporting Viracon’s insulating VNE 1-63 glass. The result creates a welcoming and lasting impression.

## ENERGY EFFICIENT

Contributing to Loews Kansas City Hotel’s high-profile appearance and high-performance attributes, Linetec finished Tubelite’s aluminum framing, as well as provided poured-and-debrided ultra-thermal barriers.

The thermal break separates and insulates the framing to reduce conduction and condensation, supporting the hotel’s energy efficiency and its guests’ comfort.

## PAINT AND FINISH

On the hotel’s exterior, Linetec applied a 70% PVDF resin-based Duranar® architectural paint coating in Arcadia Silver. On select aluminum interior framing members, Clear, Dark Bronze and Black Class I anodize finishes were specified.

Minimizing both interior and exterior maintenance, the finished metals’ durability saves time and labor throughout the building’s lifespan. At the end of the aluminum framing systems’ long life, it can be recycled and reused as future architectural products and other materials.

After nearly two years of construction, including the challenges of building during a pandemic, The Loews Kansas City Hotel opened in June 2020. Anticipating the opening, Hotel Manager Brian Johnson said, “The quality of this building is more than what was promised.” +

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**BRIAN TOBIAS, LEED® AP**, is Senior Manager of Product Strategy at Tubelite Inc. and its aluminum-framed storefront, curtainwall, entrances and daylight control systems.  
Email: [dependable@tubeliteinc.com](mailto:dependable@tubeliteinc.com). Phone: 800-866-2227.



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# COMMUNICATING DOORS BETWEEN SLEEPING ROOMS



**LORI GREENE, DAHC/CDC, FDAI, FDHI, CCPR**, is Manager of Codes and Resources at Allegion. She can be reached at [lori.greene@allegion.com](mailto:lori.greene@allegion.com) or [idighardware.com](http://idighardware.com).

## ASK YOUR MOST PRESSING QUESTIONS!

Decoded now features a new question-and-answer format. We are selecting some of the most pressing questions that readers have about codes and answering them here. Submit your questions at [idighardware.com/decoded-qa](http://idighardware.com/decoded-qa) and we'll answer as many as we can in future Decoded columns.

**NFPA 80 IS THE STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES AND INCLUDES THE DETAILED REQUIREMENTS FOR FIRE DOOR ASSEMBLIES. ONE OF THE CARDINAL RULES FOR FIRE DOORS IS THAT THEY MUST BE CLOSED AND LATCHED IF A FIRE OCCURS. THIS PROTECTS THE OPENING IN THE WALL AND HELPS PREVENT THE FIRE FROM SPREADING BEYOND THE ROOM OF FIRE ORIGIN. THIS MONTH'S DECODED QUESTION COVERS ONE OF THE FEW EXCEPTIONS TO THE SELF-CLOSING REQUIREMENT.**

## QUESTION: ARE COMMUNICATING DOORS BETWEEN ADJOINING HOTEL ROOMS REQUIRED TO BE SELF-CLOSING, SELF-LATCHING FIRE DOOR ASSEMBLIES?

A communicating door is an opening where two doors are installed within one frame, each swinging in the opposite direction. This type of assembly is commonly found between adjoining rooms in a hotel or motel to allow convenience for family or friends sharing the rooms.

Each leaf is typically equipped with a latchset and a deadbolt on the hotel room side of the door. Often there will be no visible hardware between the two doors. For security purposes, occupants of both rooms would have to retract their deadbolts for access between rooms.


When the rooms are occupied by separate parties, the communicating doors must maintain the fire resistance of the partition between the rooms, as well as provide security.

To function as opening protectives, communicating doors between sleeping rooms are typically required to be 20-minute or 45-minute fire door assemblies. The required latching hardware helps ensure that when these doors are in the closed and latched position, they will help deter the spread of smoke and flames.

Annex A of NFPA 80 includes explanatory material to help clarify the intent of the standard. Communicating doors between hotel rooms are mentioned in the annex with regard to this line from the standard: "Unless otherwise permitted by the [Authority Having Jurisdiction (AHJ)], a closing device shall be installed on every fire door." The annex paragraph references limited circumstances where a door closer might not be necessary. It could be omitted if allowed by the AHJ.

One of the examples included in the annex is where there is a communicating door between hotel/motel sleeping rooms: "In this instance, when the communicating rooms are occupied by separate parties, the communicating doors are part of the guest room separation and normally would be closed. However, if the suite of rooms is occupied by a single party, the communicating doors are no longer part of the guest room separation because the suite of rooms would be considered a single guest room."

Although NFPA 80 references the AHJ's approval to allow the omission of door closers on communicating doors, the International Building Code (IBC) includes a specific reference that would allow this application without the need for AHJ approval. The code requires walls separating sleeping rooms to be constructed as fire partitions and



A communicating door is an opening where two doors are installed within one frame, each swinging in the opposite direction.

doors to be latching and self-closing or automatic-closing. However, it includes two exceptions. One of those exceptions applies to communicating doors: "1. Fire doors located in common walls separating sleeping units in Group R-1 shall be permitted without automatic- or self-closing devices." Group R-1 is a residential occupancy containing sleeping units where the occupants are transient, including hotels and motels. Also counted are transient boarding houses and congregant living facilities with more than 10 occupants. NFPA 101 – The Life Safety Code requires 20-minute doors in this location and also exempts these doors from being self-closing.

As stated in NFPA 80 Annex A, the reason fire doors between these sleeping rooms are not required to be self-closing is because when both doors are open, the two rooms become one unit. A fire separation between two rooms in the same unit would not typically be required. Note that the exception refers only to the closing device. The doors are not exempt from the latching requirement. They would require a latchset with an active latchbolt in addition to the deadbolt provided for security.

The use of locks that require two operations to unlatch the door is acceptable because communicating doors between sleeping rooms are not part of a required means of egress.

For specific information, consult the adopted code for the project's jurisdiction. The AHJ is responsible for interpretation of the codes and always has the final say. +

requires these fire partitions to have a fire-resistance rating of one hour or a half hour, depending on the type of construction and whether there is an automatic sprinkler system.

According to Table 716.1(2) in the 2021 IBC, a one-hour fire partition that is not

part of a corridor or an exit enclosure requires opening protectives (fire door assemblies) with a rating of 45 minutes. For half-hour partitions, 20-minute fire door assemblies are required.

In the 2021 edition of the IBC, Section 716.2.6 addresses the need for fire



# HOW TO CLEAN POLYCARBONATE SECURITY GLAZING



**WADE ARNOLD, CSI, CDT** is the Commercial Sales Director at U.S. Bullet Proofing. Email: [warnold@usbp.com](mailto:warnold@usbp.com). Website: [www.usbp.com](http://www.usbp.com).

Tech Tips highlights useful technology tips for door installation and service. If you have an idea for a Tech Tips article you want to submit, contact *Door Security + Safety* Editor Al Rickard, CAE, at [arickard@dhi.org](mailto:arickard@dhi.org).

**POLYCARBONATE IS A TOUGH, ULTRA-CLEAR PLASTIC THAT IS 250 TIMES STRONGER THAN GLASS AND HAS COUNTLESS BENEFICIAL PROPERTIES. IT'S STRONG AND LIGHTWEIGHT WHILE ALSO BEING SHATTER-RESISTANT, MAKING IT A GREAT CHOICE FOR EXTREME DUTY ITEMS SUCH AS RIOT SHIELDS AND BALLISTIC-RESISTANT (BR) GLAZING.**

This type of protective glazing is no longer only for government agencies and high-risk institutions. Maintenance staff need to understand how to properly clean a material that appears similar to glass and is incredibly strong, yet vulnerable to many everyday chemicals.

Due to its excellent optical clarity, polycarbonate makes an ideal material for lenses and other transparent products. Polycarbonate can be easily fabricated into various shapes and sizes, allowing for a wide range of design possibilities. Unlike some plastics, polycarbonate is UV-stable so it does not degrade when exposed to sunlight.

### WHY PROPER CLEANING IS IMPORTANT

Polycarbonate products are generally easy to maintain, but they do have one major weakness. The material can be permanently damaged if not handled or cleaned properly. It's critical to use the right cleaning supplies and methods when caring for polycarbonate products.

Many household cleaners are manufactured with oils, waxes, alcohol or ammonia, and contain harsh chemicals that can break down the chemical bonds that make up the plastic structure of polycarbonate.

Using many of these common chemical agents to clean polycarbonate surfaces can cause degradation over time such as discoloration and scratches that cannot be reversed. This phenomenon is called crazing, which results in a network of fine lines on the surface of polycarbonate when it comes in contact with these corrosive substances. It's typified by a whitening of the affected area.

Even though polycarbonate is indestructible, any damage that occurs is usually caused during cleaning, often with common window cleaner. Given the similar aesthetic properties that polycarbonate carries to glass, it's often assumed that glass cleaner would be a safe option but can be detrimental to the glazing.

In addition to damaging the polycarbonate surface, using abrasive or alkaline-based cleaning products may also void any manufacturer warranty on the product, if applicable.



A bullet-resistant school reception baffle window made with polycarbonate security glazing.

## PROPER CLEANING PROCEDURES

1. Train anyone with access to cleaning supplies and a polycarbonate surface—especially maintenance workers, custodians and cleaners—on the proper cleaning procedure for polycarbonate.
2. Always assume cleaning agents are not compatible unless they've been approved by the glazing manufacturer.
3. Do not use solvents, alkaline cleaners or abrasive detergents. Acetone, benzene, methyl ethyl ketone, gasoline and carbon

tetrachloride should never be used on polycarbonate surfaces.

4. If a nonabrasive commercial window-washing solution isn't available, use only a mild solution of soap and water.
5. Use only clean, nonabrasive, soft flannel or cotton cloths.
6. Avoid unwanted foreign materials, debris or sand from becoming lodged in the cloth, as these particles will scratch the polycarbonate surface. This is a very common source of scratches. Cloths should never be placed on the floor.

7. Uniformly apply soap solution with a pressurized spray applicator.
8. Immediately wipe all the solution from the polycarbonate's surface.
9. Window gaskets and sealants should also be quickly dried to avoid the potential for gradual degradation resulting from cleaning.
10. Do not clean in high temperatures or direct sunlight.
11. Avoid metal contact with polycarbonate's surface.
12. Do not use razor blades or metal scrapers. +

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## CONGRATULATIONS!

The following door security + safety professionals recently received DHI credentials, certifications and certificates.

(List current as of May 1, 2023)



### CERTIFIED FIRE + EGRESS DOOR ASSEMBLY INSPECTOR (CFDAI)

DHI has launched the CFDAI to help FDAs elevate their profile to the end user and grow their inspection services. In addition to the opportunities of becoming certified and taking continuing education, CFDAIs receive a badge and digital seal as part of this new program. This provides identification in the field and the ability to digitally stamp inspection reports.

**Christopher James Archer, CFDAI**  
Pro Door & Specialties, LLC

**Joshua Crompton, CFDAI**

**Josh Doty, CFDAI**  
CAPM

**Toby Dow, CFDAI**  
Total Lock and Door Solutions

**Dalton Fajardo, CFDAI**  
Worcks, LLC

**Thomas I. Howard, DHC, DHT, CFDAI**  
LockNet, LLC

**JR Jeral, DHT, CFDAI**  
D & M Industries

**Alan Kastler, DHT, CFDAI**  
JE Dunn Construction

**Jeffrey A. Kirkner, AHC, CFDAI**  
LockNet, LLC

**Dan Kronmiller, CFDAI**  
Combined Resources Interiors, Inc.

**Kevin Andrew Lach, DHC, DHT, CFDAI**  
G & G Door Products, Inc.

**Angela Pell, CFDAI**  
Senneca Holdings

**Cameron Peterson, CFDAI**  
Kelley Bros.

**Christopher R. Resig, CFDAI**  
N.K. Bhandari, Architecture & Engineering

**Robert A. Schoenleber, AHC, CFDAI**  
dormakaba

**Raymond Schott, CFDAI**  
Negwer Door Systems

**Steve Craig Seyler, DHC, DHT, CFDAI**  
TCH

**Blair Walsh, CFDAI**  
LaForce, Inc.

**Connor Winters, CFDAI**  
Allegion



### DOOR + HARDWARE CONSULTANT (DHC)

This certified consultant has advanced product and code application knowledge and expertise, and skills proficient to detail, estimate and project manage large and complex projects and existing facility renovations. They are qualified to provide technical consultation to architects, contractors and building owners on the most complex building projects, but do not provide specification writing services.

**Steven Crafton, DHC, DHT**  
Rayhaven Group

**Diana M. Puello, DHC, DHT**  
Pro-Able Doors & Systems

**Steve Craig Seyler, DHC, DHT, CFDAI**  
TCH



### DOOR + HARDWARE TECHNICIAN (DHT)

This credential is earned by demonstrating the competence to provide product and code application, detailing, estimating, and project management skills on projects with an intermediate level of complexity of occupancy type. This is the first level of technical credential earned for technical competence to assist contractors and building owners with basic construction project issues.

**Mathieu Beauparlant, DHT**  
Intermat

**Karine Duclos, DHT**  
Robert Janvier Agencies Ltd.

**Maxime Faust, DHT**  
Robert Janvier Agencies Ltd.

**Magalie Gemayel, DHT**  
Robert Janvier Agencies Ltd.

**Audrey Grondin, DHT**  
Robert Janvier Agencies Ltd.

**Louis-Philippe Jarry, DHT**

**JR Jeral, CFDAI, DHT**  
D & M Industries, Inc.

**Kaleb Kee, DHT**

**Adel Ould Kherroubi, DHT**  
Robert Janvier Agencies Ltd.

**Ghizlane Mouljebouj, DHT**

**Miguel Théberge, DHT**  
De La Fontaine, Inc.



**For more information on DHI education, certifications, credentials and certificates, contact [education@dhi.org](mailto:education@dhi.org).**



## **DOOR + HARDWARE INDUSTRY ASSOCIATE (DHIA)**

The DHIA certificate recognizes individuals who have achieved a basic technical understanding of product and code applications. Recipients have completed two online, self-paced classes and passed the exams.

**Nykki Armstrong**  
Select Door and Frame Inc.

**Jordan Berkey**  
Dealers Wholesale

**Alexander Boren**  
Arconic Kawneer Inc.

**Stephanie Britt**  
Schiller Hardware, Inc.

**Paul Castellano**  
Mills & Nebraska

**Jason Chin**

**Roger Clark, Jr.**  
J.S. Archer Company Inc.

**Thomas F. Cratty**  
Calvert Health Med.

**Justin Crow**  
Dealers Wholesale

**Jahid Diwan**

**Christina Fisch**  
Negwer Door Systems

**William Frost**  
Cook & Boardman, Inc. Division of  
Cook & Boardman Group

**Tyler Gates**  
Southwest Doors & Hardware

**Zev Gluck**

**Tyler Adam Golembiewski**  
Allegheny Commercial Doors

**Charles Frederick Hall, IV**  
RT Western, Inc.

**Nick Hargrave**  
Superior Hardware Products

**Allen Joseph Jordan**

**Nikki Joslin**  
Lanmor Services Inc.

**Justin Wayne King**  
Summit Doors & Hardware

**Benjamin J. Krupp**  
Capital Aluminum and Glass

**David Lacombe**

**Rocky Lawson**

**Sharon Leakey**

**Jamie Ludwig**  
American Building Services, LLC

**Thomas Martinez**  
Door Supply of NJ, Inc.

**Adrian McNeil**  
AccessSMT

**Nick Melfi**  
Mills & Nebraska

**Leigh Nordstrom**

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# ACQUISITIONS CAN BE TOUGH: INTEGRATIONS DO NOT HAVE TO BE



**JASON BADER** is Principal of The Distribution Team. He is a holistic distribution adviser who is passionate about helping business owners solve challenges, generate wealth and achieve personal goals. His podcast, "Distribution Talk," can be found at [www.distributiontalk.com](http://www.distributiontalk.com) and through most podcast applications. Phone: 503-282-2333. Email: [jason@distributionteam.com](mailto:jason@distributionteam.com). Website: [www.thedistributionteam.com](http://www.thedistributionteam.com).

**IN SOME RECENT MEETINGS WITH DISTRIBUTION GROUPS, THE TOPIC OF ACQUISITION AND INTEGRATION HAS BEEN AT THE TOP OF THE AGENDA. WHILE THE MEMBERS OF THESE GROUPS ARE TYPICALLY NOT CHARGED WITH THE ACQUISITION OR SALES ASPECT, THEY ARE INTIMATELY INVOLVED WITH THE INTEGRATION SIDE ONCE THE DEAL IS DONE.**

I invited them to share their experience with what went right and what they hope to do next time.

Creating a plan that includes all the stakeholders is key to a successful integration. Organizations tend to be very good at creating deals. They tend to be fairly good at the due diligence and discovery part of the process. They nail down the highlights and hope they uncover as many snake pits as possible. But ultimately, integration details are pushed down to the department heads.

From my business conversations and personal experience, I learned that the most successful integrations are facilitated by a project manager. This should be someone adept at using software tools designed to keep all departments on task and timeline. Goals or plans without timelines are just dreams.

When creating the plan, don't overlook key departments in the organization. Some to remember are inventory and replenishment, sales and marketing, information technology, accounting, human resources and logistics. It could be argued that logistics could fall under inventory and replenishment. However, one of my distribution group members was adamant that fleet management should be a separate section of the plan.

My intent is not a comprehensive list of all the things you need in each of the areas. Rather, I'm sharing the feedback I received and a few considerations for each area of focus.

## HUMAN RESOURCES

Identify the champions and detractors early. Give the champions enough persuasive messaging to influence the majority of the acquired associates early on. If we ignore this, those on the fence could easily fall victim to the detractors.

Remember, when you acquire a company, you're disrupting the status quo. Many of these folks have tied their entire career to their organization. There will be fear of the unknown. Don't make the mistake of glossing over this. If possible, invite the new associates to headquarters. Match faces with names. Invite the new associates to share what worked well in their organization.

Training must be a part of the human resource plan. This is especially true if there are technology changes. If you're going to make procedural changes, be very clear as to why the process is used. The phrase, "because that's the way we do it," will be a precursor to pain and suffering down the line.

## INVENTORY AND REPLENISHMENT

There are several areas to consider here. One of the more challenging is the identification of supplier lines in common between the existing and the acquired businesses to know which should be added to the database. Even in some of the most promising integrations, both companies use the same enterprise resource planning (ERP) and a majority of the lines overlap. Then we still have

to struggle through the item code reconciliation.

To a lay person, it can be shocking how many naming conventions distributors create to describe the same product. Beyond common items, a new set of suppliers and stock keeping units will have to be added to the database.

As a cautionary step, be very clear when communicating with the acquired company's suppliers. These can be delicate conversations. Some suppliers may decide not to go forward with the new combined entity. In some cases, regional territory agreements are in place.

Don't assume you can inject all your products into the newly acquired business. Cost variances need to be considered and regional pricing should not be discarded. A scorned supplier can make the goal of profitability drag out longer than it needs to.

## SALES

For the most part, acquisitions are entered into for sales purposes. Whether it's new geography or beating a competitor, sales is often the motivator.

Some of the challenges of integrating companies my team members shared included overlap of sales territories, go-to-market strategies, compensation methods and even sales vehicle policies.

For example, seasoned territory salespeople may not be excited to play nice with a company they've competed against for years. These relationships will have to be managed with kid gloves. Highlight the areas of commonality between the two entities. Appeal to enhanced compensation opportunities and greater access to products.

Learning new computer programs can also be a sticking point. As one of my distribution friends suggested, don't try to cram the fancy customer relationship management software down the veteran salesperson's throat. Find the easy commonalities and save the points of difference for later.

If the acquired company is used to making price manipulations in the field,

and you have developed a very robust matrix of more defined prices, don't come down with an iron fist. Help the company leaders understand the logic behind your pricing, then demonstrate how this can lead to increased revenue.

## MARKETING

Sometimes the marketing folks get left behind in the planning process. This would be a tremendous mistake. The integration of two entities is all about communication. It is what marketing professionals specialize in.

Make decisions about how the newly combined business will be described in print, web and social media. Create campaigns piquing the interest of the new customer base. Remember that the acquired customer base can be just as nervous about the change to its supply house.

## ACCOUNTING

Functions such as accounts payable and accounts receivable are often left out of the planning process, too. However, they are vital components to successful integration.

Credit customers will have to be vetted through the application process. Terms of sale will need to be updated and communicated with these customers. There will always be special credit deals or cash discounts, and those will have to be discussed and agreed upon.

The new integrated company may be more technologically driven in its approach to invoice management. The team will have to determine how they'll handle customers who are reluctant to embrace technology.

From an accounts payable perspective, suppliers will have to be onboarded and terms of sale established. Don't overlook the nuances and special programs. Many of these will not be established in writing and may be trapped in someone's head.

From a human resources standpoint, accounting associates are often left behind in a merger. Be sensitive to this. Do not overlook the opportunity to

augment the headquarters staff, even if they become remote employees.

## TECHNOLOGY

If you're lucky enough to operate on the same ERP, consider it a monumental win. As long as both businesses have been diligent with their updates and versions, the compatibility should be fairly painless. Users should be able to operate in the new environment.

Unfortunately, this is not always the case. Conversion to one ERP is something that should be considered early in the due diligence process. The acquiring business may not have the superior solution. Take the time to review both solutions and determine the best fit going forward. Listen to the users.

Beyond the ERP, make a comprehensive list of all technology areas the company has invested in. Don't overlook phone systems, fleet management programs, sales automation and integrated office productivity suites. Inventory the acquired company's hardware components and determine what investments need to be made.

## GETTING STARTED AND LOOKING AHEAD

Again, this is not intended to be a comprehensive plan for integration. Each one of these areas will have myriad questions and opportunities for improvement. I am simply challenging you to document a plan.

If you're going to meter out responsibility to department heads, make sure they're involved with the plan creation. Those who work in a role are better suited to see the potential areas of conflict.

I advise doing a postmortem once the integration has matured. This post-analysis will help avoid the challenges during the integration and allow replication of the things that worked well. Without this follow-up discussion, the highs and the lows will simply be trapped between someone's ears. +



## CAN YOU BELIEVE THESE?

BY MARK J. BERGER, FDHI

We're back with more gems from our readers. There seems to be a lot out there worthy of sharing. I appreciate all our regular contributors and newcomers. This month's theme seems to be, "Can You Believe This?"



### A ON CLOSER LOOK

Stephen Duda, A&C Builders Hardware

Sharing unique observations looks to be a pastime of the A&C Builders team. Stephen passed this along to his colleagues and Jeff McKaye thought this was worthy of "Real Openings."

What I like about Stephen's submission was his accuracy. He wrote, "Thought you would like to see the use of a threshold." It is not often we see such a unique product application.



## B VERTICAL RIM DEVICE?

Jason Steiginga, Kelley Bros.

The Kelley Bros. team must be running a contest to find the most unusual hardware application. Jim Tartre, who has contributed several photos to "Real Openings," forwarded this one from his colleague Jason.

Jason described what he saw: "Nope, this picture is not flipped...that is a rim device engaging a strike in the header on a pair of doors. It is just one of many interesting things I saw last night in an old rope factory that is now a banquet hall!. Think it would still pass code if inspected today?"



## C ENTRANCE OR EXIT?

Colby Dunham, Odessa Doors

Someone hipper than me will need to give me the lowdown on the pattern on these doors. One thing is for sure: the exit device is well camouflaged. Even though the sign pointing to these doors notes that it's an exit, the stickers on the door read like it is an entrance. And what is that pull handle doing there?

It appears there's a slide bolt hiding behind the closer arm. So even if you realized this was an exit, you might not be able to open the door in an emergency.

## D LESS TOP ROD (LTR) EXIT DEVICE?

Dan Jones, Union Wholesale Acoustical Supply Co.

We've all seen fire extinguishers used to hold doors open. In this case, it's the least interesting part of the photo. The absence of top rods might be a new trend, according to Dan. The good news is I don't spy a fire-rated label on the edge of door.



**MARK J. BERGER, FDHI**, is the President and Chief Product Officer of Securitech Group, and a Past President of DHI and Chair of the Builders Hardware Manufacturers Association Codes & Government Affairs Committee. All "Real Openings" photos were taken in public spaces with the goal of highlighting the prevalence of code violations and the need for vigilance to save lives. **If you see something, say something.** To submit a photo for this column, email [real.openings.dhi@gmail.com](mailto:real.openings.dhi@gmail.com).

*The images shown here are not intended to reflect upon any specific manufacturer or products but are intended to help build awareness around the everyday code violations that occur in buildings over time, despite our members' best efforts to provide solutions to secure the life safety and security of the building occupants.*



## E RINKY DINK RINK EXIT

Jeff McKaye, A&C Builders Hardware

Here's an example Jeff shared with his A&C Builders Hardware colleagues and sent our way. It's a real doozy of an opening. At first I just looked at the equipment bag on the floor, which is not the worst thing I've ever seen. Then I glanced up and said, "Wow!"

Jeff said, "I enjoy your articles in the DHI magazine and thought you might like to see the attached special setup of exit devices on this pair of doors at a hockey rink in Michigan. The vertical security bolting device is engaged on the door on the left. Looking closer, the door on the right has the double door rim exit strike so you would not get out through that one either."

Jeff noted correctly that this is a total exit hazard.



## F TWISTED

Rob Slaybaugh, The A. G. Mauro Company

Rob saw that the doors were sticking and not swinging smoothly, so he had to swing by to figure out why. If the pin could speak, I'm sure it would be screaming in pain. Rob's final word on the hinges was, "At least they were heavyweight!"

# CHALLENGE OF THE DECADE: PART ONE



**JERRY HEPPES SR., CAE**, is Managing Principal of the Consulting Collaborative office in Charlottesville, Virginia. Phone: 703-899-9067. Email: [jheppes@consulting-collaborative.com](mailto:jheppes@consulting-collaborative.com).



**RICHARD VOREIS** is Founder and CEO of Consulting Collaborative. Phone: 214-361-2130. Email: [rdvoreis@consulting-collaborative.com](mailto:rdvoreis@consulting-collaborative.com). Website: [www.consulting-collaborative.com](http://www.consulting-collaborative.com).

**SPEAKING TO DISTRIBUTORS AND SUBCONTRACTORS, THE CHALLENGE MOST OFTEN MENTIONED IS THE LACK OF SKILLED AND EXPERIENCED PERSONNEL. FABRICATORS AND INSTALLERS, AS WELL AS SUPPORT PERSONNEL SUCH AS ESTIMATORS AND PROJECT MANAGERS, ARE ALL IN SHORT SUPPLY. NEARLY NINE OUT OF 10 COMPANIES CITE THIS AS THE BIGGEST INDUSTRY CHALLENGE OF THE DECADE.**

## CAUSE AND EFFECT

With the weakening of the labor trade unions over the last four decades, the source of skilled and trained personnel is evaporating. There are a few exceptions. Some trade unions still have viable apprentice training programs. But across our country, this seems to be the exception rather than the rule.

Subsequently, it is predictable that more challenges will occur in terms of installation problems on the job sites. Additionally, higher performance specifications as well as quality expectations are increasing.

The bottom line is the lack of skilled employees also impacts profits more than we'd like to admit. With that in mind, there's no better reason to attack this growing problem.

Distributors and subcontractors need to align themselves with quality products suppliers that may also provide training. Fortunately, DHI provides excellent training, from online courses to local, in-person education, an immersive, hands-on Classroom Series and much more. Your company needs to take advantage these programs.

Rather than just rely on our personal experiences, we have taken into consideration the views of many distributors and subcontractors from across the United States. We're glad to share the input we received from these respected and experienced business leaders. Here's what we've been hearing.

## ATTRACTING THE NEXT GENERATION

Many companies don't have an organized recruiting mechanism to attract young

people to this industry. To compound the situation, vocational schools have been downplayed in favor of four-year college educations. Organizations and companies are not encouraging high school students to work with their hands. Although fabricators and installers are well-paid and represent an honorable profession, few young people seek this out as a career.

The trade unions that still exist provide apprentice schools, but they often do not meet all the needs of students. That's not surprising as today this segment of building construction is much more complicated in terms of products and installation techniques. That means more in-depth training is required.

Some unions have aggressive apprenticeship programs to attract and train tradespeople. If you have this training available for your employees, do more than just accept what is being offered. Take a personal interest and inquire about the specifics of the training programs. Give meaningful thought to how this training can be updated, expanded and improved. Volunteer your time and make a difference.

The industry needs to identify, hire, train and retain tradespeople who have the necessary aptitude to become estimators and project managers. Subcontractors can also hire truck drivers and helpers who have the necessary aptitude and ambition to be trained as fabricators and installers. DHI provides training. It is available, affordable and ready to be used by members. Make sure you participate. +



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## DODGE MOMENTUM INDEX DECLINES IN APRIL AFTER PULLBACK IN COMMERCIAL PLANNING

### WEAK OFFICE, HOTEL, AND RETAIL PLANNING ACTIVITY PULL INDEX LOWER.

The Dodge Momentum Index (DMI), issued by Dodge Construction Network, fell 5.1% in April to 180.9 from the March reading of 190.6. In April, the commercial component of the DMI fell 8.0%, and the institutional component improved 0.3%.

"On par with our expectations, the Dodge Momentum Index continued to recede in April, due to declining economic conditions and ongoing banking uncertainty," said Sarah Martin, Associate Director of Forecasting for Dodge Construction Network. "Weaker commercial planning is driving the DMI's decline, as it is more exposed to real-time economic changes than the largely publicly funded institutional segment."

Commercial planning in April was pushed down by sluggish office, hotel and retail activity. Institutional planning remained flat as weak education planning offset growth in healthcare and amusement projects. Year over year, the DMI remains 11% higher than in April 2022. The commercial and institutional components were up 7% and 17% respectively.

The DMI is a monthly measure of the initial report for non-residential building projects in planning, shown to lead construction spending for nonresidential buildings by a full year.

### DODGE MOMENTUM INDEX

(2000=100, Seasonally Adjusted)

	Apr-23	Mar-23	% Change
<b>Dodge Momentum Index</b>	180.9	190.6	-5.1%
<b>Commercial Building</b>	205.4	223.2	-8.0%
<b>Institutional Building</b>	150.5	150.1	0.3%



Source: Dodge Construction Network

## AD INDEX

JUNE/JULY 2023

ALLEGION	17	<b>DHI ADS:</b>	
BRIDGEPORT WORLDWIDE	5	DHI CONNEXTIONS	40-41
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