

Door Security + Safety

DHI'S PUBLICATION FOR DOOR SECURITY + SAFETY PROFESSIONALS

DECEMBER 2018



Fire and Egress Door Assembly Inspections

ALSO INSIDE:

- + FIRE DOOR INSPECTIONS - WHAT ARE WE LEARNING?
- + WHY ARE CERTIFIED FIRE DOOR INSPECTIONS SO CRUCIAL?
- + SETTING UP A SUCCESSFUL INSPECTION COMPANY



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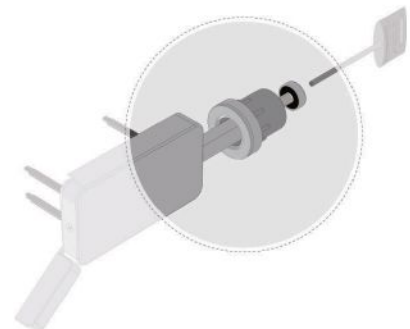
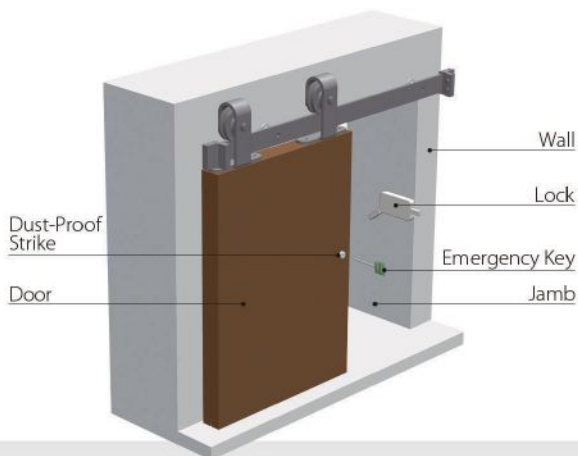
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WE'VE COME A LONG WAY IN FIRE DOOR INSPECTIONS



JERRY HEPPESS SR., CAE, is the CEO of DHI and the Door Security & Safety Foundation. If you'd like to comment on this article or any others in the December issue, email dgable@dhi.org.



"The request for inspections and to recommend inspectors has grown enough to show a viable return for companies providing the service."

- Respondent to FDAI survey; see article on page 8 for complete survey results.

THIS ISSUE OF DOOR SECURITY + SAFETY ADDRESSES MANY IMPORTANT TOPICS ABOUT INSPECTING FIRE DOOR ASSEMBLIES. AFTER READING THESE ARTICLES, ALL I CAN SAY IS—WE'VE COME A LONG WAY BABY, BUT THE JOURNEY IS NOT FINISHED!

I remember the 2007 DHI Convention at the Opryland Hotel in Nashville, wondering how successful this fire door inspection concept would be, as we launched the first DAI600 class, the FDAI certification, an insurance program for companies and individuals committed to inspections, and sample documentation for the actual inspections. We also dedicated the 2007 Forum for the Future to this topic of an end user relationship for the life cycle of the building. We hoped that the industry would embrace this opportunity, but we weren't sure!

The early days were tough. We were being told—quite loudly and fairly often—that this was a terrible idea; there were too many fire doors, and there would not be enough inspectors. Enforcement would be rare, and the industry would never experience a demand for inspections. Distributors would be more interested in new construction than in conducting inspections.

Fortunately, the concept has taken hold, and based upon the articles in this issue, has a bright future. The enforcement component continues to evolve (see the article *AHJs Eager to Learn about Fire Door Inspections*, page 29). Distributors have built a variety of successful business models for inspections.

In my opinion, the most important benefit the inspection concept underpinned was fire door assemblies (and all door assemblies for that matter), are complicated and it takes an expert to inspect, repair and maintain the opening (see *Fire Doors in New Construction and New Acquisitions*, page 75.) With the onset of technology

and the desire for our society to feel secure in a time of horrific shootings, we can add to that list upgrading the opening to provide safety.

Understanding the balance of life safety and security is a skill, and our members are committed to earning a certification to illustrate their knowledge. Fast forward 11 years—the Certified Fire + Egress Door Assembly Inspector (CFDAI) certification has been our fastest growing certification; we have more than 500 FDAIs, and the DAI600 class is one of our most popular classes.

At the recent Management Summit, a panel of industry experts composed of Ben Boomer, Vice President Twin City Hardware; Chad Riches, President/CEO, Beacon Commercial Door and Lock; Jason Pulliam, Vice President, Sales, dormakaba; Jay Phillips, Vice President, Sales, Masonite Architectural; and Dick Beveridge, Founder, UnleashWD; facilitated by Mike Marks, Managing Partner, Indian River Consulting Group; was asked a simple question: There is an intense desire for people to want to feel safe today, and they don't because of active shooter events and terrorist incidents taking place everywhere. Will the phenomenon taking place in society last, or is it a passing development?

To a person, the prediction was that our intense desire to feel safe will continue and that our industry has a responsibility to help because we have the expertise. Inspections to repair, maintain and upgrade door assemblies can make a big impact on educating the public and creating a safer society.

I encourage you to read this issue of *Door Security + Safety* and determine what role you and your company will play! +



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WHEN DID YOU JOIN DHI?

Summer of 2016

WHAT IS YOUR OCCUPATION?

Specification Consultant

WHAT WERE YOUR CHILDHOOD AMBITIONS?

I don't recall having just one ambition in particular from my childhood, but rather an overarching desire to be my best at wherever my interests led me.

WHAT WAS YOUR FIRST JOB?

I spent the summers of my youth working for and alongside my father fabricating and installing residential and commercial stair systems and other architectural millwork. At the time it was about having an extra dollar in my pocket. The practical work and business lessons learned during this period continue to pay dividends today.

WHAT LED YOU TO OUR INDUSTRY?

Intrigue and curiosity. As an industry outsider, I couldn't help but notice the passion and enthusiasm that radiated from my brother-in-law (an industry insider) in relation to his career. The more I learned about the industry, the more I wanted in!

WHAT IS YOUR PROUDEST PROFESSIONAL MOMENT?

Successfully passing the AHC test this past spring.

WHAT HAS BEEN YOUR BIGGEST CHALLENGE?

Finding the perfect balance in my life.

WHAT IS YOUR GUILTY PLEASURE?

Chips and guac from Chipotle. Playing old Nintendo games with my wife and kiddos.

WHAT IS YOUR FAVORITE BOOK/MOVIE?

Books: *Shoe Dog*, *Good to Great*; movie: *It's a Wonderful Life*!

WHO DO YOU CONSIDER A MENTOR OR HERO?

I definitely didn't get here alone. I'm indebted to the generosity of dozens of my colleagues from around the United States and for the support of my employer. I'm especially appreciative for my close mentor, Adriene Kirkland.

WHAT IS THE BEST ADVICE YOU EVER RECEIVED?

Start your day by tackling your biggest task first.

WHAT IS THE BEST ADVICE YOU NEVER RECEIVED?

If you don't like something, change it. If you can't change it, change your attitude. Don't complain.

HOW HAS YOUR INVOLVEMENT WITH DHI SUPPORTED YOUR CAREER GOALS?

My involvement with DHI has been largely in pursuit of certifications. DHI education is the foundation to which my career is built on. I'm proud to be a member of DHI. +

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 Paige Horton at phorton@dhi.org with your nominee. We'll take care of the rest!



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SURVEY RESULTS

CFDAIs and FDAIs Discuss Status of Fire Door Inspections

To try to measure the pulse of the fire door inspection business among DHI's CFDAIs and FDAIs for this issue of *Door Security + Safety*, we surveyed them, asking several questions about the demand for fire door inspections in their area of the country, and what barriers to entry they are experiencing in attempting to grow their inspection business. We received 66 responses from 20 states, two Canadian provinces and the city of Montreal, as well as Cairo, Egypt, and the United Arab Emirates.

The first question we asked was for respondents to describe the demand for fire door inspections in their region. There was a wide variety of responses, ranging from “stagnant,” to “ramping up,” to “unbelievable.”

While thirty-two percent said the demand for inspection had not changed, 31 percent said demand was growing “slowly,” 23 percent said demand was “growing steadily,” and six percent of respondents described the demand as “booming.” Eight percent of those responding said they have not seen an increased demand in the last year.

Demand for Services

Here are some of the responses we received regarding demand for inspection services.



We have been getting our field techs FDAI-certified and the demand for inspectors is unbelievable.

This area has grown mostly due to educating individuals and organizations on the need to be proactive in life safety and maintenance.

It was a part-time business for me last year and then it grew into a full-time business. I have even expanded from just doing inspections to training, consulting, field relabeling through a National Testing Lab and now I am developing my own inspection software.

We have added an additional FDAI as well as seven DAITs. We have done several remediations and demand remains high.

Building owners understand that we aren't there to only do inspections but also to give them some advice toward the choice of corrective hardware.

We continue to zero in on how to best pass along the information gathered in the inspection. What makes the reports we provide useful to Owners and AHJs.

Inspections allowed us to add different services and training.

...the request for inspections and to recommend inspectors has grown enough to show a viable return for companies providing the service.

This is our first year in the business, but we are finding several opportunities.

We have used this as an opportunity to value-add our company by teaching



Barriers to Entry

There are many factors that can contribute to the demand for these inspection services, so we also asked their perspective on barriers to entry. While there are likely multiple variables that could impact growing any business model, the most common responses were the lack of consistency in enforcing codes and lack of knowledge of code requirements. Specific responses included:

The only barrier I've seen is the lack of knowledge on the part of officials operating healthcare facilities of the code requirements.

Other sectors will grow when the fire marshals start enforcing the code. I believe that the work in health care has caused awareness that door inspections are really needed in other occupancies.

It is difficult to get the AHJs to understand the importance of walking into a facility and asking for their Fire Door Inspection Report. They understand the importance of maintaining the fire doors but just can't seem to ask for the reports. It's a learning curve for them. Businesses won't do the inspections if they are not asked for the reports.

WHAT IS A CFDAI AND FDAI?

Certified Fire + Egress Door Assembly Inspectors (CFDAIs) are certified individuals who have been trained to visually inspect and perform operational testing of fire and egress door assemblies in accordance with NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, and NFPA 101, *Life Safety Code*®. They possess an intermediate level of understanding of door, frame, and hardware products and applications and applicable code familiarity to conduct inspections.

In addition to performing inspections, they create authorized inspection reports for building owners and can recommend corrective actions necessary for compliance with NFPA 80 and NFPA 101 inspection requirements. The CFDAI differs from the FDAI in that they are "certified" and have committed to a higher level of educational training. All "certified" individuals are required to participate in the Continuing Education Program and must recertify on a three-year cycle.

In addition to the opportunities of becoming certified and participating in continuing education, CFDAIs also 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.


For more information on the CFDAI Program, email certification@dhi.org.



What are some of the top deficiencies that you see?

80%	Painted or missing fire door labels.	43%	Kick down door holders.
80%	Poor clearance dimensions around the perimeter of the door.	38%	Bottom flush bolts that do not project 1/2 inch into the strike.
71%	Broken, defective or missing hardware items.	29%	Fire exit hardware installed on doors that are not labeled for use with fire exit hardware.
62%	Missing or incorrect fasteners.	26%	Area surrounding the fire door assembly blocked by furniture, equipment, or boxes.
49%	Fire doors blocked to stay in the open position.	26%	Auxiliary hardware items that interfere with the intended function of the door.

Other deficiencies:

- Surface mounted rod exit devices with the bottom rod removed and the device is not a less bottom rod designed device.
 - Doors that have been field modified or repaired incorrectly.
 - Armor plates furnished without stamping.
 - Non-rated kick and protection plates.
 - Knock-down frames not secured.
 - Doors that do not fully close and latch.
 - Improper signage.
 - Panic hardware installed on fire exit-labeled doors.
 - Homemade accessory brackets.
- 

Education Advocate Program Exclusively for CFDAIs and FDAIs

Sixty-seven percent of survey respondents said they were familiar with the Door Security & Safety Foundation's (DSSF) Education Advocate Program, which is exclusive for CFDAIs and FDAIs seeking to grow their business in healthcare. As we heard from survey respondents, providing awareness and education to end users and AHJs is a key value component to building business and proving value.

Education Advocates (EAs) benefit from the Foundation's offering and resource materials because they can deliver this education to healthcare facility maintenance personnel and growing their inspection business while promoting their expertise.

Only CFDAIs and FDAIs are uniquely qualified to become EAs because they must remain up-to-date on current code requirements affecting doors, hardware, and inspections. When healthcare facilities would like for DSSF to deliver this education to their staff, we contact the local EA to be our instructor. Additionally, we encourage EAs to

proactively create opportunities to deliver locally as well and build the offering into their business models as they see fit. For more information or to participate in the EA program, contact Sharon Newport at snewport@dhi.org.

Conclusion

CFDAIs and FDAIs have worked hard to earn their specialized knowledge and play a critical role as fire + egress door assembly inspectors. They have learned the details of how to interact with the building owner and the Authority Having Jurisdiction (AHJ), as it is paramount to ensure the respective parties clearly understand the inspection process and documentation; and how to follow through with the necessary corrections to improve safety in their facilities.

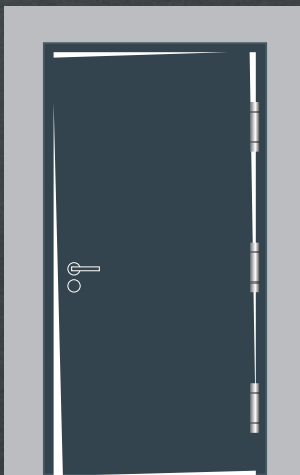
DHI and DSSF are committed to supporting CFDAIs and FDAIs in their inspection businesses and advocating for their expertise to end users, design professionals and AHJs. We want to continue to learn how we can best support this work. Thank you to the respondents of our survey and look for more advocacy and support to come in 2019 from both DHI and DSSF. +

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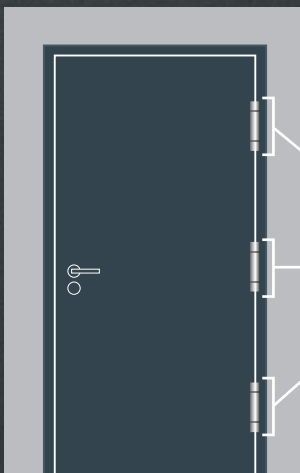
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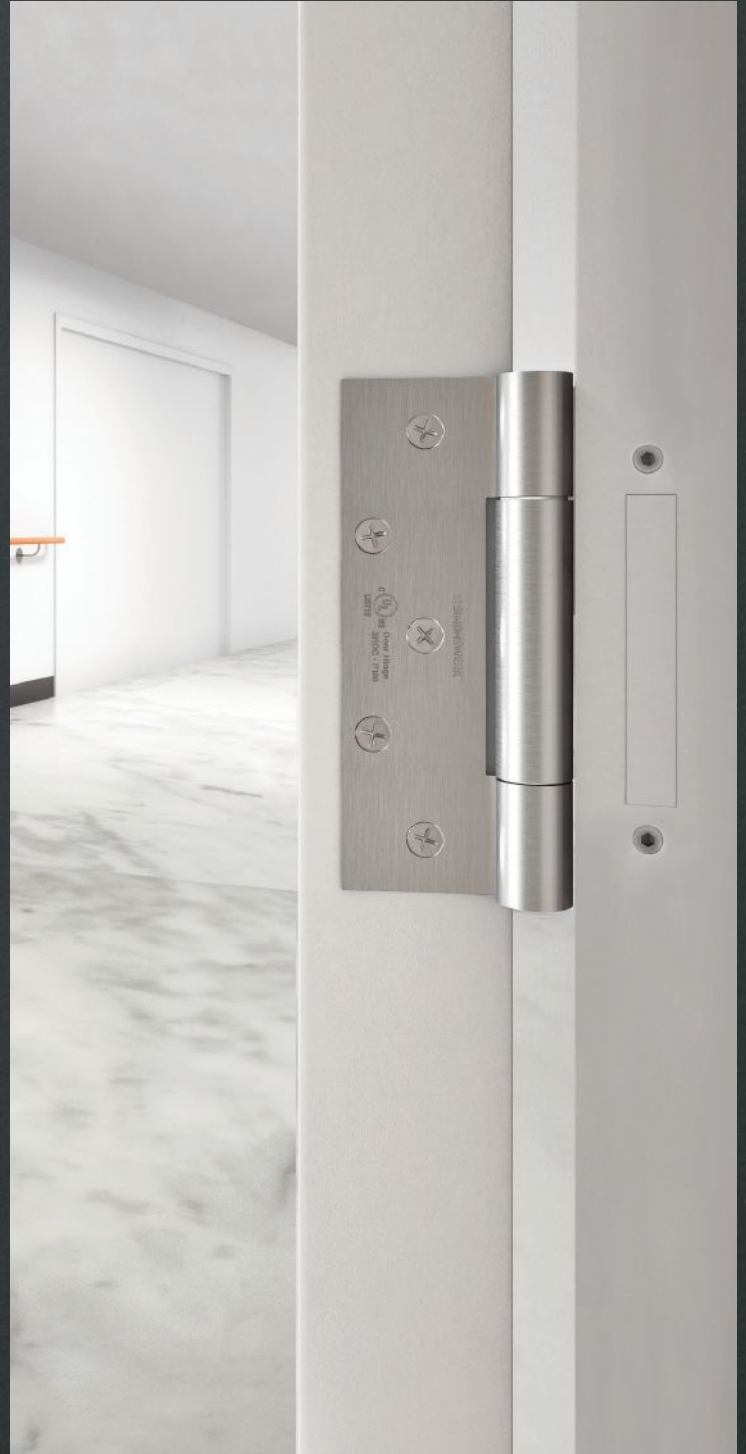
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FIRE DOOR INSPECTIONS: WHAT ARE WE LEARNING?

BY MARK WALLER, FDAI

After obtaining several years of invaluable experience in performing annual NFPA 80 inspections of fire-rated doors, our company has identified several key lessons learned that we thought would be a valuable resource for door and facility professionals to consider.

Lesson 1 - Fire protection door openings in the occupancies we began performing work in were in much worse condition than initially expected.

One facility that our staff surveyed last year assured us we would not find one deficiency in their facility. Their best maintenance technician had thoroughly gone through all the doors and signed off that they were 100 percent compliant. We inspected 98 doors, and 97 failed the NFPA 80 inspection requirements.

Was the technician lousy at his job? Not at all; rather, he was a fantastic door technician. What was missing was a proper understanding of the applicable code requirements. This high rate of failure has been noted at the majority of facilities following initial annual inspections.

Lesson 2 - We expected that overall door code compliance would naturally increase with subsequent annual inspections. While rates did rise, they were not anywhere close to where they were expected to be.

Completing repairs to bring the doors into compliance did not guarantee future compliance. Doors are a living part of a building in the sense that every day the components are moving, flexing and being stressed.

As hardware reaches the end of its life cycle, inspections accordingly note that things break. Doors, particularly in heavily traveled portions of the building, have increased stress due to occupant use, and at times, abuse.

In healthcare occupancies, where many of our inspections occur, carts, beds and equipment take a heavy toll on fire doors and frames. While occupants and user groups in a facility consider it “just another door,” as professionals we recognize that the door must be ready to serve as a fire barrier when called upon, and it is imperative to recognize the irreplaceable human lives that are depending on these doors to properly function as required by code.

Lesson 3 - Research into various code application requirements beyond NFPA 80 is often necessary. It is thus imperative to seek out competent expertise in building, fire and life safety codes and standards to assist inspectors in applying the appropriate requirements; this may be through a trusted regulatory authority such as a fire or building official or other code consultant.

We would like to highlight some issues we have encountered in the course of annual inspections to help highlight some of the complexities of this process:

DOES THE DOOR HAVE A LABEL? YES, BUT DID WE READ IT?

What is the barrier rating on the life safety plan? Is it the correct door?

A 20-minute door in a two-hour barrier wall is incorrect; which is likely obvious. How about a 45-minute door in a one-hour barrier surrounding a medical gas storage room? No. A 60-minute door would be required. At times an inspector needs knowledge of codes beyond NFPA 80 to understand the correct application.



What is the required latch throw? This label has several qualifications if installed in pairs. Is the correct latch bolt installed?



Is a gasket required if there is an 'S' on the label? It's not automatic. Only if required by the life safety, fire or building code.



Where is the door located? The label calls for installation in single swing locations only. This label was found on a pair of double egress doors, thus voiding the label.



Is the correct hardware installed? Sometimes it is noted that cylindrical handle-sets are installed on doors labeled for use only with surface mounted hardware. The reverse has also been observed: doors with exit hardware that were not labeled for such.

IS THE HARDWARE INSTALLED CORRECTLY?



What does the manufacturer require? Even though the inside of a 90-minute door looks like drywall, plastic anchors are not approved to install exit hardware. Often it is noted that drywall screws or #8 zip screws are holding on hardware where #12 or 1/4-inch through bolts are required.



Why all the empty fastener locations? All the required fasteners must be installed. This strike begs a few more questions: The Von Duprin 499F strike is specified when surface vertical rod hardware is installed less bottom rod and necessitates that there is a second part that is installed above the top latch on the door. With it being missing, additional questions are subsequently raised, such as whether there is a fire pin installed, or not? If this is a modification to existing hardware? Does the hardware manufacturer allow the modification? Does the door manufacturer? Have you kept any documentation to show the AHJ that it is an approved modification?



How should it be installed?

This is an access door in a two-hour shaft. The four 1-1/4-inch drywall screws that 'anchored' this door were not into any framing! Caulk was all that held this door in place. Also, notice the huge gap in the drywall around the door frame. This installation failed.

IS THIS AN APPROVED MODIFICATION?

Can a double acting door be converted? Welded steel angle was added to make a stop. Also, the doors had terrible clearance issues due to the rounded edges of double acting doors. Is this acceptable? The real question is, how were the door and frame tested and can it be proved that the doors will survive for the required fire endurance?



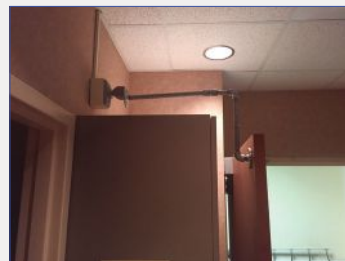
Can we extend a door with a non-compliant bottom clearance? A small piece of wood was attached to the bottom of the door. It was hard to spot due to a kick-plate and mop-plate installed on either side of the door covering the extra piece of wood. This is not an approved repair.



Can we field modify a frame for electrified hardware? This frame was modified for an electric strike, then had the strike removed. It shows why field-modification to a frame for this type of hardware is not advisable and will likely not be accepted by the manufacturer. This frame has been severely weakened by the modification.



Can we add parts to make it work? The adage, 'necessity is the mother of invention' certainly holds true in door repair, and nowhere does this seem to be truer than in the installation of magnetic hold-open devices. They are obviously not compliant solutions, but one has to appreciate the ingenuity.



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Can we add extra fasteners?

One can almost hear the installer saying, "I'm going to get one of these screws to grab something." Again, the question becomes has this hinge been tested this way? Also, has the door been damaged beyond use? Drilling eight holes in the hinge stile would severely compromise its strength.



Need a new lock? Remove the mortise lock, install an edge guard and new cylinder lock. As one of my instructors at DHI would say, "This results in a pile of fire wood." This type of modification voids the door label.

IS THIS AN APPROVED APPLICATION?



Can an edge guard fix a clearance problem? We have seen door edge guards installed to solve clearance issues. While

not listed to solve clearance issues, it may be a solution for a small clearance issue (ask your AHJ). A couple of questions though: Is it rated for use on a fire door? Is it installed per the manufacturer's instructions? Meaning, we cannot add additional shims behind the edge guard to close a larger clearance issue.

The final question has to do with the picture. Does the installation of the edge guard affect how far the latch engages the strike? Clearance issues are not just about how much smoke will get past. It is also about whether or not the latch bolt will stay engaged during a fire. If you have ever seen a video of a fire door test (SDI has one on YouTube) you will realize that the doors pull, bow and twist. If the latch bolt is not long enough, it will allow the door to pop open during a fire.

It's stainless steel, can it be used?

This is a beautiful frame protector. Is it rated for use on a fire door?



What can I install on my door?

We see this often. A mailbox is needed. A coat hook is needed. Some protection for the hardware is needed. We would need to find a product that is rated for use on a fire door.



Creativity at its best. This one always makes me smile. Creative, yes; compliant, no.



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IS IT DAMAGED BEYOND USE?

How to repair a large hole in the frame? We see this often. A magnetic lock is removed leaving behind a large hole in the frame. How would you repair this?



I must hold this door open. I sense a battle between the janitors and the maintenance staff. Have the welds broken in the door? Have the clearances been affected? Have the hinge pockets been overstressed and bent or broken?



Looks like a beautiful installation. Due to some clearance issues, our technician had to remove the hinge. That's when we found out that the hinge pocket was broken, and the edge guard was all that was holding the door together. We have to ensure that any repairs we do will survive a fire and the only way to do that is to test



What to do with a rusted frame? This frame will need to be replaced due to rust damage. My real question is what are they cleaning the floors with?



Can I reuse a door we have in storage? While it is completely acceptable to reuse doors in good condition, we need to make sure all the hardware on the door will match the existing frame conditions. These types of modifications are not permitted.



The inspectors at our company had a good time putting these examples together. It is a real testament to the creativity of the maintenance staff at these facilities. While some of these repairs would be just fine on a non-rated door, they will cause problems on a fire protection-rated door opening. Compliant fire doors are a huge part of our facilities fire protection. If just one door does not perform as specified, many lives could be put at risk, and as such, it is critical that we do all we can to make sure our fire doors are ready to do their job.

We can truly see the wisdom in this new code requirement for annual inspections. While in the beginning we may have chafed or balked at the thought of this new requirement, our compliance rates are showing that we needed to do better.

I hope these examples help highlight that an effective inspection requires three components:

1. Thorough knowledge of the code and how it applies to your facility.
2. Thorough knowledge of proper installation and application of hardware on rated doors and frames.
3. The ability to effectively communicate what the deficiencies are and what possible solutions there may be. If you find that your facility could use help with inspections, find one of the many DHI-trained Certified Fire and Egress Door Assembly Inspectors (CFDAIs) and Fire and Egress Door Assembly Inspectors (FDAIs). Their experience and knowledge will be an invaluable resource for you. +



MARK WALLER, FDAI, is Managing Director of AEGIS Fire Barrier Consultants. He can be reached at Mark@aegisfiredoor.com.



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ALLEGION 



Dr. Alex T. Charnick, PhD, is a
professor of psychology at the University of
Colorado, Boulder. His research interests include
the psychology of stress and coping.
His research has been published in
the Journal of Applied Social Psychology.

Why Are Certified Fire Door Inspections So Crucial?

BY JIM TAYLOR, FDAI

The unsung heroes of the fire protection world, fire doors often go unnoticed by those who use them on a daily basis, and their vital role in fire safety and the need for strict code adherence is also commonly overlooked. What makes these particular doors more critical than others to fire safety? Will they not still provide a measure of protection in a fire even if they are not entirely up to code? What are the most common causes of fire door code violations?

How are fire doors significantly different? Fire doors are *specifically designed* to prevent the spread of a fire for a predefined and tested amount of time. These doors are made of various fire-resistant materials skillfully constructed to work together to prevent the spread of a fire and provide a safe means of egress. Fire doors and their components have been rigorously tested to ensure they can withstand a fire for a specific amount of time. Each component has a distinct fire-resistance rating, which ranges from 20 minutes up to three hours.

Another reason why these doors are effective and essential fire protection devices is they will always close and latch automatically (that is, if the approved self-closing mechanisms

and positive latching components were correctly installed, have not been damaged, and no door stops were added). This automatic closing capability will ensure the door is always closed and closes safely to help prevent the fire from extending to other parts of a building, even after someone evacuates through the door.

Other components of the fire door assembly such as hardware, gasketing, glazing, door frames, and intumescent strips are all made of fire-resistant materials that work collectively to stop fire and smoke from permeating a building. The intumescent strips installed along the door edges assist in containing the smoke and any toxic fumes by expanding with the heat of a fire to seal gaps between the door

and its frame. All of these fire-rated mechanisms work together to create an effective fire protection device.

So then, are fire doors invaluable? Yes, they are! Each fire door that prevents a fire from spreading allows occupants on the other side of the door the needed time to escape. These doors aid in containing a fire to specific areas, while still allowing safe egress, giving the fire department more time to evacuate occupants and extinguish the fire. Thus, not only are these doors lifesaving, but they also assist in limiting property damage. Containing a fire and the resulting smoke and fumes in this way is especially crucial in hospitals, skilled nursing facilities, and other residential buildings where evacuating quickly is a challenge.



The complexity of these assemblies and the multitude of code requirements involved necessitate using a certified fire door assembly inspector."



WHEN AND WHY DO THEY NEED TO BE INSPECTED BY A PROFESSIONAL?

The crucial part fire doors play in a passive fire protection system underscores the importance of fire door inspections. The complexity of these assemblies and the multitude of code requirements involved necessitate using a certified fire door assembly inspector. Each part of the door assembly must be fire-resistant and specifically designed to work in conjunction with other door components to create one unified fire protection system. It is very easy for the untrained eye to miss any number of deficiencies which could result in failure under hazardous circumstances.

At the same time, each of these components can have a separate fire rating, classification, labeling, and other safety requirements. For instance, there are a variety of types of materials that can be used for fire door glazings, and they will have different fire ratings. These fire ratings need to match the fire ratings of other components of the door assembly to adequately protect a building and remain code compliant.



Glazings can also be rated to be either fire-protective or fire-resistive. Glazing made of fire-protective rated glass will protect against fire and smoke, whereas fire-resistive glazing is designed to protect against fire, smoke, and also the transfer of radiant heat. Each type and rating of glazing can have a separate building code application and size restrictions and may also need to meet other standards such as impact safety. Thus, all of these standards and codes can quickly add up to a confusing

inspection process if the inspector isn't properly trained and certified.

And, of course, over time each of these components may need to be repaired or replaced. Often, this falls to a building's maintenance personnel who may not have adequate training and knowledge of each component's fire rating requirements or the labeling requirements that also must be maintained. That's why fire door inspections need to be performed by a certified professional who has passed the Certified Fire and Egress Door Assembly Inspection (CFDAI) Program or Fire and Egress Door Assembly Inspection Program (FDAI) to ensure each aspect of the fire door assembly has been repaired properly and will protect in a fire.

NFPA 80 requires that each fire door assembly be tested and inspected annually, and a written record of the inspection kept for the Authority Having Jurisdiction to review. Although NFPA 80 says these inspections can be performed by a "qualified person" with either a professional certification or adequate knowledge and training of fire door assembly components, the extensive and detailed inspection checklist stresses the need for a certified inspector to perform these annual tests.

Interestingly, in an *NFPA Journal* article last year, a technical services lead for the National Fire Protection Association (NFPA) wrote that he didn't feel he had the skills needed to be a "qualified" fire door inspector.

"Late last year, after studying the definition of qualified person, I realized I did not have the requisite skills to perform inspection and testing of fire door assemblies to the degree of detail and completeness required by NFPA 80," he said. "For starters, I didn't know the differences between the door frame elements of

face, rabbet, stop, soffit, throat, and jamb." The author, Ron Cote, P.E., FDAI, went on to write that he decided to enroll in the DHI certification program, passed the exams, and received his FDAI certification. That an NFPA professional didn't feel adequately qualified to perform these specific inspections without a certification highlights the need for all fire door inspections to be performed by someone with FDAI /CFDAI credentials.

Ron's article can be found on page 28.

WHAT ARE SOME COMMON FIRE DOOR CODE VIOLATIONS?

Unapproved auxiliary hardware installed – this is one of the top code violations on fire doors. Kick down

door stops are often the culprit of this offense. Although a convenient way to prop open a fire door when someone plans on returning, door stops can turn into a nightmare in the event of a fire.

Even if a door stop is not installed, propping or wedging the fire door open with even movable furniture is a code violation that could cause serious problems in a fire.

Can fire doors ever be held open? Yes, fire doors can be kept open only with approved, specialized mechanisms such as electromagnets (EMR) that are connected to the fire alarm system to release automatically and close the door when the alarm activates.

The advertisement for Lockers.com features three distinct scenes of people using lockers. On the left, a young woman with a backpack stands in front of blue school lockers. On the right, a man sits on a bench in front of red gym lockers. In the bottom right, a woman in a purple apron stands next to a row of white lockers. The top of the ad displays the 'lockers.com' logo with the phone number '1-800-LOCKERS' and the word 'Lockers' in a large, stylized blue font. At the bottom, a call to action reads 'Call Regarding Our Dealer Program!' followed by the phone number '1-800-562-5377 or Visit us On-line at Lockers.Com'. The Salsbury Industries logo is in the bottom right corner, with the tagline 'People Committed to Quality Since 1936'.

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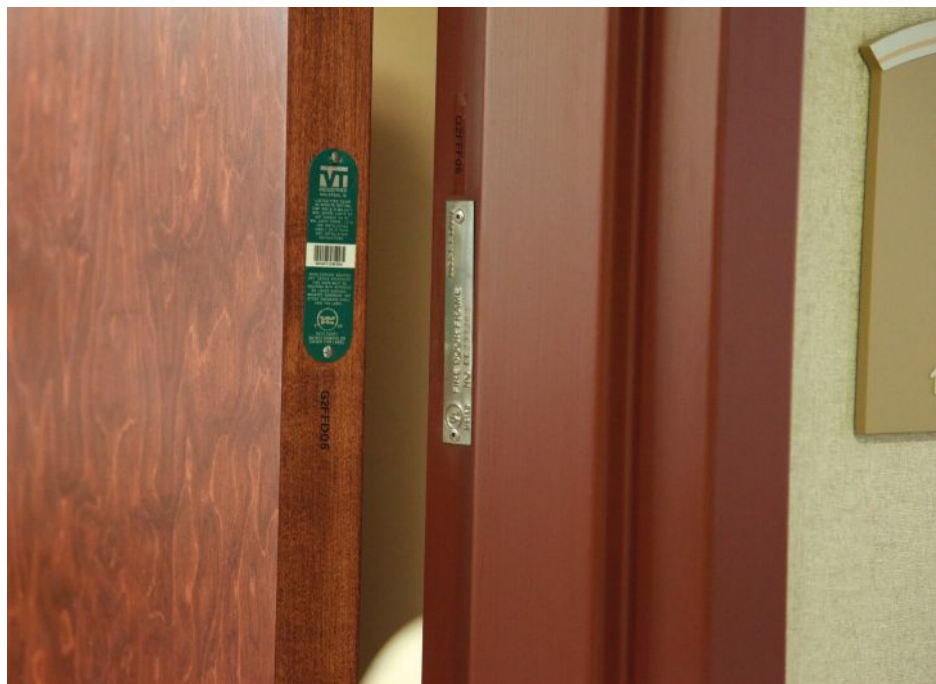
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People Committed to Quality Since 1936

Often too, hardware on the door is broken or missing so that the door doesn't self-close or latch properly. These might seem like minor maintenance issues, but they can spell disaster in a fire if the door doesn't close and latch securely after it's opened. Missing or painted fire door labels are another common offense. Labels may seem like an insignificant technicality, but they provide valuable information about the door hardware's requirement, the manufacturer, its fire testing and rating, and other necessary assembly information. This information, especially the fire rating, is vital for inspections and maintenance so that the correct fire-rated hardware is reinstalled when a repair is needed.

Overall, to stay code compliant and, more importantly, for the door to effectively protect occupants and property in a fire, all aspects of the fire door assembly must be fire-rated and working correctly as the manufacturer intended. With so many intricate parts that all need to work together to slow the spread of a fire, inspections on these silent, but crucial fire protection devices need to be performed at least annually and by a certified and experienced inspector. +



JIM TAYLOR, FDAI, is with Inspection and Specialty Sales at Mac Systems. He can be reached at jtaylor@macsystems.com.



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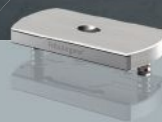
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DO YOU QUALIFY TO PERFORM INSPECTIONS OF FIRE DOOR ASSEMBLIES ACCORDING TO NFPA 80? *Are You Sure?*

BY RON COTÉ, P.E., FDAI

Are fire door assemblies in your buildings being inspected? Are in-house facility staff performing the inspections? Do facility staff inspectors have the knowledge and understanding of the operating components of fire door assemblies to serve as the “qualified person” to perform the inspections, as required by NFPA 80, Fire Doors and Other Opening Protectives?

I’ll bet that many of you who work in jurisdictions that have adopted and are enforcing the 2009, 2012, or 2015 edition of *NFPA 101®*, *Life Safety Code®*, are not aware that all fire door assemblies must be inspected and tested yearly. The requirement for inspection and testing is a result of NFPA 101 mandating compliance with a standard, in this case NFPA 80. In the hierarchy of fire and life safety codes and standards, codes generally require elements and systems to be provided; standards generally provide the how-to for the design, installation, and maintenance of those elements and systems.

NFPA 101 has required fire door assemblies to comply with NFPA 80 for more than 50 years. The 2009 edition of NFPA 101 mandatorily references the use of the 2007 edition of NFPA 80, which was the first edition to require yearly inspection and testing of all fire door assemblies. NFPA 80, like other NFPA standards, has a retroactivity statement in its administration

chapter. The retroactivity statement explains that provisions of NFPA 80 are permitted to be required of existing fire door assemblies where such requirement is specifically called out. The introduction to the chapter on care and maintenance—the chapter that contains the yearly inspection and testing criteria—states that the requirements of the chapter apply to new and existing fire door assemblies.

New editions of NFPA 80 in 2010, 2013, and 2016 fleshed out the requirements for yearly inspection and testing of fire door assemblies. For example, the inspection and testing is required to be performed by a qualified person with knowledge and understanding of the operating components of the type of assembly subject to testing. NFPA 80 defines a qualified person as “a person who, by possession of a recognized degree, certificate, professional standing, or skill, and who, by knowledge, training, and experience, has demonstrated the ability to deal with the subject matter, the work, or the project.”

Late last year, after studying the definition of qualified person, I realized I did not have the requisite skills to perform inspection and testing of fire door assemblies to the degree of detail and completeness required by NFPA 80—for starters, I didn’t know the differences between the door frame elements of face, rabbet, stop, soffit, throat, and jamb. I challenged myself to obtain that knowledge, and in so doing I set out on a path to learn what

it might take for someone not working in the door and hardware field to learn what was needed to perform fire door assembly inspection and testing.

I investigated courses offered by DHI and found a certification path that appealed to me, one based on credentialed volunteers sharing their knowledge in a classroom setting. The DHI certification program involves three courses totaling nine days of classroom learning: a two-day program and on-site written exam on codes and standards, including NFPA 80 and NFPA 101, the *IBC—International Building Code*, and *ICC/ANSI A117.1—Accessible and Usable Buildings and Facilities*; a four-day program and on-site written exam on applications of doors, frames, and hardware with time devoted to hands-on study of door hardware; and a three-day program specific to fire door assembly inspection and testing—including hands-on field inspection of a variety of door openings—followed by a computer-based exam taken at a testing center.

Participants who successfully complete the program and testing are awarded the fire door assembly inspector FDAI credential. The certification is one that should open doors for the credentialed individual.

And by the way, I passed the final exam and received my FDAI certification. +

RON COTÉ, P.E., is the former NFPA Technical Services Lead for life safety.



AHJs Eager to Learn About Fire Door Inspections

Offer free education, then burn a few doors in a parking lot after class and they will come!

BY PAUL M. GOLDENSE, FDAI

In September 2015, DHI's New England Chapter sponsored a regional trade show with free education sessions for Authorities Having Jurisdiction (AHJs), architects and other interested parties. There were about 100 AHJs, architects, facilities people and officials outside of the industry in attendance.

Jeff Batick, DHT, DHC, CFDAI, and I agreed to present an education session on fire door inspections. We filled a 90-seat lecture hall for our session, using a full-size fire door assembly.

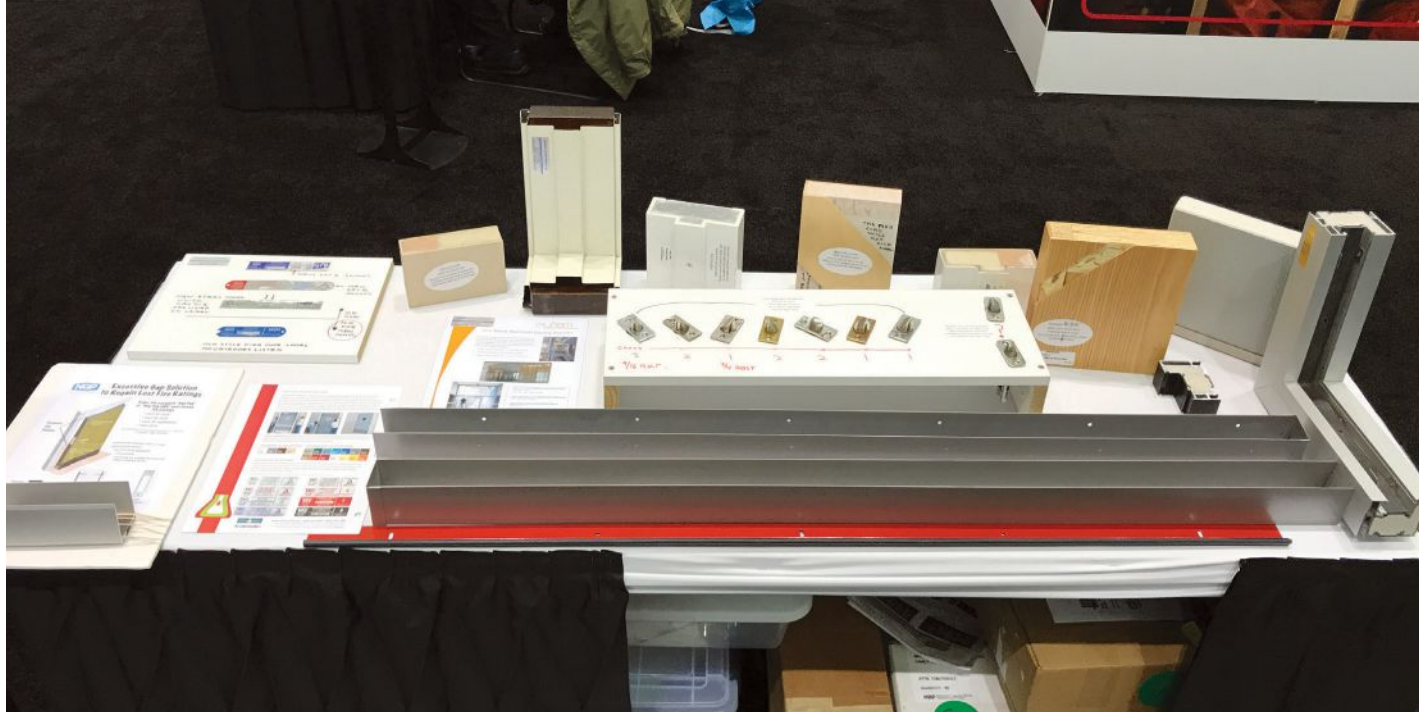
This was the first time we had presented this information and we had too much to cover with too little time.

The AHJs were very interested, and all chose to waive the break during the class and cover as much as possible in the time we had. The discussion was interactive, with many questions from the class.

The teaching display we used is a coordinated pair of fire doors with many installation problems to review. The display is a power-operated, coordinated pair of unequal leaf doors. The fire exit hardware has electric latch retraction, fail-safe stairwell re-entry electric lever trim, and three different types of glass, as well as a fire alarm pull station release to simulate what should happen during a fire emergency.

The class ran 90 minutes and then we had to leave the room for the next speaker. The discussion in the hallway after class lasted another 30 minutes, and would have gone longer but we had to get ready for the Class A and Class B fire door seal fire simulation test in the parking lot.

The Massachusetts State Fire Marshals, the Massachusetts Port Authority, four hospital groups, five architectural firms, and more than 40 fire departments attended this regional trade show. Later, the Fire Prevention Association of Massachusetts (FPAM) asked Jeff and me to do the same presentation at their annual 2016 convention in Sturbridge, Mass.



2017 National Fire Protection Association Conference and Expo, Boston

After reviewing the feedback, which was very positive, and also clearly stating that more time was required to adequately cover the subject, we tweaked the presentation and made it a three-and-a-half hour education session.

FPAM 2016

There were about 140 in attendance at the show the day we presented. There were three education sessions running simultaneously, and we had 100 people in attendance for fire door inspection education session.

With the increased time, we were able to answer the many questions fielded from the floor and demonstrate to the AHJs how things are supposed to work and what was wrong, using the fire door assembly.

After the success of the FPAM Show in 2017, we were urged to present at the National Fire Protection Association (NFPA) convention in Boston the following year.

NFPA extended our time slot to 90 minutes and had us set up the fire door assembly in the NFPA booth at the show, which allowed us to present education on the show floor for the three days of the show.

Presenting education at an international show was a unique experience for Jeff and me. Attendees were coming to the booth from foreign countries, bringing their interpreters with them to ask questions. We had fire door products on display tables in the NFPA booth provided to us by many manufacturers.

We taught to a wide and varied international audience of fire personnel, fire protection engineers, manufacturers, architects and testing agencies. Hundreds of people came through the NFPA booth to ask more questions, see product, and better understand the new subject of fire door inspection.

The thirst for education by the AHJs is substantial, and we have been asked to take this presentation to Canada and many other states.

Many of the people coming to the NFPA booth were outside agencies jumping into the fire door inspection business. These “inspectors” understand clearances and labels, and some understand glass, but no one outside the door industry understands door hardware. The number of people



Fire doors used for training at NFPA convention.

AHJs inspecting the seal performance of the Category A and Category B fire seals.



who asked how the doors could be fire-labeled without overlapping steel astragals was astounding. The fact that an astragal could inhibit egress through the pair was beyond the comprehension of many.

The inactive leaf of this demonstration pair has a thermal fire bolt. The requirement of three- or four-point latching on pairs of doors per NFPA 80 was totally missed by many inspectors. In general, “provided the door latched” in some way shape or form was all most inspectors outside the door and hardware industry cared about to pass a door assembly for latching.

DHI has trained its Fire + Egress Door Assembly Inspectors (FDAIs) to do a better job than others I see. Recently

my firm was asked to do fire door remediation work at two hospitals. We were given the inspection report by the inspection agency and asked to repair the deficiencies. When we looked at the report we realized that the inspection agency did not realize that the frame was part of the fire door assembly. The report called for new 90-minute steel fire doors and hardware in old wood frames. Other parts of the report were calling out 60-minute stair fire doors on a brand new two-story building as non-compliant. The inspecting agency was not aware that buildings of three stories or less only require 60-minute stairway doors.

From my experience of inspecting fire doors, starting in 1989 and now at well over 100,000 doors, the only people

qualified to inspect fire doors are “hardware people.”

“Do it right or walk away” is our company policy. Improper inspections—which in my experience outnumber proper inspections—will cause the failure of many inspection companies as The Joint Commission and Centers for Medicare and Medicaid Services, as well as fire inspectors, learn what is required. Do it right or don’t do it at all. Lives are at stake when fire doors fail and the lawyers are on the other side beyond the flames. +

PAUL M. GOLDENSE, FDAI, is President of Goldense Building Products, Inc. He can be contacted at paul@goldensebuildingproducts.com.



Setting Up a Successful Inspection Company and Attracting Opportunities

BY SCOTT A. SABATINI, DAOC, FDHI, FDAI, CCPR, CSI, RCI

A fire and egress door assembly inspection company should have a business model that provides a roadmap to establish and operate a successful business. The following modified business model canvas has strategic management guidelines within a lean startup template. The template describes, designs, challenges, invents an independent field inspections of fire and egress swinging doors, frames and door hardware company business plan.

Operating a successful inspection company requires business development, administration, education, training, resources, certifications, and tools. Effective advertising, marketing, promotions, solicitations and networking is needed to attract and obtain valuable clients. Consistent presentations, relationships, and volunteering with related associations will help your goal to become a Trusted Solution Provider. +



SCOTT A. SABATINI, DAOC, FDHI, CFDAI, CCPR, CSI, RCI, is Principal of the independent consulting firm Door + Hardware Consultants, Inc. He has over 35 years of experience within the door openings industry in multidisciplinary architectural consulting, specification writing, manufacturing, independent sales representation, contract distribution and installation. Scott has served

in executive officer positions on the DHI Board of Governors and as DHI President in 2008-09. In 2011, he received DHI's Fellow distinction for contributing significant and outstanding service to institute and to the industry. Contact him at ssabatini@doorhardwareconsultants.com.

ESTABLISHING AND OPERATING AN INSPECTION COMPANY

1. SERVICES AND LEGAL STRUCTURE

SERVICES

- Independent field inspections of fire & egress swinging doors, frames, and door hardware
- Annual Inspections of Fire & Egress Doors: NFPA-80
- CMS Annual Inspections per NFPA-101

LEGAL STRUCTURE

- Business - New business: register business structure and name with government; implement canvas model into existing business, or teaming up with an existing company
- Business permits/licenses - business laws/regulations

3. PROFESSIONAL SUPPORT

- Attorney: Client contracts and agreements
- Accountant/Tax Professional
- Insurance Agent
- Financial Planner
- IT Support, internet services and phone services
- Back-up Services - Dropbox, Cloud, Etc.
- Web Service & Graphic Designer - Domain name, website, hosting, logo design, stationary design

5. EXPENSES

- Travel - Mileage, airfare, lodging, meals
- Communication - Email and telephone calls
- Inspection tool costs
- Transportation - Vehicle expenses
- Office expenses - Printer, technology equipment
- Self-Employed or Employees' expenses
- Business expenses under prior categories

2. INSURANCE

- Workman's Compensation
- Vehicle Insurance
- Errors and Omissions Insurance
- General Liability Insurance
- Medical and Dental Insurance
- Research TISC on DHI website, or others insurances

4. FINANCE & ACCOUNTING

FINANCE

- Cost to set up a business
- Cash Flow - Cash and/or Accrual Basis

ACCOUNTING

- Tax filing: Federal & state/local taxes
- Accounting Software & Banking Services
- Point of Sale/Cash or Credit Agency - Open account approval
- Record Keeping - Proposals, invoicing, collecting fees

6. FEE FOR SERVICES

- Estimate/proposal fees varies per facility and project
- Service fees - Retainer, hourly rate, stipulated sum
- Fee for initial inspection
- Separate fees for 3rd Party Recertification & Labeling Services
- Fee for contract on annual inspections
- Reimbursable fees/expenses
- Fee Invoicing - Work completed, daily, weekly, monthly
- Collecting fees - Terms in contract
- Finalize agreement - Discuss/negotiate project fee with client

CERTIFIED FIRE + EGRESS DOOR ASSEMBLY INSPECTOR

1. MINIMUM LEVEL OF EDUCATION, TRAINING & CERTIFICATIONS

EDUCATION AND TRAINING

- Door & Hardware Institute (DHI) Classes
 - ✓ COR117 - Knowledge Assessment Tool - Successful passing this exam is a prerequisite for taking the DAI300/DAI600. Failing to pass this exam would require taking COR117 in-person
- COR101 - Fundamentals of Architectural Doors and Hardware
- COR102 - Introduction to Building Codes
- DAI300 - Fire Door Assembly Inspection - Technical Level Course
 - ✓ For personnel working under the supervision of a CFDAI or FDAI
- DAI600 - Fire and Egress Door Assembly Inspection

CERTIFICATIONS

- DHIA - Door + Hardware Industry Associate
- CFDAI - Certified Fire Door Assembly Inspector
- IQP - Intertek Qualified Personnel

3. INSPECTION TOOLS & EQUIPMENT - CONTINUED

- Inspection Vest - "ScotteVest" Travel Vest, equal
- Bottle water and snacks - Comes in handy on long days
- Optional: Construction/ surgical gloves, knee pads, booties, medical/surgical facemasks, antiseptic gel, towels/rags

DOOR OPENING ALIGNMENT TOOLS

- Tape Measure (Manual or Electronic)
- Plumb Bob, Level/Smart Level
- Tolerance Gauges
- Door Opening Pressure Gauge - Spring Gauge and/or Digital Calibrated Gauge
- Photographic Equipment - Camera or Camera Phone
- Optional: Smartphone Endoscope (Snake) Camera

5. RESOURCES FOR INSPECTING

- Federal, State, City, and/or Local AHJ, City Building Department and/or Fire Department - Call or visit website for information
- Adopted Building & Fire Codes
- NFPA-80, NFPA-101, NFPA-105
- ANSI A117.1 (Accessibility)
- UL-10C Standards
- Accredited Third-Party Inspection Agencies/ Laboratories
 - ✓ UL, Intertek (Warnock-Hersey), QAI
- Industry Experts
 - ✓ Manufacturers
 - ✓ idighardware.com

2. INSPECTION TOOLS & EQUIPMENT

BASIC TOOLS & EQUIPMENT

- Safety Equipment - Hard hat, safety vest, steel toe shoes/boots, safety glasses
- Rolling Cart to carry tools and equipment
- Short ladder or stool
- Documentation methods: Lined paper/clipboard or tablet/laptop
- Documentation software: Word, Excel, Access, or Inspection Software
- Lighted extension mirrors
- Small Magnet
- Flashlight

4. COMPANY IDENTIFICATION

- Business logo
- Stationary with logo
- Business Cards
- Business Picture ID Cards
- Business Logo on Apparel
- Business Bar or QR code labels applied to inspected openings

6. INSPECTING GUIDELINES

- Obtain Supporting Documentation - As Built Drawings and/or Approved Submittals
- Construction Documents
- Identify fire/smoke walls
- Research manufacturer's listings
- Recommended Corrective Actions
- Report: Cover page with description of facility, inspection process, and codes & standards; List of identified openings with DHI inspection deficiency check-off list, recommended corrective actions; Overall summary of inspection

GETTING BUSINESS AND ATTRACTING CLIENTS

1. SALES VS MARKETING - SHORT AND LONG TERM

- **Sales** - Client accepts and buys services
- **Marketing** - Activity to communicate your services
 - ✓ Define Specific Services
 - ✓ Short- and long-term marketing plans
 - ✓ Goal - Trusted Solution Provider - to understand clients' needs

3. DIRECT MARKETING STRATEGIES

- Emails
- Mailings
- Vendor Portals - portals to register your services
- Telephone and In-person calls

5. SALES AND MARKETING NOTES

- Client's needs and pain points
- Promote business daily
- Go out and get business
- Be patient - It takes times
- When busy - Don't stop marketing
- Rejections are a few - Success is a future
- Teaming - Business relationships with other related trades

2. INDIRECT MARKETING STRATEGIES

- Advertising/Marketing/Networking/Promotions/Solicitations
- Business brand - business card, website, social media, blogs
- Presentations - Lunch & Learns, Table Tops, Website/You Tube
- Advertising - Publications, associations, conferences
- Related Associations - Networking
 - ✓ American Society of Healthcare Engineers (ASHE)
 - ✓ Associated General Contractors of America (AGC)
 - ✓ Construction Specification Institute (CSI)
 - ✓ DHI - Door Security + Safety Professionals
 - ✓ Door Safety & Security Foundation (DSSF)
 - ✓ International Facility Management Association (IFMA)
 - ✓ International or State Firefighter's and Fire Marshal's associations

4. CLIENTS

- Create a client's marketing database
- Facility Directors and Maintenance/Operations Managers for Healthcare, Educational, Business/Corporate, Hospitality, Federal/Government, Stadium/Sports Venues, Etc.
- Architects and design professionals - New construction
- General Contractors/Construction Managers
- Contract Hardware Distributors
- Owners/Developers
- People you already know - facility or maintenance directors
- Organizations and Associations for facilities
- Sources of names/contacts: industry directories, association directories, news articles, LinkedIn, social media

AVOID COMMON MISTAKES AND PITFALLS

- Certifications and/or training as accepted or required by AHJ
- Become efficient on the inspection process
- Potential phasing of partial work due to access to areas
- Fee research on what the market can bear
- Conflicts of Interest - Be familiar with any Government/Public Contract Codes that may have restrictions for inspections and corrective repairs
- Show respect for client's facility and privacy issues
 - ✓ Prior identification of restricted, sterile or sensitive areas
 - ✓ Advanced coordination of accessing facility
 - ✓ Safety Training and Background Checks of company/workers



Fire-rated Door Considerations Everyone Should Know About

BY TRENT TURNER

Proper fire-rated equipment is a critical safety component for any facility. But while there is a wide range of fire-rated doors and door hardware available, not all offerings are created equal. Products used must be designed and listed or classified and bearing a fire label to ensure people's security, safety, and convenience in residential and commercial buildings.

The two most widely recognized listing agencies are Underwriters Laboratories (UL) and Intertek Testing Services/Warnock Hersey (ITS-WHI), which ensure reliable, fire-rated products comply with the highest functionality and pass the latest, most rigorous performance tests.

Fire doors serve several functions. On a daily basis, they prevent unauthorized access. In the event of a fire, they are closed and become a fire protective. When opened, they facilitate immediate escape and

allow first responders entry. Fire doors must meet the requirements of several essential codes and standards including the International Building Code (IBC), National Fire Protection Association (NFPA) and Underwriters Laboratories, as well as local codes.

Doors are installed everywhere, but in large public buildings, many doors must be fire-rated. Such doors determine the safety and functionality of a specific structure. Openings in fire protection separations and smoke barriers require fire door assemblies

which include the door, frame, hardware, and glazing. All components of a fire-rated opening, or a complete assembly, do not necessarily have to be sourced from the same manufacturer, but they all must meet the same fire rating requirements.

Fire-rated openings must be self-closing and self-latching at all times to prevent the spread of smoke and flames. This compartmentalizes the building, allowing building occupants time to safely evacuate via designated routes.

Let's take a quick look at some specific products:

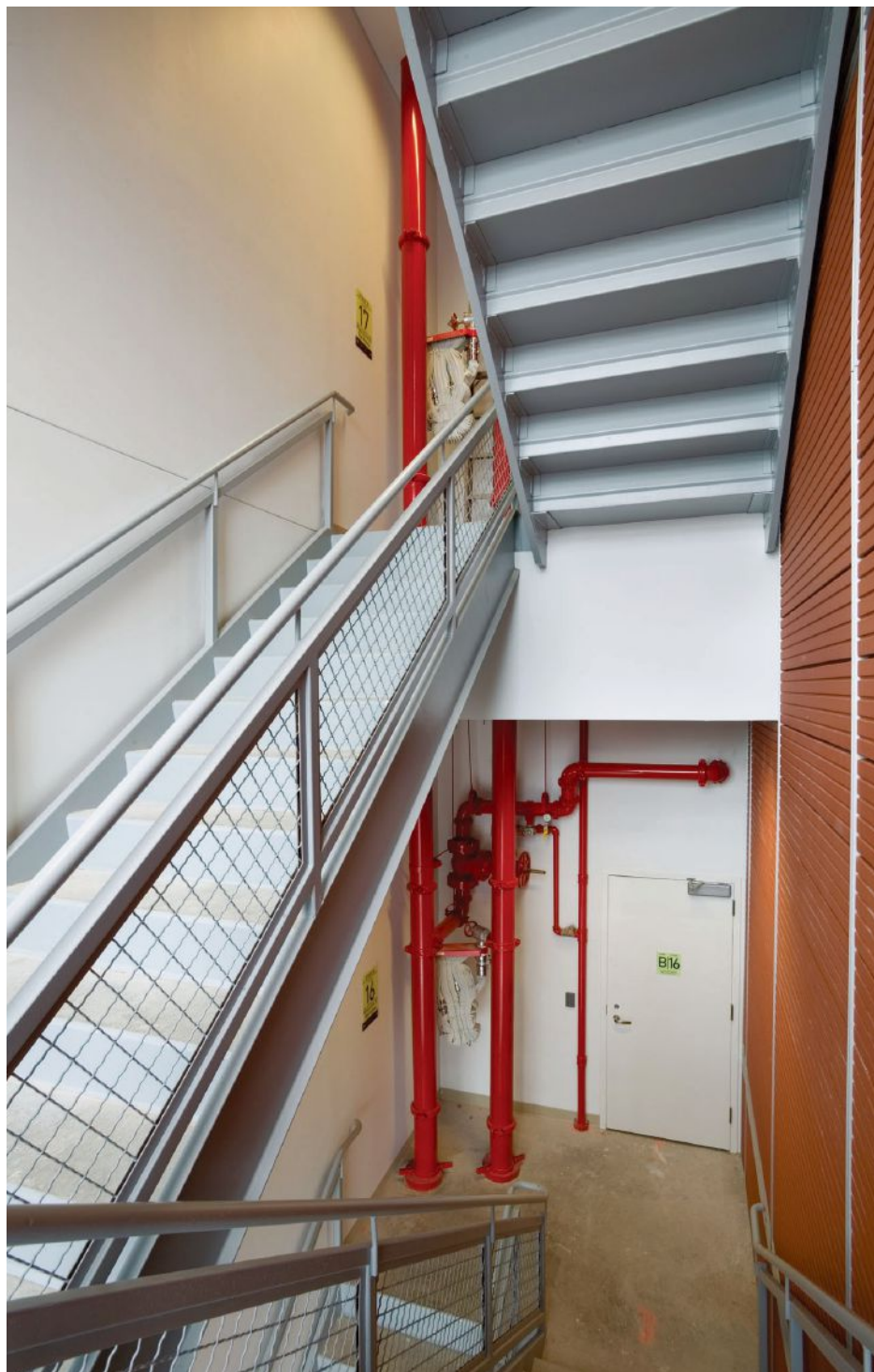
Fire and Temperature Rise Doors

The IBC mandates the required fire resistance rating of a wall in a specific location, which then determines the required rating of the fire door assembly. Fire-rated doors are rated $\frac{3}{4}$ of the fire rating time of the surrounding wall. For example, in a four-hour fire-rated wall, the door and frame will need to have a three-hour certified fire rating. Three-hour ratings are usually specified for door openings in walls that separate buildings or divide a single building into designed fire areas.

Similarly, with a two-hour rated fire wall, the door and hardware needs to be fire-rated for 90 minutes. These doors are normally used when there's vertical communication or egress through a building, such as stairwells and elevator shafts. Another variation is a one-hour wall rating, in which the door could have a 60-, 45- or 20-minute rating. These ratings vary depending on if the door is used to separate rooms in a corridor or if smoke and draft control is the primary concern.

Fire-rated doors may also have to meet a temperature rise criteria. In stairwells, this typically helps ensure that occupants can still safely walk past the door to exit the building. Without a temperature rise rating, the door may give off too much radiant heat, prohibiting occupants from passing by the door toward safety.

There are 250-, 450-degree, and 650-degree temperature rise ratings, meaning that the opposite, non-fire exposed side of the door will not exceed that temperature at the end of the first 30 minutes. The 250°F temperature-rise rating is the most stringent rating of the three since it requires the most limiting rise in temperature. Temperature rise doors may not be required in buildings with automatic sprinkler systems.



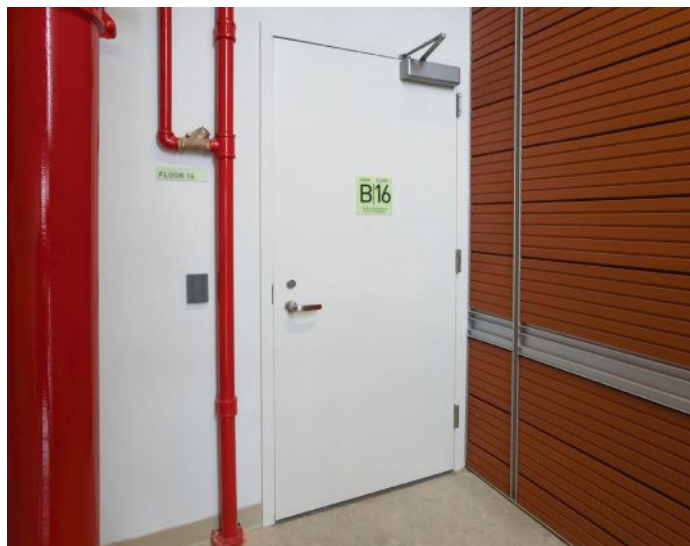
Steel Doors

Offering excellent fire resistant performance, safety, and energy efficiency along with noise insulation properties, fire-rated steel doors are very effective when properly installed. Steel fire doors can be fire-rated up to three hours, offering more protection and durability than other door materials. They can be found in almost every type of building, including

schools, hospitals, hotels, stadiums, airports and government facilities.

Wood Doors

Fire-rated wood doors control the spread of fire and smoke for up to 90 minutes and are available in a variety of veneers, styles and sizes. They can meet a wide range of customer requirements and are widely used in hotels, offices,



theatres, cinemas and concert halls, as well as residential buildings.

Glazed Doors

Fire-rated glass may look similar to standard window glass and is available with fire ratings ranging from 20 minutes to three hours. Specialized glass can provide additional performance benefits, such as impact and bullet resistance. Also, fire-resistive glass blocks the passage of flames and, unlike fire-protective glass, also blocks the passage of radiant heat and thermal energy. Fire-rated glazing also improves visibility and increases daylight through the building.

There are many different parts to the door assembly, the hardware, and the fire-rated glass that needs to be installed into an appropriately rated glass kit. All components of the door and the glass, as well as the glass kit, must meet the required fire rating. If one component doesn't have the proper rating, the whole assembly could prematurely fail.

Additionally, glass doors must meet impact safety requirements. Fire-rated glass is impact tested and rated to assure the glass will not shatter or will shatter in a safe pattern if broken by impact.

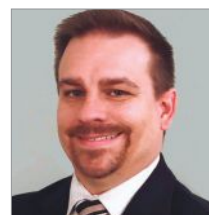
Specialty Doors

Specialty doors also need to carry fire ratings. From acoustical doors to tornado and hurricane-resistant assemblies, to military and government building applications that have blast, bullet or forced entry resistant requirements; they all must also meet appropriate fire ratings.

As a final note, field modifications of fire-rated doors and door hardware are allowed but have several restrictions. For example, holes drilled in the field are limited to one inch in diameter, with the exception of cylinder holes that can be any size. The listing laboratory may approve field modifications for alterations that are not allowed as job site preparations if a description of the modification is submitted in advance and approved

by the listing agency. Other alterations may require a field inspection of the assembly to be relabeled by the listing laboratory in the field.

Fire-rated doors and door hardware must comply with a range of codes and standards. Architects, designers, and installers all need to have a respective level of understanding to assure these critical, potential life-saving door and door hardware systems are properly specified and installed. Leading manufacturers of fire-rated door and door hardware have a range of resources available to assist with the proper specification and installation, from online resources and videos, support apps and expert personnel, to warranties. Finally, always consult and comply with local authorities. +



TRENT TURNER is Director of Hollow Metal Marketing for ASSA ABLOY Door Group. Contact him at Trent.Turner@assaabloy.com.

FOR MORE INFORMATION:

IBC International Building Code
<https://codes.iccsafe.org>

National Fire Protection Agency NFPA80 Fire Doors and Other Opening Protectives

National Fire Protection Agency NFPA 101 Life Safety Code®

National Fire Protection Agency NFPA 105 – Standard for Smoke Door Assemblies and Other Opening Protectives
<https://www.nfpa.org/codes-and-standards>

SET YOURSELF APART FROM OTHER FIELD INSPECTORS BY Becoming a Certified Fire and Egress Door Assembly Inspector

Take DAI600 – a Face-to-Face Course – 32 Hours

Fire and egress doors are an essential part of the safe means of egress for occupants of buildings. Ensuring that these door assemblies are properly maintained and able to perform their vital function requires persons with knowledge of and experience in these types of doors.

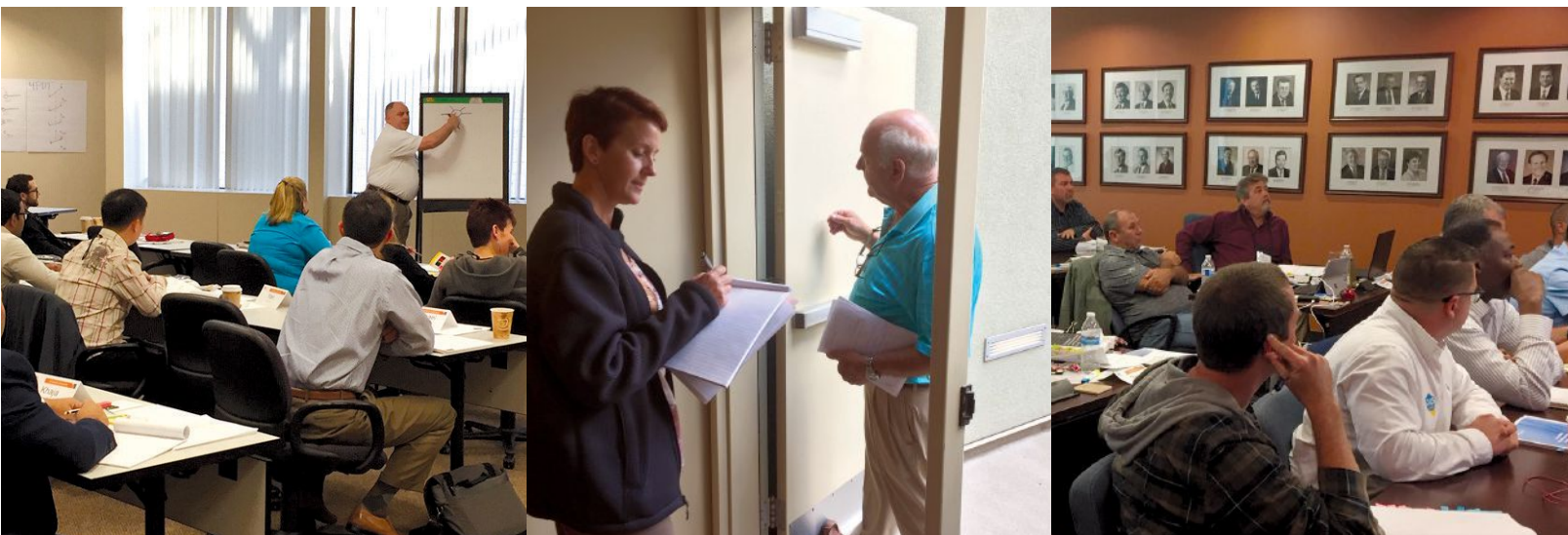
CFDAI
Certified Fire + Egress
Door Assembly Inspector

NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, requires documented inspections of fire-rated door assemblies on an annual basis. NFPA 80 requires these inspections to be performed by qualified persons who are knowledgeable of the types of door assemblies being inspected. Certification will get you that recognition.

The DAI600 class will teach you how to perform and record these inspections, as well as provide tips for interacting with owners and AHJs. The CFDAI certification will be awarded to students who pass DAI600 and the associated certification exam.

RECOMMENDED PRIOR COURSES:

- COR140 – Using Codes and Standards
- COR117 – Door, Frame, and Architectural Hardware Applications





2018 DHI ACHIEVEMENT

Award Winners

Founder's Award



David L. Neuner Sr.
President, D.L. Neuner Co., Inc.

“DHI President, Door Security & Safety Foundation President, untold committee service and determined leader sum up David Neuner’s service to DHI.”

DHI’s highest and most prestigious award recognizes significant and outstanding service to DHI and the door security + safety industry over an extended period of time.

What does DHI mean to you today compared to when you first joined?

When I got started in 1979, DHI had a much greater local reach. The St. Louis Chapter was very active and the meetings would generally attract 40-50 people. The local Chapter also provided education, which was of great value as it didn’t require travel and generally was a one-day event. The St. Louis Chapter was a great vehicle for me to get to know people in our industry, both locally and nationally.

Today’s DHI, thanks in large part to technology, has a more national footprint. The online education is tremendous and allows members to advance their careers in a more streamlined path and without unnecessary travel time away from their businesses. I’m confident that as DHI continues to make changes not only in education but also in membership opportunities, they will continue to provide an invaluable service to the membership.

What would you tell young professionals today, entering the industry?

Professionals entering our industry today need to be just that—professionals! Embrace the opportunity, lean on DHI for education and have passion for what you are doing. Most importantly, always do the right thing and treat people as you would like to be treated.

How did you get started?

I got started in the industry after graduating from St. Louis University with my uncle’s company J. F. Neuner, Inc., which was a very successful manufacturer’s rep company in St. Louis. Jim was a great mentor, was very well respected in the industry, and many of the companies that we represented in 1979, we still represent today!

What does it mean to you to be recognized by your peers for this award?

To receive the Founder’s Award is quite a thrill for me. When Gina Ravens, DAHC, CDT, called me with the news, I was completely blown away—this was not even on my radar! I am truly humbled and I’m quite sure there are many other people in our industry more deserving, but I’ll gladly accept the award!

What do you consider your greatest accomplishment?

My greatest accomplishment is having been married to my wife Teresa for 38-plus years and having four wonderful children—two of whom, David, Jr., and Patrick, work for our company. The other two are very successful in their own way, Ted with Edward Jones and Tom an attorney in Chicago. I have truly been blessed to have a wonderful family and a wonderful business that hopefully will stay in our family for many years to come!

Where do you see our industry going in five to 10 years?

The industry in the next five to 10 years will continue to see consolidation on both the manufacturer front and with distribution. While we have been saying for the past five to 10 years that access control will become a bigger factor in our industry (the industry is slow to change!), I am confident that within the next five years Division 8 and 28 will collide. Contractors and end users will look to source their hardware and access control from one distributor, not only for the ease of doing business, but to have one point of contact for their security.

Fellow Awards

The Fellow Award is DHI's second highest award, based on service, and is conferred on any DHI member who is deemed to have contributed significant and outstanding service to DHI and the door security + safety industry.



Milton G. Allred,
AHC, FDHI

Senior Business Consultant,
Comsense, Inc.

I would like to thank my nominator(s) and the Awards Committee for this honor and recognize the other award nominees and recipients for their dedication to DHI and the industry.

What drives you to stay involved with DHI and how can you share that enthusiasm with members new to DHI and the industry?

As I have learned, there are so many wonderful people in our industry willing to share their experiences and knowledge, and so many new faces eager to soak up this information. It is exciting to be involved in an industry that is continuing to evolve and grow with the introduction of new diverse challenges. I encourage the members new to DHI to accept and embrace these opportunities.

How did you get started?

I was encouraged to get involved with DHI by Les Groves, DAHC, and Bill Morris, DAHC, two of the best advocates for our industry. They never missed an opportunity to extol the virtues of the trade.

What do you consider your greatest accomplishment?

As President of the Ontario Chapter, it was my honor to recognize individuals achieving AHC, CDC, EHC and AOC Consultant status. At one meeting in 2006, I had the opportunity to recognize five AHCs and two EHCs in the same evening. It was a very special night for me.

Where do you see our industry going in five to 10 years?

Change is the new normal in our industry and in the world in general, so it is difficult to predict what anything will look like in five to 10 years. We must be willing and able to recognize changes as they are coming, model our behavior to work with them to our best advantage, and adapt ourselves to deal with those we cannot model.



Michael L. Gibson,
FDHI, CPL

Vice President, Mulhaupt's, Inc.

What drives you to stay involved with DHI and how can you share that enthusiasm with members new to DHI and the industry?

DHI is a wonderful organization. The educational programs that we have today are outstanding, and the one thing our industry needs not only today but going forward is education. That alone will keep me involved. Other important things like DHI conNextions, the DHI Management Summit, and the many programs that will come over the next several years will help keep our company at the forefront of our industry.

How did you get started?

I joined Mulhaupt's in 1972, which led to a 46-year journey in the industry.

What do you consider your greatest accomplishment?

So many great things have happened since I came on the Board, but the one thing I am very proud of is the New Day, New DHI and how it has changed the way education is done and delivered. That was the reason I became involved at the Board level in the beginning. I wanted to see if we could expand the offerings and the method of delivery. A few examples:

- More levels of certifications
- Faster delivery of education
- Online course offering
- Faster grading of the test
- All courses reviewed and brought up to current day relevance
- Working closer with the manufacturers and their education programs
- Creating a great value for the companies that send and use DHI training

I believe this has been a wonderful success and well received by our industry.

Where do you see our industry going in the next five to 10 years?

The next several years will most likely see a continuation of consolidation, with technology continuing to change at an even faster pace than it does now. DHI is needed to play a very important part in helping prepare individuals and companies with this change through education and a program offering that keeps pace with the industry. That is a tall order I know; however, after meeting so many of the bright minds currently involved in DHI and the next generation of very smart people I have been fortunate to meet coming into the industry, I believe DHI is up to the task.

Fellow Awards *Continued*



Tim Petersen,
LEED AP, FDHI
Vice President, Sales,
VT Industries

What drives you to stay involved with DHI and how can you share that enthusiasm with members new to DHI and the industry?

My entire working life has been in the openings industry. As such, it is very important to be an active participant in the industry. I derive great value and a positive feeling of accomplishment in giving back by volunteering to share and assist in leading our industry organizations. I feel it is very important for members to lead. Those of us who really understand our products and the industry must be willing to share with the new generation coming into the business.

I am currently on the Board of Directors for the Window and Door Manufacturers Association and find it equally as challenging as participating in DHI. Volunteering in both organizations has been personally rewarding to me and I always tell young members in our industry to get involved. Write an article; sit on a committee; become known in the industry, because this is a great industry in which to be involved!

How did you get started?

I left the Navy in the late 70s and needed a job. I got one at a door and window distributor, where I started working on the shop floor and loading dock.

What do you consider your greatest accomplishment?

My career proves you can achieve your goals. I started in the warehouse unloading trucks and sweeping floors. I remember seeing salesmen come in and I told myself, "I want that job." I worked my way into that job and more, eventually becoming a Vice President at VT Industries (and spending a term as President of DHI). I am proud of the fact that I proved to myself we can achieve our dreams if we set goals and focus on achieving them.

Where do you see our industry going in five to 10 years?

Much more integration. We really need to focus on the industrial revolution that is taking place right now. Technology is dictating the direction of all industries and we need to embrace it and adjust to it. This industry is really a crossover between required products (doors, frames, hardware, etc.) and how they are now intertwined with the technological revolution that is changing our world.



"[Tim's] dedication to the industry was evident in his role as president when he visited over 20 chapters to connect with DHI members across the country."

"[Milt's] service on DHI Canada's Board, including leading to its successful growth with its revamped strategic plan, underlines his contribution to the door security + safety industry."

"The success DHI found under [Mike's] presidency is a testament to his dedication to door security + safety professionals and set DHI up for success for years to come."



Distinguished Consultant Awards

This award is based on technical expertise and may be conferred on any DHI consultant member (AOC, AHC, EHC or CDC) with a minimum of 10 years as a contributing member of DHI.



**John Hamilton,
DHT, DAHC/EHC, FDAI**

*Architectural Security
Consultant, Allegion*

How has earning DHI certifications and taking education helped your career?

Early in my career, it became apparent that architectural hardware was a highly technical field and to be successful, I needed to be proficient and knowledgeable. I attended my first hardware class in Orlando, sponsored by the Sunshine Chapter of DHI, which reinforced my desire to learn more.

After that I signed up for AH-2 in the old curriculum, and it was there that the hook was set. Bob Jutzi, DAHC, FDHI, my head instructor and his team, made the world of doors and hardware come alive. I always tell the story that I learned more in his class in one week than I learned on the job in a year. Not only did I learn application (sometimes misapplication), I also learned how to read and apply codes and standards and where to look to find the relevant data. After that, clamoring for more knowledge, I attended virtually every hardware school DHI had to offer, ultimately becoming an Architectural Hardware Consultant.

DHI certifications have certainly helped me move up the ladder in my profession from an estimator, to detailer, to consultant to lifelong student of our profession. In the process, I've helped others along the way.

What does the distinguished designation mean to you?

Reading the criteria for the award, *"Nominees shall have demonstrated a high degree of technical excellence and standards of performance of DHI consultants; contributed to the improvement and promotion of the body of knowledge of the door and hardware industry; and/or aided in the technological advancement of the industry,"* I was humbled by the thought that others felt I might be worthy of this prestigious award. Even more so when I learned I had been selected to join such an impressive group of consultants.

Looking at the list of past recipients of the Distinguished Consultant Award, you can't help be in awe of the list; many of whom served as instructors for the classes I attended. Later in my career, I had the good fortune to teach at DHI Technical Schools, which helped me hone my skills and instill some modicum of professionalism. The list of past recipients is like the "Academic All-American" list of DHI consultants—all have selflessly given back to our industry so others can learn from their expertise. To be included is truly amazing.

What advice would you have for someone just starting in the industry?

The answer to this question is obvious—education is paramount. Learn all you can, become the "go to" person in your office, share what you know and mentor those entering our industry. Get certified and set yourself apart from your competitors.

Where do you see our industry going in five to 10 years?

The door and hardware industry is definitely undergoing change. We have become a digital society and it is apparent in how we perform our work. Whether it's drawing, submittals, RFIs, ASIs, or change orders, everyone wants/needs their information at a more rapid pace than ever. Keeping up is a challenge; the digital platforms are numerous and we must be proficient in most to succeed.

With the proliferation of electrified hardware and access control, the supply channels have become blurred. Areas of responsibility have changed. Who supplies the electrified hardware sometimes changes as the contractor looks for a single source of responsibility. Project delivery methods and construction contracts are not what they were in the past. Those that embrace change will succeed, and those that don't, sadly will struggle.

Distinguished Consultant Awards

Continued



Gina Ravens,
DAHC, CDT

*Senior Project Detailer/Trainer,
H & G/Schultz Door*

How has earning DHI certifications and taking education helped your career?

I fortunately had great mentors and worked for distributors who supported me and emphasized the importance of education through DHI. Going through DHI's education program and passing the AHC exam in 1991 gave me the confidence to write specifications. This has helped me communicate and advise architects and contractors on solutions for applications and issues on projects. It has also helped me to gain credibility as a female professional in the construction industry.

What does the Distinguished designation mean to you?

It is a great honor to be recognized for my degree of knowledge and participation within the door and hardware industry, especially since I'm only the fourth woman to ever receive this award. The Distinguished designation shows the time and professionalism I have put into my field are truly valuable and valued.

What advice would you have for someone just starting in the industry?

Pay attention to details; every number and letter means something. It is important to look up the hardware items to understand their numbering system, to know how it functions and how it is mounted to the door and frame. You will always learn something new every day in your career, including from your mistakes. I'm still learning. Also, you need to understand building codes and standards so you can advise architects, owners or contractors that what they want to do may not be able to be done per code.

Where do you see our industry going in five to 10 years?

As the field grows progressively more to electronics and security for schools, I would like to see DHI continue to promote the certified credentials to architects and contractors so they will insist on having a certified consultant for their projects. There are so many inaccurate specifications being produced with no regards to what the owner and facility wants. I can still go into an architect's office and they have no idea what an AHC is or to even ask for one. As technology develops for security, I think these credentials will continue to grow to be even more important.



Thomas B. Rose,
DAHC/CDC

*Specification Consultant,
Allegion*

How has earning DHI certifications and taking education helped your career?

Without the help of outstanding independent representatives' assistance and DHI programs, I never would have achieved consultant status. This led to being recommended for a role as a DHI instructor. Being an AHC/CDC and instructor gave me a leg up in the marketplace. With the industry behind me, I was able to have more success than many of my competitors.

What does the Distinguished designation mean to you?

This is an amazing honor as it is peer-driven and not test-based. To have people you work with take their time and initiative to nominate you and then build a campaign for your success is quite humbling.

What advice would you have for someone just starting in the industry?

Listen, learn, go beyond the Comsense and ProTech and learn the codes and products. Put in the hours and strive to be better.

Where do you see our industry going in five to 10 years?

I hope the new education programs will lead to greater participation in DHI classes, bringing more consultants to the industry. Ours is a hands-on business and not a computer-based business. I have always called our jobs "white collar with blue cuffs" and if you take away the blue cuffs, I'm out. Know your products and know your codes.

Award of Merit

This award is reserved for presentation to any individual (member or non-member) who has rendered outstanding contributions to the advancement of the aims and objectives of DHI and the door security + safety industry in any capacity.



Brad Newcomer

*Manager, Process Improvement,
D.H. Pace Company, Inc.*

What does it mean to you to be recognized by your peers for this award?

It's a humbling experience. This recognition would not be possible if I hadn't been blessed to work with and learn from a number of outstanding colleagues in the industry. Their dedication and passion have inspired me to continue to grow and learn every day.

What advice would you have for someone just starting in the industry, and how should they get involved with DHI?

View it as a journey instead of a race. Get engaged in your local DHI chapter to not only learn about products but also build relationships outside of your office. Take advantage of the online learning, but don't pass up an opportunity for hands-on training. Never stop asking questions and continue to push yourself outside of your comfort zone.

Where do you see our industry going in five to 10 years?

Technology will continue to impact the industry in exciting ways, and customer expectations will continue to increase. While keeping up-to-date with the latest gadget can be interesting, the true value that our industry must deliver regardless of the environment is the commitment to customer service and excellence—in an ethical and respectful manner.



[As secretary of the Mo-Kan Chapter, Brad] continues to push the bar on speakers, training topics to cover...and our members recently gave [chapter activities] the highest mark in three years, a direct reflection of Brad's passion."



John E. Petersen

*Founder and President of
Petersen Custom Software, Inc.;
Former Owner, Software for
Hardware*

What does it mean to you to be recognized by your peers for this award?

I was surprised and honored to be considered for the Award of Merit. I've been privileged to work with industry pros from all over the

country, and over the years, many of my customers have become personal friends. We're all in business for profit, but for me, providing a product and services that help our customers was top priority. I do miss the daily interaction with customers/friends!

What advice would you have for someone just starting in the industry, and how should they get involved with DHI?

Find a good mentor and learn everything you can from them. Don't be afraid to ask questions and don't be afraid to "challenge the norm." I had one customer prospect tell me that his "granddaddy started the company 50-plus years ago, and he didn't have a computer and, "we don't need them either." Any distributor with a mindset like that will get left in the dust by his competition! Take advantage of DHI training; join your local DHI chapter and attend conNextions as often as you can.

Where do you see our industry going in five to 10 years?

I've seen a lot of changes in the 20-plus years I've been in this industry. We've seen large corporations buying up smaller distributors, and large corporations buying up door and hardware manufacturers. Bigger is rarely better. Loyalty, service and the personal touch seem to

be a thing of the past. Fewer companies usually mean less competition and higher prices. I hate to sound negative, but it's reality!

I've also seen a push/trend by some manufacturers to begin selling directly to the end user. Trying to bypass the distributor will ultimately hurt the customer and create many more mistakes on the job. We work in a complicated industry and without qualified people, bidding and supplying product to the jobsite will become a nightmare. Sadly, with crime and shootings on the rise, there will be increased demand for bullet proof doors/frames and high-security hardware. More computerized hardware will be needed, which will require distributors gain additional training.



While John takes great pride in the technology he developed and business he created, John takes most pride in enabling door professionals to do their job and balance their work life with their family life."

Award of Merit

Continued



Debbie Purcell, AHC

President, Engineered Openings, Inc.

What does it mean to you to be recognized by your peers for this award?

This is a great honor and I think it means that much more because it is from my peers who know personally how difficult hardware can become.

What advice would you have for someone just starting in the industry and how should they get involved with DHI?

I would recommend starting with DHI as soon as possible, taking full advantage of education opportunities. My position is, the more you know, the better off you are, and knowledge will lead to success.

Where do you see our industry going in five to 10 years?

Our industry is already getting the reputation among construction firms that this is a difficult business and needs attention. Knowledgeable people are hard to come by and valued when they are found; I believe that trend will continue. In my opinion, the people that embrace the challenge will be the winners in the end game.



Debbie has over 20 years of experience in the industry and she has graciously contributed her time to others; her involvement in DHI has certainly been felt all over the Georgia door and hardware industry."

Roslyn Shender,
AHC/CDC, CFDAI, CDEC

President, W. Lewis Frame 'N Door, Inc.



Ros's tenure as an instructor has led to her reputation as a stalwart teacher and illustrates her deep commitment to the door security + safety industry."

What does it mean to you to be recognized by your peers for this award?

Being recognized and awarded by my peers came as a complete surprise since that was not my goal in volunteering time to the industry. I felt I was "paying forward" the volunteers who provided my education. I had to stop and think about how many lives I may have affected over the years as an instructor, just as I was educated and mentored by the previous volunteer instructors.

As an instructor, I am consumed with the responsibility of making sure every student, and their employer, feels they have benefited from the time and money spent on attending classes. They are entitled to receive pertinent information to take to their workplace. I am always rewarded, like any educator, by the face of a student that lights up with the understanding of a concept.

What advice would you have for someone just starting in the industry, and how should they get involved with DHI?

My advice to anyone in the industry, regardless of their time factor, is to continue taking classes. Credentials are a great reward on their own, but continuing to learn is a more important process. Don't get stuck learning only the favorite suppliers in your workplace, but learn the different applications and combinations that will give the best opening to the end user. Education is critical for advancement within your company to build your reputation as that trusted go-to person.

Where do you see our industry going in five to 10 years?

I don't believe this industry will ever be extinct. In the next five to 10 years, I expect the electronics and our digital world to run from apps on phones or other digital devices as the virtual environment expands into controlling our door openings.

Award of Merit

Continued



Mark Sorrenti, EHC

*President and Principal,
Connections Network Agencies
President, Unite Consulting and
Installation Group*

What does it mean to you to be recognized by your peers for this award?

I have learned so much from my peers and now to be recognized by them is something very special!

What advice would you have for someone just starting in the industry and how should they get involved with DHI?

Ask questions and research the importance of our industry during the construction process and the continued fire and life safety and security of the property and people. In busy times it is very easy to lose sight of the big picture. Try and learn something every day and challenge yourself to learn the applications and the best solutions for said applications. A good first step is to attend the DHI schools where you will be taught by some of the most experienced instructors around.

Where do you see our industry going in five to 10 years?

Our industry is always progressing; the next five to 10 years will prove to be very exciting. The trend of taking on more responsibility for the building envelope will continue to grow. The advancement of electrified products,

networking knowledge and the ability to supply, install and troubleshoot systems is leading the way.

The business model of a one-stop shopping contract hardware distributor (CHD) is not new; however, they will have more to offer in Divisions 8, 10 and 28. Integrated locksets and self-reporting door hardware can now communicate with, and be controlled by, building automation systems.

The term POE (Power Over Ethernet) has become commonplace, reducing the amount of power supplies required; in turn relieving some of the pressure off of the power grid. Many other CHDs recognizing these trends will continue to thrive by specializing in their chosen fields of expertise.

Finally, the role of the independent specification writer will become more prevalent as the systems from different manufacturers will have to be specified so they work as one. For my entire career I have heard that "electronic hardware is the wave of the future." I have to disagree with this statement; the wave has already hit the beach and it is now driving the future.

“

[Mark's] 20 years in the industry have been driven by education and sharing his knowledge and enthusiasm for the door security + safety industry.

”

Mary Roth Award: DHI Georgia Chapter

This award is conferred to a DHI Chapter for presenting an outstanding chapter education program or series of programs.



Melanie Wright, CSI, is the current Chapter President. Patrick McQuillan, served as Chapter President in 2017.

How do you create engaging education and events for your chapter?

We listen to our chapter members to help determine which events would be of interest to determine which courses would benefit them most, and then work with volunteer AHCs to determine which courses they could teach. For meetings, we try to have speakers that are relevant to current issues in the industry,

like having a fire marshal speak about code changes, and more recently, someone from the International Building Code speak about changes to the code. We always have two speakers for our meetings and try to format them with one session dedicated to new or innovative products in the marketplace and one session dedicated to other relevant industry topics (like code or standard changes, etc.).

What advice do you have for other chapters, to increase participation and engagement?

Listen to members to determine what they would like to help their growth in the door and

hardware industry and don't be afraid of change to accommodate growth. Our goal is to support their growth in this industry through education and networking. With opportunities to network with social events like golf, interesting speakers and local education, our goal is to keep our members connected, engaged and informed.

Are your chapter leaders willing to be a resource for other chapter leaders who may want to reach out and learn from your experiences and success?

Of course.

Recognition of Outstanding Service and Involvement (ROSI) Awards

This award recognizes the contributions of industry members who lend their expertise to DHI's technical programs.



15-YEAR INSTRUCTOR AWARD

J. PHILIP HENK, AHC, FDAI

10-YEAR INSTRUCTOR AWARD

JEFFREY BATICK, DHT, CFDAI

MARK CHESTER, AHC

MARK LINEBERGER, DHT, AHC/EHC, FDAI, FDHI

5-YEAR INSTRUCTOR AWARD

BRIAN CLARKE, DHT, AHC, DHC, CFDAI

RUSSELL HOOKER, DHT, AOC, DHC, CFDAI

Robert G. Ryan Awards

This award is presented to the best volunteer authors of any article in Door Security + Safety magazine (formerly Doors + Hardware) written from Jan. 1 through Dec. 31 each year. Articles cover either technical or features and business-related topics.

FEATURE AND BUSINESS ARTICLES

1st Place

BRIAN CLARKE, DHT, AHC, DHC, CFDAI

Securing Schools: Solution Trends in Educational Facilities
JUNE 2017



2nd Place (Tied)

RANDY LYLES

Go Engage Yourself
JULY 2017

DAN WHITE

The Gravity of Mentorship
SEPTEMBER 2017

TECHNICAL ARTICLES

1st Place

JOHN WOESTMAN

When Simple is Safer: The Dangers of Door Barricades in Schools
FEBRUARY 2017

2nd Place

SCOTT WESLEY

A Second Look at Pre-installed Hardware
FEBRUARY 2017

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CORTNEY ANDERSON WASCHER

President,
Anderson Lock Co., Ltd.

Cortney was awarded DHI's Award of Merit in 2017.



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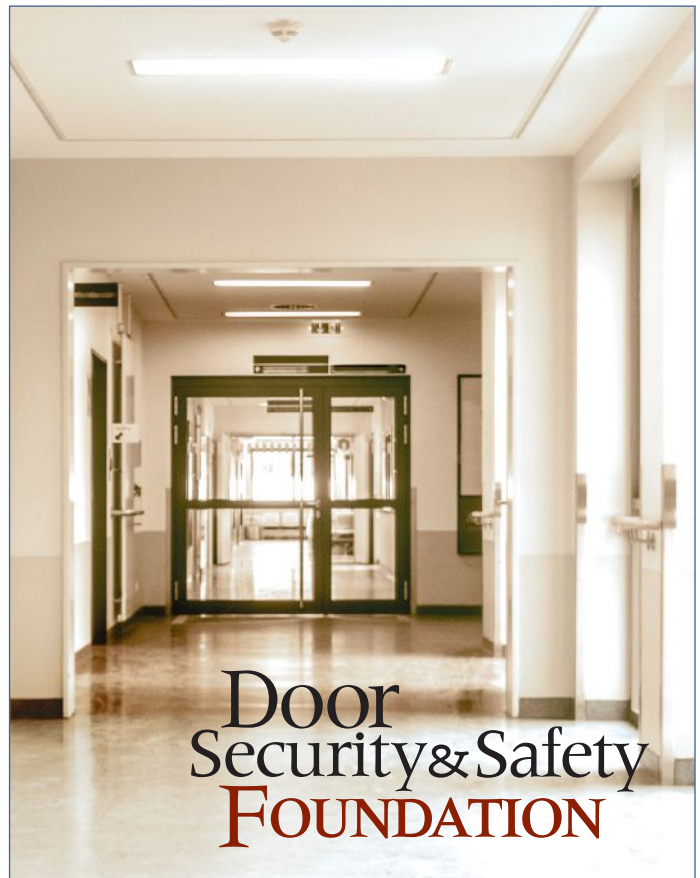
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THE BENEFITS OF GLAZING IN THE FACTORY

BY BILL ROCHON

Throughout the last 30 years, I've worked closely with door manufacturers and their distribution chain, as well as contract glaziers and glass shops. Recently, with mergers and consolidation in the industry, we've seen more standardization in manufacturing. We have also noticed that architectural door manufacturers are glazing a higher percentage of their vision panels in-house. I see this as a positive trend, because the further the glazing of the door gets from the factory, the more opportunity for quality issues, problems, and rejects, along with a lack of code compliance and less control for the manufacturer.

In speaking with our contract glazing project managers and other glass shops throughout the country, we've heard many stories of damage to the door when installing glass in the field. Issues such as breaking and scratching of the glass, splitting of the glazing beads, and unsightly exposed nail heads are common.

Also, a contract glazier may not fully understand the fire rating codes. For example, if asked for a 20-minute product, glaziers likely will not ask if it is with or without hose stream; often they will decide to use the less expensive product, which in turn will result in a door that is unsafe and will fail should there be a fire. The cost also becomes much higher due to the field glazier marking the glass up anywhere from 15 to 100 percent, depending on the value of the product, which can add \$50 or more per opening for labor.

Simply put—if you're not installing the glass in the factory, you're potentially putting your products and business at risk from a code compliance standpoint.

Per NFPA 80, Section A.4.4.3, “... doors are allowed to be shipped from the door manufacturer with or without the glazing or lite kit installed in the provided cutout.” Traditionally only about a third of vision panels left the factory with glass installed; the remainder is installed in the field. The reasons are historical: in the past, most painting and staining occurred in the field, requiring the extra step of taping the glass. Today, with most doors leaving the factory prefinished, we see the percentage of factory glazing increase.

There are plenty of reasons why manufacturers should consider factoring glazing:

1. **Code Compliance** – The NFPA 80 standard “regulates the installation and maintenance of assemblies and devices used to protect openings in walls, floors, and ceilings against the spread of fire and smoke within, into, or out of buildings.” Section A.4.4.3 of NFPA 80 pertains to the installation of glazing or lite kits, stating that the manufacturer’s installation instructions should be consulted before and during installation.

Beyond that, NFPA 80 offers no additional guidelines for installation of glazing. Therefore, it is the field installer’s responsibility to ensure that the glazing is installed correctly. Alternatively, with factory glazing, manufacturers can maintain quality control, ensuring that the right level of fire-protective or -resistive glass is used and that the glass is installed in compliance with their relative listings and instructions. The most common mistake out in the field is putting in a non-hose stream 20-minute fire-protective product where a fire-resistive product should be used.

2. **Better quality** – Factory production offers an environment where manufacturers can control quality and ensure the door and glass will be created to strict guidelines, free of blemishes or other defects. Glass installed in the field is more susceptible to damage due to poor craftsmanship or improper working conditions that can be avoided with factory assembly. At the manufacturer, glass goes through a second quality check before being installed in the door. The inspection standards in the factory are well-lit and controlled, and if there’s a problem with the glass, it’s replaced to ensure a quality product is leaving the factory.
3. **Risk Mitigation** – The responsibility for the integrity of a fire-rated door and its compliance with NFPA 80 lies with the manufacturer as well as the installer, as the door must be

built and installed in accordance with the standard. The same is true for non-fire rated door-safety standards under ANSI Z97.1. With the quality control, precision and consistency that factory installation brings, manufacturers can better ensure compliance with NFPA 80—and therefore help protect themselves, and their installers, against failures, warranty claims, or worse, litigation. This includes ensuring the right glass is in the right door.

4. **Profitability** – Manufacturers, installers and owners benefit from factory glazing doors. Manufacturers benefit from the value added of the additional glass they can sell in the door. The installer will spend less time and money on labor. The owner will receive a better product and reduce costs and time for remakes and other issues that arise from defective products. Additionally, factory installation is usually more efficient and less expensive than

field application. Therefore, the end user avoids these costs as well as larger markups, all of which can add up per door in savings.

Indeed, the benefits to factory glazing—including lower costs, fewer delays from damaged products, and the peace of mind of NFPA 80 and ANSI Z97.1 compliance—are a selling point to end users as much as the manufacturers themselves.

A movement by multiple manufacturers can help drive across-the-board change at the product level—and better profitability for everyone. +



BILL ROCHON is the Glass Products Specialist at Omni OEM Glass Fabrication. Bill has more than 30 years of experience in the glass industry. Contact him at brochon@omnigp.com.

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ADDING FIRE-RATED GLASS TO YOUR DOOR BUSINESS

BY ROB BOTMAN

The growth and profit potential of incorporating fire-rated glass into your door business is attractive to companies seeking to add more value to their sales. While there is a perception that fire-rated glass is too technical or hard to handle, the truth is getting involved is easier and more worthwhile than ever.

Fire-rated doors are the bread and butter of the commercial door industry. Steel or wood fire-rated doors and associated hardware are used in virtually every commercial or institutional building project. Tough, affordable and effective, these doors are required under the applicable building codes to provide safety, fire-protection and security.

The building codes require that fire doors and all their components be third-party tested, certified and labeled. Usually, this means having a UL, Intertek or QAI label on the components. For fire-protective applications, fire-rated labeled parts typically can be combined with other similarly rated parts to make up the door assembly.

Glass is increasingly important in fire doors. Architects know that building occupants feel safer and more secure when they can see through closed fire doors. Being able to see through the glass in a fire door allows occupants to see if there are people or smoke or fire on the other side. Schools and institutions especially value the extra security that comes from being able to see through closed fire doors. The trend is towards increased use of glass in fire doors.

The fire-rated glass used in fire-protective doors comes labeled just like any other fire-rated door component. The glass supplier applies the permanent fire-rated label to the glass after it has been cut to the size needed for the door. These glass pieces



Photos courtesy of Glassopolis



Fire protective glass undergoing fire testing



Fire Protective Glass delivers effective protection for this school in Texas

FIRE-PROTECTIVE vs FIRE-RESISTIVE GLASS

The building code requires different types of fire ratings for various locations in a building. A given wall needs the appropriate type of closure; whether it's a door or window.

Fire-protective openings are designed to resist the passage of smoke and flame. A typical fire-protective opening would be a 20-, 45- or 90-minute hollow metal door matched with 20-, 45- or 90-minute fire-protective glass. These components can be mixed and matched with other similarly rated hardware. The supply chain for these components is wide and deep and allows for stocking, affordable pricing, and fast delivery. Fire-protective glass itself offers choice, from clear glass ceramics to budget-friendly upgraded wired glass (both UL certified and labeled). It's easy to get involved and to include fire-protective glass in your product portfolio.

On the other hand, fire-resistive glass is a closed market. Thick and heavy, it is used outside of the normal building code in that it's not actually a fire-rated glass, but a transparent wall. It is tested like a drywall assembly, not a door or window. As a result, the certifications are very limited and no substitutions or alternates are allowed. You cannot use any rated hardware you want.

Typically, these walls and any door openings in them are custom manufactured as a unit and shipped directly to the general contractor, resulting in long lead times and higher costs and essentially bypassing the normal door industry sales and distribution channels. While these systems can be nice looking and fill a role in the building code, they don't leave much room for the broader door industry to participate.

WHAT IS GLASS CERAMIC, THE MOST COMMON FIRE DOOR GLASS?

Glass ceramics are used in fire-protective doors because they have unique material properties. Ceramics can be engineered to have a zero thermal expansion rate, which allows them to survive high temperatures. While glass ceramics are rated up to three hours, in reality they can survive fire situations almost indefinitely. Glass ceramics are also thin ($<1/4"$) and light, making them perfect for swinging fire doors.

Regular soda-lime glass (such as used in tempered and laminated glass) expands when heated, but because glass is brittle, it cannot expand without shattering; so regular glass breaks quickly when heated in a fire. Regular glass cannot be used in fire-rated applications.



Fire separations with fire doors are an essential part of the fire safety design of institutional buildings.



Fire testing

can then be easily installed into the door directly or into a vision lite frame, which itself is easily installed in the door. At the end of the day fire-rated glass is a door component like any other piece of hardware. It can be stocked, packed and shipped like other door hardware and is easily installed.

This has led to a wide range of supply chain options for fire-rated glass. Door manufacturers themselves are increasingly glazing the glass at the factory to ensure that the right glass is used. More commonly, fire-rated glass is ordered and installed downstream of the door manufacturer. Sometimes the glass is ordered and installed by the glazing contractor as part of the building glazing package after the door is installed. But increasingly, door hangers, distributors and installers are ordering and installing fire-rated door glass themselves. They find it's just another door component they can offer their customers. The key is to have a knowledgeable glass supplier who understands the building code requirements and can deliver fire-rated glass properly labeled for your door projects.

Door hardware specialists are also getting in on the game. Certainly vision lite kits are widely available and fire-rated glass alone can also be stocked and shipped alongside any other door

UPGRADED WIRED GLASS

Traditional wired glass is not impact safe and was restricted in the 2006 International Building Code. Since then, glass ceramics have largely replaced wired glass in fire doors. But now, upgraded wired glass is available, offering the most budget-friendly fire glass available.

Upgraded wired glass has a special surface lamination added, is fully UL-certified and labeled for fire, and is ANSI Z97.1-compliant for impact safety. You must ensure you get it from a UL-certified manufacturer to ensure its compliance. If it's not labeled, it's not legal. It's the best price option for fire doors.

component. Fire-rated glass is a high-value door component that should be included in your door hardware portfolio.

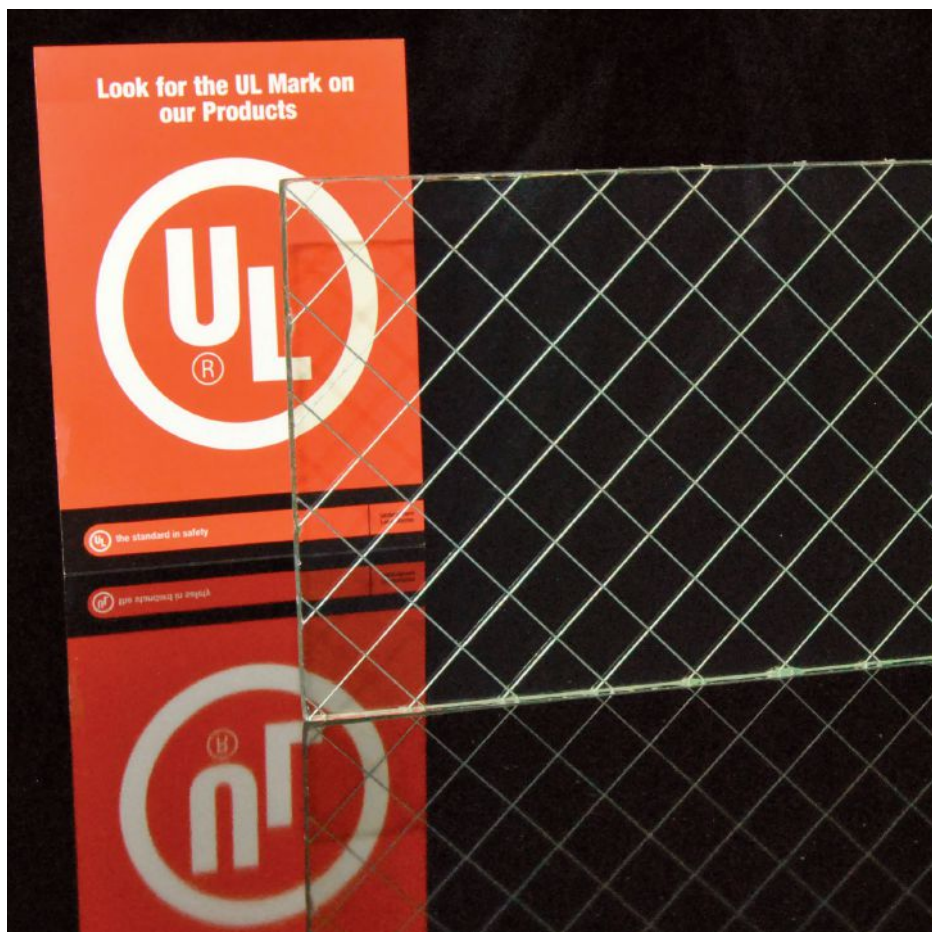
Fire-rated glass is tested and certified by UL and others as a component of a fire door. This allows users to mix and match doors and components with the same fire-ratings and leads to a wide range of distribution options for the door industry. Having options in both products and supply chain greatly helps the door industry deliver the best value solution for any given project.

Door industry participants should take advantage of these options. Don't get locked into single-source solutions. Your business will grow if you include fire-rated glass as part of your product offerings and look around for the best supply chain. +

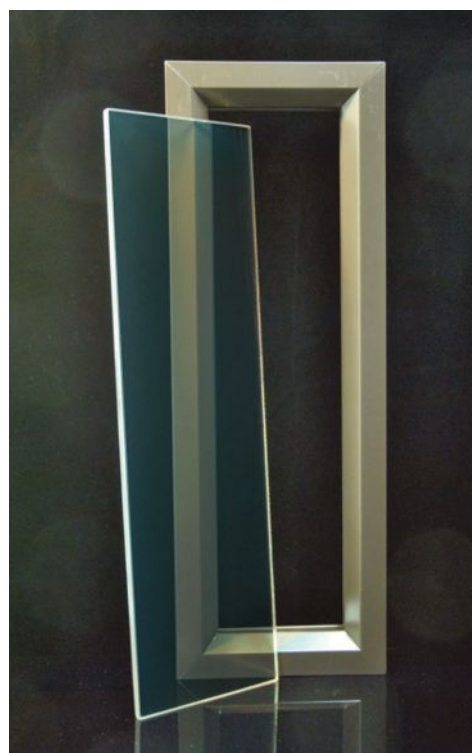
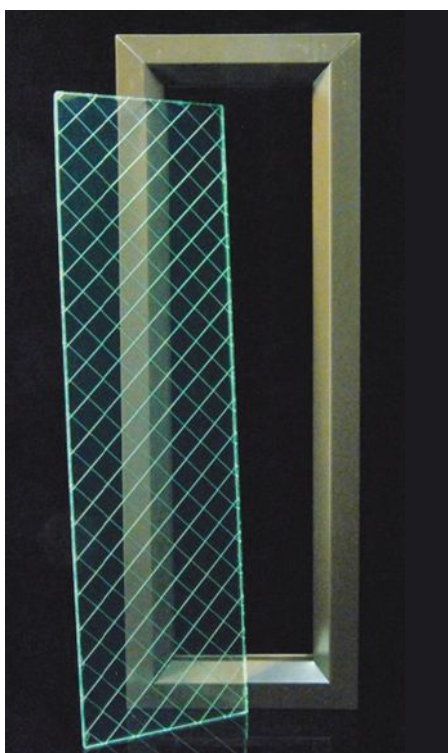



ROB BOTMAN is General Manager of Glassopolis Specialty Glass. Glassopolis is a leading supplier to the fire door industry, having processed more than 10 million panels of

glass ceramic. He can be reached at rob.botman@proscience.com.



Safety glass UL-certified for fire and ANSI Z97.1 impact-safe





90-minute, temperature rise pair of doors with a wood veneer finish, Reid Hospital, Richmond, Va.

INNOVATIONS IN Fire-rated, Temperature Rise Glass Doors

BY DIANA SAN DIEGO

Hard to believe, but there was once a time when adding a small piece of wire or ceramic glass in a fire-rated door was considered new or even innovative because it allowed for vision as well as fire protection. Fast forward to today, where the International Building Code (IBC) has imposed significant limitations to wire, ceramics and all fire-protective glazing used in doors rated over 45 minutes.

With 80 percent of the states adopting the 2012 and 2015 IBC, this size limitation on fire-protective glass in 60-90 minute temperature rise doors becomes more pronounced because the code limits their size to 100 sq. inches regardless if the building is fully sprinklered. With designers and building occupants demanding

maximum views in their fire doors, the glazing products used in these doors had to evolve as well to meet the code requirements.

Increasing transparency with the help of fire-rated glazing is easy to accomplish in 20- and 45-minute doors, where the door is expected to

only compartmentalize smoke and flames. However, in 60- and 90-minute doors that are required to compartmentalize smoke, flames and limit the heat transfer on the non-fire side, this is more challenging. Known as temperature rise doors, these doors carry a temperature rise rating in addition to the hourly fire rating.



90-minute, temperature rise and hurricane rated pair of doors, Las Olas Beach Club, Ft. Lauderdale, Fla.

Temperature rise ratings for fire doors are either 250 degrees F, 450 degrees F or 650 degrees F, indicating the maximum rise above ambient temperature on the non-fire side measured during the first 30 minutes of the fire endurance test. In both the UL 10C and NFPA 252 test standards, thermocouples are placed on specific points on the door:

UL 10C Section 6.2. *Unexposed surface temperatures shall be taken at no less than three points, with a minimum of one thermocouple each in 16-ft² (1.5 m²) area of the door. Thermocouples shall not be placed over reinforcements extending through the door, over the glass panels, or nearer than 12 in. (305 mm) from the edge of the door.*

NFPA 252 Section 4.3.1.1. *Thermocouples shall not be located over reinforcements extending through the door, over vision panels, or within 305 mm (12 in.) of the edge of the door.*

Temperature rise doors rated 60-90 minutes are typically made of steel with an opaque, insulating core to limit heat transfer. Where glazing is incorporated, it is usually a fire-protective product that is limited to 100 sq. inches to limit the passage of heat through the glass. Typically, wire or ceramic in limited sizes have been used due to their stability and capability to withstand the hose stream in this small size even though these products have no ability to block radiant heat.

Adding glazing in excess of 100 sq. inches to 60-90 minute temperature rise doors was impossible until the introduction of fire resistive glazing tested to ASTM E-119/UL 263/NFPA



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90-minute, temperature rise pair of doors with a clear anodized finish at Harvard Business School's Klarman Hall in Boston, Mass.



90-minute, temperature rise pair of doors with custom brass cladding at UC Berkeley Doe Library in Berkeley, Calif.

251. This type of glazing is capable of limiting the temperature rise on the non-fire side to less than 250 degrees F. While temperature rise doors are not exactly new, having full-vision door lites incorporated in the door assembly is relatively new, and is still considered a niche or specialty product. There are many door manufacturers that offer opaque temperature rise doors or with a 100 sq. inch vision lite as a commodity product. In contrast, there are only a handful of manufacturers that offer temperature rise doors with full vision glazing because of the unique challenges that it can present.

Size and Weight Considerations – and Design Opportunities

The obvious challenge is the thickness and weight of using fire-resistive glazing. There are two options available in the market today that meet the ASTM E-119/UL 263/NFPA 251 requirement – one is a tempered fire resistive unit and the other is an annealed multilaminate.

For 60 minutes, the tempered fire resistive units are at 1-1/8"/9 lbs. per square foot, while the annealed multilaminates start at 7/8"/approx. 11 lbs. per square foot. At 90-minute ratings, the tempered fire resistive units are at 1-1/2"/12 lbs. per square

foot, while annealed multilaminates start at 1-7/16"/approx. 18 lbs. per square foot. If you are looking to have full vision in a 3 ft. wide x 7 ft. high 90-minute temperature rise door for example, the weight of the glass can be over 200 lbs. If the door and hardware are not properly engineered and tested to function with these weights, it will be an issue.

Using a fire-rated glass and framing manufacturer that offers fully listed and labeled glazed door assemblies is critical at these higher ratings. Today, 60-90 minute temperature rise doors are available up to 10 ft. high, with multiple fire-rated hardware options and finishes. The technology on fire-rated doors has improved so much in the last 10 years that hardware manufacturers are offering more fire-rated hardware options to accommodate the size and weight that these doors may impose without necessarily compromising on design.

These 9-ft high 60-minute temperature rise pair doors match the height of the adjacent one-hour butt-glazed wall at the University of Wisconsin School of Business Learning Commons in Madison, Wisc. This eliminates the need to add a transom to the door assembly, which appealed to the architect.

Before, steel temperature rise doors with a painted finish were the only available choice. Today, designers can choose between anodized finishes, stainless steel, wood veneer, brass, and more. All of these developments allow designers to have a clear view door with sleek and elegant aesthetic while meeting the temperature rise requirements of the project.

Multi-tasking Door Assemblies

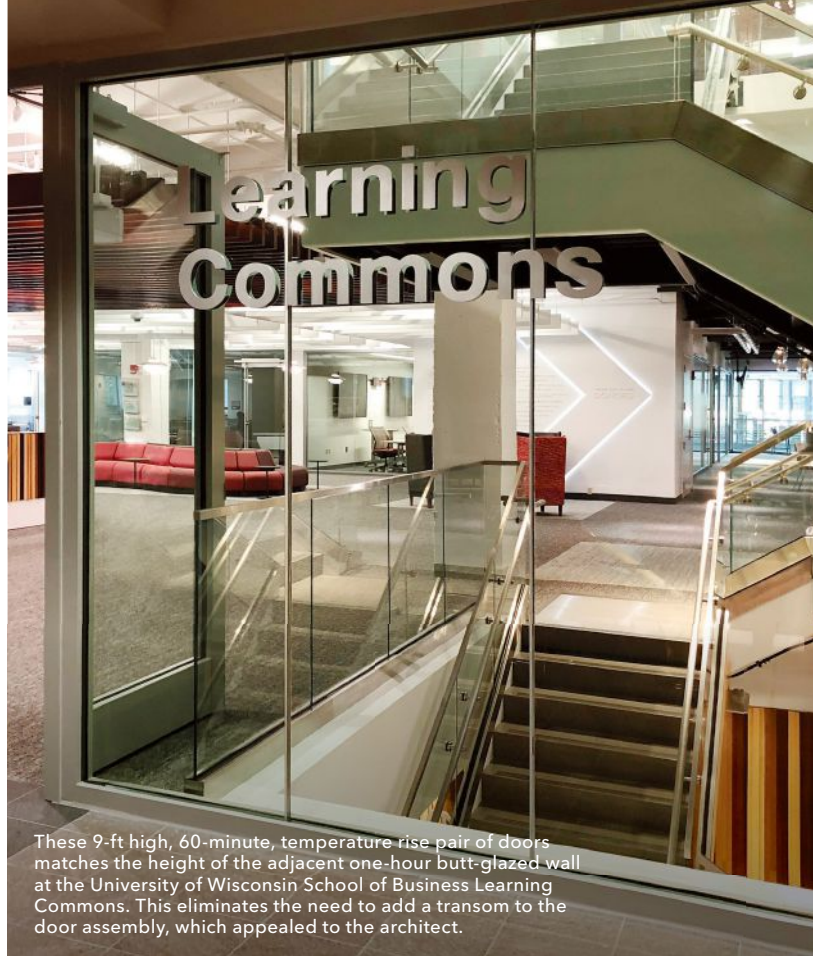
In addition to aesthetics, full-vision fire-rated glass doors have also evolved to perform multiple functions in one assembly.

For example, there are fire-rated, temperature rise doors that provide hurricane performance as well. Other than meeting fire and temperature rise requirements up to 90 minutes, these doors are tested to TAS 201, 202 and 203 and have complete Florida Product Approvals, Texas Department of Insurance Approval and UL Certifications.

Fire-rated, temperature rise doors up to 90 minutes with ballistic performance are also available. Today, there are full vision fire-rated doors that meet UL 752 Level 1, 2 and 3. Higher ballistic ratings can be engineered, depending on the



90-minute, temperature rise pair of doors with stainless steel finish at CUNY School of Law in Long Island City, N.Y.



These 9-ft high, 60-minute, temperature-rise pair of doors matches the height of the adjacent one-hour butt-glazed wall at the University of Wisconsin School of Business Learning Commons. This eliminates the need to add a transom to the door assembly, which appealed to the architect.

requirement. In those cases, it is best to consult with the manufacturer early in the project phase.

Other additional performance options include forced entry, acoustic, privacy, and more. For those architects looking to exercise their creativity, decorative options on the glass and the door are also available.

Indeed, fire-rated temperature rise glass doors have come a long way. As designers and building owners continue to demand better performance and aesthetics, fire-rated glass and framing manufacturers will continue to offer innovative products that can meet or exceed their expectations while maintaining full code compliance. Always check the listing and testing of these specialty doors for a trouble-free project. +



DIANA SAN DIEGO is Vice President of Marketing for SAFTI FIRST. She can be reached at DianaS@safte.com.

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Johnson & Wales : Transparency and fire resistance combine in a renovation.

BY DAVID VERMEULEN

PROTECTION PLUS: *4 Fire-Rated Doors and Systems that Go Beyond Life Safety*

Fire-rated doors and their surrounding systems may service a building for years without being called into action. In the interim, they are still a point of entry or a critical passageway between two spaces. Building professionals know this well, which is why a key point of emphasis during the specification process is to select products capable of meeting much of the same criteria as non-rated door assemblies.

Depending on project needs, this can range from creating a bright, open area of egress to an entrance that sets the tone for a school, all while providing supplemental security protection. The roadblock to success, as many building professionals discover, is finding a fire-rated door that checks both form and function boxes.

Fortunately, advances in the fire-rated glazing industry are helping overcome this hurdle. Fire-rated glass is clear, wireless and available in larger sizes. A growing number of products can meet a range of performance



To achieve the desired transparency, the firm opened up the building's exterior walls along the southeast street and developed a new, porous entry with floor-to-ceiling glass.

criteria, from impact resistance to forced entry resistance. To round out the package, a new suite of fire-rated door and frame products are available with thin profiles and well-defined edges. Their slender appearance is improving visual integration with surrounding non-rated door, window and curtain wall systems.

Taken together, these new products make it possible to create fire-rated door assemblies that do more than satisfy building codes. To better understand the design and performance freedom they offer, here's a look at four projects that use fire-rated glass doors and complementary systems to provide protection plus.

JOHNSON & WALES UNIVERSITY - ADDING TRANSPARENCY AND FIRE RESISTANCE

During the renovation of Johnson & Wales University, the building's lack of openness and accessibility to the street was a concern for the design team.

"The original main entrance to the building was not handicap accessible and not as grand as we envisioned for Johnson & Wales' new Physician Assistant Program," explains Sean Redfern, associate principle for DBVW Architects. "You entered into the building through a nondescript concrete block staircase. There was no sense of arrival, or of the importance of the building."

To achieve the desired transparency, the firm opened up the building's exterior walls along the southeast street and developed a new, porous entry with floor-to-ceiling glass. The first floor of the entry features a lounge and lobby, with a prominent stairway leading up to the second floor. The firm wanted the stairwell and lobby to work together to support the open aesthetic. In doing so, they also

needed to satisfy fire- and life-safety building codes.

To achieve the fire resistance and transparency the firm was looking for in the space, DBVW specified thin fire-rated frames with custom aluminum face caps and large spans of fire-resistant glazing. Creating a complete entrance solution, they integrated a full-lite fire-rated glass door system with narrow, extruded steel profiles. They were powder coated to create a close visual match with the aluminum face caps. The result was a success.

"Using fire rated glass for an entire exit stair enclosure isn't something you see every day. But the openness the fire-rated frames and glass created fit well with our design aspirations," says Redfern.

LINCOLN UNIVERSITY'S GRIM HALL - CREATING LIGHT AND LIGHT SAFETY

For the renovation of Lincoln University's Grim Hall life sciences building, Tevebaugh Associates worked to provide students and faculty with improved life safety protection. Updating the 1925-era facility's fire-rated doors was an important component of the project, as the product category had advanced significantly in the decades since Grim Hall was first built.

Of specific interest were doors with glazing that could defend against fire and provide impact resistance for high traffic areas, without restricting visibility and light transfer. This product combination was key in meeting student needs and complying with the *International Building Code (IBC)*. As of the 2006 code cycle, all fire-rated glazing in hazardous locations must pass the same impact safety test as non-rated glazing. This includes all fire-rated glazing in doors and typically applies to fire-rated glazing adjacent to or near the door.

To meet project needs, the design team settled on full-lite fire-rated glass doors that meet the CPSC 16CFR 1201 (Category II) safety-glazing classification. This is the highest level of impact safety, and indicates that the glass can withstand a force comparable to the impact of a full-grown, fast-moving adult.

The selected fire-rated glass also features a clear and nearly colorless surface to better resemble the look of ordinary window glass and visually integrate with the school's non-fire-rated windows and doors. Additionally, it allows the doors to draw daylight into interior spaces, while protecting students and staff from the threat of fire.

TULSA CENTRAL LIBRARY - IMPROVING FIRE SAFETY AND WAYFINDING

To turn the aging 1965 Tulsa Central Library into a building fit for the 21st century, one of MSR's key design goals was to create an open layout that maintains visual connectivity and allows ample natural light to pass through interior spaces. This was especially crucial in the main floor, garden-level entry, as it would help ensure a clear circulation path. As the firm discovered, it was challenging to meet this goal while retaining fire separations.

To deliver on all project criteria, the design team settled on a slender, fire-rated framing system with large expanses of fire-rated glass. It surrounds the stair entrance to the public areas located on the lower level, providing the necessary fire defense while preserving visual connectivity between spaces.

To further support wayfinding, the fire-rated framing system integrates a sleek, steel fire-rated door assembly. Its linear profiles resemble the look of

Grim Hall : Fire-rated glass doors provide impact safety and style in a school.



PHOTO COURTESY OF TECHNICAL GLASS PRODUCTS

non-rated door systems while preserving sightlines and views. The result is a full-lite fire-rated glass door that enhances circulation and supports light transfer.

UNIVERSITY HOSPITALS SEIDMAN CANCER CENTER - MEETING PATIENT NEEDS

University Hospitals Seidman Cancer Center in Cleveland, Ohio, consolidates multiple patient care and treatment centers into a single 375,000 square-

foot building. Since the new facility nearly triples the size of the existing hospital, it was important to foster collaboration between the different departments while keeping patient needs at the forefront of interior design. Access to natural light, patient privacy and clear wayfinding were key to the project vision.

The design team incorporated simple gateways, interior circulation paths and a building envelope providing views of downtown Cleveland and Lake

Erie to meet project goals and create an environment of well-being. One consideration during this process was ensuring interior doors designated to provide fire protection by code furthered these goals.

To align fire safety requirements with patient needs in these areas, the firm settled on full-lite, fire-rated glass doors and transoms. The selected fire-rated glass provides a nearly distortion-free surface for clear viewing, but can also be lightly sandblasted and

Tulsa Central Library : A full-lite fire-rated glass door enhances circulation in a library.



maintain its fire rating. This allowed Seidman Cancer Center to use fire-rated glass in doors requiring full visibility, as well as applications where it was desirable to obscure vision while still allowing in light.

CONCLUSION

Today's sophisticated fire-rated glazing products have made it possible to tailor fire-rated glass doors and storefront assemblies to specific project goals. While this freedom is advancing designs in code-driven areas, it can also increase the risk for misapplication. To ensure fire-rated glass door systems satisfy all project goals and prioritize the safety of occupants, consult the manufacturer or supplier early in the design phase. +



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Fire Doors in New Construction and New Acquisitions

BY JIM TAYLOR, FDAI



There are so many codes and standards now, it is extremely difficult for any contractor and commercial broker to keep up. These codes and standards usually change slightly every three years, and after adoption by AHJs and municipalities, become law. *NFPA 80, The Standard for Fire Doors and Other Opening Protectives*, is a continually evolving set of standards that is now being more closely regulated by various AHJs.

One of the most overlooked aspects of NFPA 80 is the "acceptance testing" as prescribed in section 5.2.3. This section refers to the acceptance of fire door assemblies as a whole, in either new construction or when the building in which these assemblies are sold to a new entity or stakeholder. It states:

5.2.3 ACCEPTANCE TESTING

5.2.3.1 Acceptance testing of fire door and window assemblies shall be performed by a qualified person with knowledge and understanding of the operating components of the type of assembly being subject to testing.*

5.2.3.2 Before testing, a visual inspection shall be performed to identify any damaged or missing parts that can create a hazard during testing or affect operation or resetting.*

5.2.3.3 Acceptance testing shall include the closing of the door by all means of activation.

5.2.3.4 A record of these inspections and testing shall be made in accordance with 5.2.2.



Imagine a contractor having the good fortune to have a third-party acceptance test conducted on his high-rise with perhaps hundreds of fire doors that were not installed correctly. There have been many instances in which some part of a fire door assembly was not up to code with the rated wall. The issue may not be found until well after completion of the project when the builder's warranty periods have elapsed. If this is the case, suits and finger-pointing can go on for a very long time at great expense, only to be rectified at a likely even greater expense.

How about the building still in escrow, that is going through various inspections of the HVAC, elevator, electrical, alarm and other systems, but fails to verify that the fire door assemblies are to code? If an AHJ requires, some years later, that the building undergo an inspection relative to NFPA 80, and finds thousands of dollars' worth of defects, who do you think is going to foot the bill?

There are dozens of reasons to have a qualified and knowledgeable third-party inspector perform the acceptance test, not the least of which is life safety. Certainly there is a cost in performing the inspection, but can you truly put a dollar amount on the price of safety?

Any reputable installation subcontractor will welcome the certification of the assemblies and work through any problems before the building is issued the CO and turned over to the stakeholder. The same can be said for buildings being transferred to new ownership. Wouldn't the new owner want the peace of mind of knowing that each fire door assembly has been inspected and works properly and will protect life and property?

The NFPA 80 annex for section 5.2.3 elaborates on the above, thus:

A.5.2.3.1 Visual inspection and functional testing of fire door and fire window assemblies require the persons performing the inspections and testing to be thoroughly

knowledgeable of the various components and systems that are used to create fire-rated assemblies. In the case of swinging doors with builder's hardware, these assemblies are comprised of labeled and listed components from several manufacturers. Often, the listing of the door leaf determines which products are permitted to be installed on an assembly. Inspectors of swinging doors with builder's hardware need be able to recognize which components can or cannot be used on specific assemblies, which requires training and experience on behalf of the persons performing the inspections. Additionally, AHJs need to be able to rely on the competency, expertise, experience, and knowledge of the fire door inspectors in their jurisdiction.

Here the message is very clear. Words such as "thoroughly knowledgeable," "various components," "recognize," "specific assemblies," "training," "expertise," "competency," and "experience" make the point. The theme here is that the inspection, whether acceptance or annual, must be performed by qualified individuals, such as Certified Fire + Egress Door Assembly Inspectors (CFDAIs) or Fire +Egress Door Assembly Inspectors (FDAIs) to ensure the inspection is performed by a qualified person. For more information on DHI credentials and certifications, go to www.dhi.org. +



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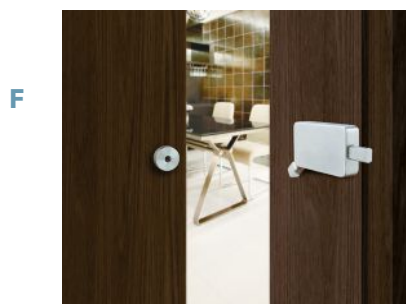
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WHERE ARE FIRE DOOR ASSEMBLY INSPECTIONS REQUIRED BY CODE?



LORI GREENE, DAHC/CDC, FDAI, FDHI, CCPR, is the Manager of Codes and Resources for Allegion. She can be reached at Lori.Greene@allegion.com or iDigHardware.com.

THE ANSWER: FIRE DOOR INSPECTIONS ARE REQUIRED BY CODE IN ALMOST EVERY U.S. STATE. WITH THAT SAID, HAVING SOMETHING REQUIRED BY CODE AND HAVING THOSE REQUIREMENTS ENFORCED BY THE AUTHORITIES HAVING JURISDICTION (AHJ) ARE SOMETIMES TWO DIFFERENT THINGS.

BACKGROUND

More than 10 years ago, a modification was made to the 2007 edition of *NFPA 80 - Standard for Fire Doors and Other Opening Protectives*. This new section mandated an annual inspection for each fire door assembly, as part of the ongoing maintenance of the building. The reason for this change was that a very high percentage of existing fire door assemblies were not code-compliant, and they would not provide the protection during a fire that they were designed and tested to ensure.

Although building owners and facility managers have always been responsible for maintaining fire doors properly—replacing broken hardware, preventing modifications, ensuring that non-compliant components were not added—problems with fire door assemblies are often overlooked. When adding requirements for annual inspections conducted by qualified personnel, and mandating that deficiencies found during the inspections must be repaired “without delay,” the goal was to improve the condition and performance of the millions of existing fire doors and increase safety for building occupants.

ROADBLOCKS

When the 2007 edition of NFPA 80 was referenced by the model codes, the assumption was that fire marshals and other AHJs would review the

documentation for fire doors during the periodic inspections of buildings in their jurisdictions. The requirements for fire door assembly inspections have now been included in five editions of NFPA 80, and those editions have been referenced by the model codes in the 2009, 2012, 2015, and 2018 editions. But enforcement is still inconsistent.

The introduction of the inspection requirements caused some confusion which contributed to the slow adoption. Some fire marshals thought that they were required to perform the detailed fire door inspections, and they did not have the necessary manpower. In reality, the intent is for the AHJs to ask for and review the documentation; just as they would review the inspection reports for sprinkler systems, stove hoods, or fire extinguishers.

In some jurisdictions, buildings are not inspected periodically, or different types of facilities are inspected by different AHJs; this lack of continuity led to inconsistent enforcement. And because the requirements were contained in a referenced standard rather than directly in the model codes, many AHJs were not aware of the change.

The difficulty in getting the word out and increasing enforcement has been frustrating; fire-related injuries and fatalities have occurred that may have been avoided if existing fire doors had provided the intended level of

protection. If a door closer on a fire door assembly is broken or missing, and that door does not close to protect the opening in the fire barrier, there's nothing to deter the spread of smoke and flames through the opening. If that fire door is inspected and the faulty closer repaired or replaced, the closed door will help protect the building occupants.

MOVING FORWARD

This lack of awareness and the resulting spotty enforcement is beginning to change. A fire marshal recently told me that he was excited that his state was finally adopting a fire code that referenced an edition of NFPA 80 mandating annual fire door inspections. He saw the requirement as a tool to help improve life safety, and their department was prepared to start educating their jurisdiction and enforcing the inspection requirements immediately.

The adoption of the 2012 edition of *NFPA 101 - Life Safety Code* by the Centers for Medicare and Medicaid Services (CMS) has also helped to raise awareness. The thousands of health care facilities that receive CMS funding and are subject to periodic surveys by the Joint Commission or another accrediting organization are all required to document their annual fire door inspections, regardless of where the facilities are located.

One challenge has been connecting the dots to establish where the inspection requirements are referenced in the adopted codes and standards. In addition to the fire door requirements of NFPA 80, some smoke doors must also be inspected in accordance with *NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives*. Below are the paragraph references from each of the current model codes commonly used in the U.S. Similar references to NFPA 80 and NFPA 105 can be found in past editions of these codes as well.

NFPA 101 - Life Safety Code: NFPA 101 has been adopted in many jurisdictions as the code addressing provisions for the means of egress. The requirements for fire door assembly inspection are clearly stated in NFPA 101:

8.3.3.13 Fire-rated door assemblies shall be inspected and tested in accordance with NFPA 80, Standard for Fire Doors and Other Opening Protectives. [NFPA 101, 2018]

8.2.2.4 Where door assemblies are required elsewhere in this Code to be smoke-leakage-rated in accordance with 8.2.2.4...(3) Door assemblies shall be installed and maintained in accordance with NFPA 105, Standard for Smoke Door Assemblies and Other Opening Protectives. [NFPA 101, 2018]

International Fire Code (IFC) - Many U.S. states have adopted the IFC as their state fire code, with or without state modifications. The requirements for fire doors and smoke doors to be maintained in accordance with the standards include the requirements for documented inspections:

705.2 Inspection and maintenance. Opening protectives in fire-resistance-rated assemblies shall be inspected and maintained in accordance with NFPA 80. Opening protectives in smoke barriers shall be inspected and maintained in accordance with NFPA 80 and NFPA 105. Openings in smoke partitions shall be inspected and maintained in accordance with NFPA 105. [IFC, 2018]

International Building Code (IBC) - The IBC is the most widely-used building code in the US and has also been adopted in other countries. The building code is generally used during design and construction, and not referenced for maintenance throughout the life of the building (the adopted fire code is used for that). However, when the building code references NFPA 80 - the 2013 edition or later - these recent editions require fire door assemblies to be inspected after installation, and after maintenance work is completed, in addition to the annual inspections required by the fire code:

716.1 General. Opening protectives required by other sections of this code shall comply with the provisions of this section and shall be installed in accordance with NFPA 80. [IBC, 2018]

716.2.10 Installation of door assemblies in corridors and smoke barriers. Installation of smoke doors shall be in accordance with NFPA 105. [IBC, 2018]

Clearly, the model codes require fire doors and smoke doors to comply with NFPA 80 and NFPA 105. The annual inspections of fire door assemblies began with the 2007 edition of NFPA 80, and the inspections after installation or maintenance work began with the 2013 edition.

When the adopted codes in a state or jurisdiction reference an edition of these standards that requires documented fire door inspections, the AHJ can - and should - enforce the requirements unless they are specifically exempted by the state or local code. Detailed information including inspection criteria, documentation, and inspector qualifications are found in NFPA 80 and NFPA 105 - Chapter 5, which cover inspection, testing, and maintenance.

For more information, consult these publications or visit www.iDigHardware.com/firedoor. +





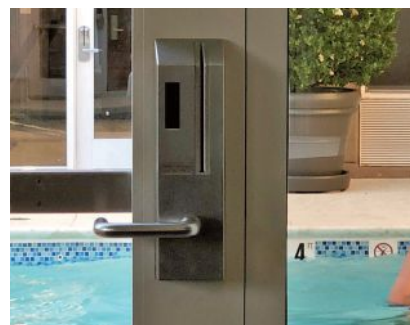
MORE READERS' PHOTOS

BY MARK J. BERGER

This marks our fifth Real Openings column filled with readers photos in 2018. A record amount of contributions and I am truly grateful. We even had some readers photos included in other months, so a true banner year.

Please keep the photos coming in. I add new photos every week (can't avoid them) and I know many of you have them, too. Please send them in to me at mberger@securitech.com. A little explanatory note is always helpful.

I'd also like to issue a family challenge for 2019. Please ask your family members to take photos of interesting doors, signs, blocked openings, etc. and collect them. Let's see which of our readers has the family that truly understands what we do for a living and how we strive to make the world just a little bit more safe and secure.



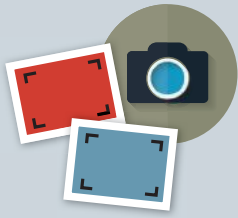
A TOO MANY SIGNS, TOO FEW EXIT DEVICES

Photo Credit: Scott Sabatini, DAOC, FDHI, FDAI, CSI, CCPR, RCI

Our good friend and former DHI President Scott Sabatini tries to understand the logic behind things he encounters in our crazy world. He has shared a bunch of photos with us, and we are truly grateful.

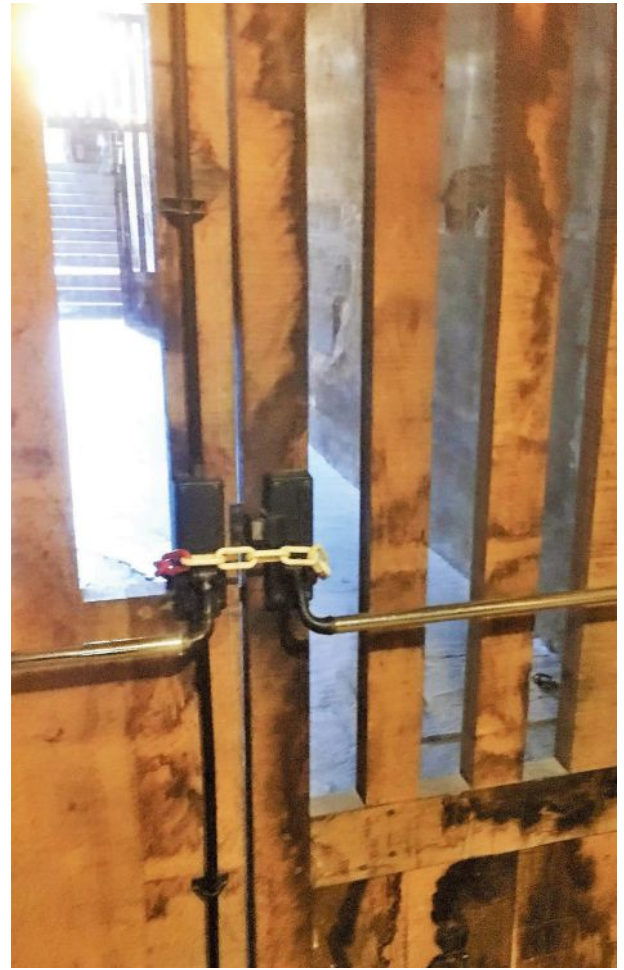
In the first batch, Scott shows us a marked exit door with a hotel lock on the door. It's possible that there was a regulation to restrict free passage to the pool area (think of the high gate latches to keep unattended children from entering), but if the door to the pool is in the means of egress, you have got a real problem on your hands.

The exit sign above the fire alarm perplexed me for a bit, and then I figured it out. To meet code to unlock a restricted door in the means of egress, a pull station as an emergency override needed to be provided. The signage solution is wrong. My guess is the phrase, "Pull to Exit in Event of An Emergency," or something like it, should have been posted and the emergency release should have been a minimum one-inch diameter red button, not a standard fire alarm.



MARK J. BERGER is the President and Chief Product Officer of Securitech Group, as well as President of DHI and Chair of the Builders Hardware Manufacturers Association Codes & Government Affairs Committee. All “Real Openings” photos have been 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.*

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.



B IF I TOLD YOU ONCE...

Photo Credit: Scott Sabatini, DAOC, FDHI, FDAI, CSI, CCPR, RCI

For some people, posting a sign that reads “Private, Do Not Enter,” is enough to get the message across. For others, warning them with “Danger, Restricted Area” will scare them off. Yet, there are those who need “Caution” and the very large and affirmative “Do Not Enter” as a hint that this is not a door they should pass. And, for those who need a giant club over their heads, “No Admittance, Authorized Personnel Only” should put the issue to rest. If you can’t read, the keyed deadbolt makes sure you aren’t getting in. Never mind the “EXIT” sign above the door.

C GLOBAL REMINDER

Photo Credit: Yuriy Farber

Yuriy shared this photo from a recent overseas vacation. It seems that you might be on vacation, but our sense of right and wrong (and danger) calls our attention to illegally locked doors.



Do you have your own “Worst Door Ever?” Please send in the photo, along with relevant information. We’d like to see what our readers have discovered.

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ALEX GOLDFAYN is the author of the *Wall Street Journal* best seller *Selling Boldly* and the Forbes sales book of the year *The Revenue Growth Habit*. To implement these simple communications to grow your sales, contact Alex directly at 847.459.6322. Visit www.Goldfayn.com for more information.

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It's the *doing* that makes the money. It's the doing that feeds our family, isn't it?

Here's another shocking truth: Most people in the sales profession don't consistently do what we know we should to grow our sales.

WHY WE DON'T DO WHAT WE KNOW WE SHOULD DO

We're busy. I know you're not sitting around with lots of free time. And because we think it takes a lot of time. But, actually, it doesn't. A "did you know"

question takes three seconds to ask (did you know we also have or do x?). So does a reverse "did you know" question (what do you buy elsewhere that I can help you with?).

We're afraid of rejection and upsetting the customer. Fear shapes our lives. We do what we can to avoid the life-or-death scenarios (losing the customer) we are afraid of.

It's risky, and uncomfortable, and who wants that? We humans don't aren't generally wired to avoid risk and discomfort.

We think we may not know exactly how to do it, and we don't want to screw it up. We don't want to look bad. We think it's complicated. Except, actually, it is not. It is absurdly simple.

It all boils down to making ridiculously fast and absurdly simple communications to customers and prospects - repeatedly and systematically.

There's your secret. There is your grind.

TRUTHS ABOUT DOING THE WORK

As I work with manufacturers, distributors, service companies, and their sales people to grow revenue by 10 to 20 percent annually, for years, I have come to understand some simple truths:

The competition isn't doing what they know they should do either. We think they are, but they are not. We think our customers get phone calls all the time, all day long. But they do not. We think everybody is asking our customers for testimonials and referrals, but in reality, pretty much nobody is.

Next, customers want us to do this work. They crave it. As a part of my revenue growth projects with clients, I interview their customers. So many of them tell me how important regular contact is to them. They tell me how much they appreciate it when my client calls them, and visits them.

"Doesn't that bother or annoy you?" I ask them, knowing the answer even as I ask the question.

"Not at all," they say. "It tells me they care."

Communicating with your customers and prospects systematically and repeatedly shows them you care.

And finally, just as outside competition is not implementing the communications that grow sales, neither are your internal sales colleagues. And so, it is a fast and simple way to advance through your organization.

Want to make your money? Want to advance in your company? Want to help your customers more?

Communicate more with them, intentionally and proactively. Be present. Show them that you care.

They will thank you with their money. +



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BY ROBERT WENDOVER

The 30-Day Plan for Bringing Emerging Professionals Up to Speed



IT IS NO SECRET THAT MANY OF TODAY'S RECENT COLLEGE GRADUATES ARE COMING OUT OF SCHOOL LACKING THE PROBLEM-SOLVING AND DECISION-MAKING SKILLS EMPLOYERS ASSUME COME WITH THEIR DIPLOMAS. AT MORE THAN HALF OF THE 77 AMERICAN COLLEGES AND UNIVERSITIES SURVEYED BY THE WALL STREET JOURNAL, AT LEAST ONE-THIRD OF COLLEGE SENIORS WERE UNABLE TO ASSESS THE QUALITY OF EVIDENCE IN A DOCUMENT, MAKE A COHESIVE ARGUMENT, OR INTERPRET DATA IN A TABLE. THIS AND NUMEROUS OTHER STUDIES HAVE ILLUSTRATED THE PROBLEM.

But with the unemployment rate hovering around four percent, distributors are faced with a dilemma. Do they turn away graduates with good training who lack "common sense?" Or do they hire these individuals and spend time and treasure instilling these common-sense skills into book-smart graduates? For obvious reasons, firms are choosing the latter course. So, allow me to offer a three-part strategy that will help you bring these new contributors up to speed within 30 days. Don't believe me? I challenge you to give it a try.

Refocus your hiring energies on simulations.

Short of hosting interns for a summer or semester, it is extraordinarily difficult to gather enough information about a graduate's skills to make a \$40,000 decision with a few interviews and a personality assessment. And that's just for the first year of employment. The interview process has never worked all that effectively, and with today's online resources, new graduates can game the system better than ever. While larger firms have the resources to implement internship programs

that provide for on-the-job evaluation, most smaller firms lack this option.

The solution to this is simulations. A simulation can be something simple. You might ask applicants to call a "vendor" and resolve an issue. You might ask them to produce a planning document based on a customer's needs. You might ask them to complete an in-basket exercise where they are required to prioritize documents, respond to phoned-in questions, and develop a quick estimate.

Preparing these simulations requires more time and thought than sitting down for an interview. But the insights you can gather will be significantly more detailed. It is one thing, for instance, to ask applicants how they would approach new customer development. It's quite another to hand them a scenario and ask them to produce a detailed plan. From an exercise like this, you can observe organizational skills, confidence, problem-solving, ability to recover from mistakes, general demeanor, and the use of all that knowledge they learned in school.

Will having to "perform" in front of the prospective employer dissuade some "top" applicants from "top" schools from pursuing a job with you? Perhaps. But if they don't want to submit to this scrutiny, what challenges might you face after they're on board? Seasoned employers tell me they'd rather narrow the field up front and spend more time screening each applicant than the other way around. Need ideas on how to construct these scenarios? Ask a few of your rising professionals to gather around a table for an hour and come up with a half dozen based on their experiences.

Provide an orientation video before they come to work. The first day for most new hires is a whirlwind of meeting new people, completing forms and drinking from a firehose of information. As hard as this is on those who have held previous employment, it can be overwhelming to someone who has never held a wage paying job. In spite of U.S. Census reports indicating that 60 percent of those ages 16-24 are employed, it is quite possible that you'll be hiring emerging professionals who

have never received a regular paycheck before securing a job with you. Not only do they have to adapt to your way of doing things, but they also have to learn how work works.

Providing them with a 15-minute video overview before their first day allows them to gain familiarity with company routines and customs. For some, this may be their first exposure to a full-time, professional environment. What do they wear? Where do they park? What equipment will they receive? What will their workspace look like? What about social media use on the job? When do people take lunch? Where? Don't be afraid to get granular. Not sure what to include? Ask recent hires to make a list of what they wish they would have known before starting.

Make sure the video "stars" one or more of the people they'll meet in the workplace. These should be individuals roughly their age, not the HR director or president reading from notes or cue cards. Make it lively. Shoot it in the office and other environments where the person will work. The content is more important than the production, so a smartphone camera will do as long as the sound is good. Ask a couple of your young staffers to produce it. Load it to YouTube or Vimeo and send the link about a week ahead of a new hire's start. That way they can watch it more than once and feel more comfortable beginning with their first day.

Teach them the "top 15." In most jobs, there are 15 or so decisions that the position holder makes routinely. In a sales management position, for instance, these might be decisions about timetables, customer targeting, and product knowledge, to name a few. But there are dozens of little problems and questions that need to be resolved every day. Seasoned professionals have experienced these and can anticipate many of the inevitable disruptions that will arise, thereby saving time and resources. In short, they possess the confidence to act on these issues without thinking them through or consulting others.

If you ask these seasoned individuals to list the routine decisions they make

every week, you'll find they fall into certain categories and there are 15-20 that are made over and over due to the nature of the work. If you ask those same professionals how they make those decisions, they will recite a certain cadence to the process. Codify these processes and teach them to new hires using scenarios. You will shorten the time it takes for them to acquire these insights and develop the confidence to act.

A portion of this has to do with intuition. Seasoned decision-makers rely on their "sixth-sense" to act with ease and speed. This is because their brains recognize patterns in how they make decisions and apply these patterns to novel, but similar situations. (Consider, for example, the last time you were faced with a decision and your little voice said, "Oh, this is just like . . ." and guided you to act based on that experience. That's pattern recognition.)

No matter how much training and education new graduates have, nothing can match on-the-job experience. But by introducing the decisions they will be making routinely from the get-go, they will get a jump start on this pattern recognition so essential to developing their confidence to act. Couple this with solid mentoring and you will enable them to contribute in a meaningful way in a shorter period.

Add simulations to your selection process. Send new hires an orientation video and teach them the Top 15. These three steps will shorten the learning curve and add to your bottom line. +



ROBERT W. WENDOVER has been researching and writing about workforce trends for more than 30 years. He is the award-winning author of 10 books, including

Smart Hiring, Two Minute Motivation and Figure It Out! Making Smart Decisions in a Dumbed-Down World. He has served as a special advisor to the American Productivity and Quality Center (APQC) and on the management faculty of the University of Phoenix for more than 10 years. Contact him at bobw@commonsenseenterprises.net.



CAN CUSTOMER SERVICE BE A PROFIT CENTER?



JASON BADER is the managing partner of The Distribution Team, a firm that specializes in helping distributors become more profitable through strategic planning and operating efficiencies. He is a regular speaker at industry events and spends much of his time coaching individual distribution companies. For more information, contact him at Jason@Distributionteam.com or go to www.thedistributionteam.com.

WHEN I TRANSITIONED MY DISTRIBUTION CAREER OVER TO THE ADVISORY SIDE OF THE BUSINESS, THERE WAS A POPULAR STUDY CONDUCTED IN THE INDUSTRY. "FACING THE FORCES OF CHANGE" WAS ORIGINALLY CONDUCTED BY THE ARTHUR ANDERSON GROUP AND THEN PICKED UP BY PEMBROKE CONSULTING, LED BY DR. ADAM FINE. ESSENTIALLY, THERE WERE FOUR MAJOR RECOMMENDATIONS THAT CAME OUT OF THE STUDY. ALTHOUGH I CAN'T RECALL ALL FOUR, THE ONE THAT HAS ALWAYS STUCK WITH ME WAS THIS: *FOR WHOLESALE DISTRIBUTORS TO REMAIN VIABLE, THEY NEED TO EXPLORE THE POSSIBILITY OF GETTING PAID FOR THE SERVICES THEY PERFORM. GRANTED, I AM PARAPHRASING A BIT HERE, BUT THE MESSAGE IS STILL THE SAME. AFTER ALMOST 15 YEARS, HAS THE PRIVATELY-HELD WHOLESALE DISTRIBUTION INDUSTRY COME ANY CLOSER TO THIS LOFTY GOAL?*

Just last week, I was reminded of this ideal. I was speaking at an industry event for door, hardware and security distributors. During one of the sessions, a speaker talked about monetizing the service side of the security business. He compared the typical net profit generated by selling the access control hardware and various other components that complement the security offering. As we all know, somewhat painfully, most hardgoods distribution results in a net profit percentage of 5 percent or less. Yes, there are some of you rock stars that roll into the high single-digit percentages, but most privately held distributors are known for a bit more humble results.

The speaker went on to talk about some distributors who have begun to monetize the service side of access control. For larger customers, these organizations have developed a monthly fee for system monitoring just like the big kids in the industry. What does the profit look like on these monthly fees? The speaker suggested that the gross margin on this residual monitoring business could be around

67 percent, compared to a mid-30s percent gross margin on the sale of the equipment. Although the speaker didn't drive it down to net, I would suspect that this additional revenue from security monitoring was north of 20 percent. Cue the raising of the eyebrows.

As I look back on my career in the construction supply business, there were several examples of how non-inventory sales translated into improved profitability. Many of my peers would augment their sales income with a rental side to the business. Although some of them dealt with large equipment, many of them subscribed to the "if it will fit into the back of a pickup truck" method of determining their rental offering.

Once again, profit generated would far exceed the bottom line created by selling inventory. One colleague shared that the net from rental sales will usually come in around 20-25 percent. It is no wonder the rental guys used to shake their head at the arrogance of the pure sales folks. More like laughing all the way to the bank.

Although I don't have any hard numbers on this, I suspect the service and repair business enjoys a similar bottom line reward. Granted, both of these business models—rental and repair—generate a smaller top line number than pure distribution sales; but the net clearly makes it an opportunity worth exploring. Remember, gross profit is for vanity, but profit is for sanity.

I have seen other examples of distribution companies embracing a non-inventory sales model. A couple of years ago, I spent some time with a former client in the janitorial supply business. In their company, they have begun to monetize their customer education programs. In years past, they would train custodial service people and chalk it up to part of the sales process. Performing quality education is expensive and can be a real drain on profitability.

This new direction has paid some real dividends. Not only is he now getting paid to put on certification courses in applications; he is also drawing from a much larger geography. This is allowing him to push product outside his traditional selling area.

Another education heavy industry is the beauty supply business. I have had the good fortune of working with several

wholesale distributors in this vertical. They hold many different educational sessions, either self-performed or manufacturer supported, for salon professionals. Could this become a profit center? I have seen some of these training rooms. They rival many of the rooms I have run seminars out of. It is certainly something to explore.

Looking back at my past career, safety products have become a huge part of both the construction and industrial distribution offering. I know that many sales professionals in these companies have become certified to train on various products. Furthermore, this training has become a requirement for the user in many situations. If it is required, why are they giving it away? The old excuse, "because we always have" just doesn't seem to cut it anymore.

One final example of getting paid to perform services comes from the floor covering industry. There is a terrible tradition in this business called "will advise." In this scenario, the dealer customer places a purchase order for flooring product from the wholesaler to tie up inventory but is not willing to take delivery. The dealer "will advise" the wholesaler when they want to take delivery of the product. During

this limbo time, the wholesaler ties up inventory and warehouse space with technically sold, but not invoiced, product.

I think you can see where my stomach churns over this practice. As a bright spot, a couple of wholesalers have stiffened their spine and taken a hard stance. Not only do they invoice the dealer immediately, but they also charge a monthly storage fee until the dealer takes delivery.

Could the construction industry take some cues from this "storage fee" practice? I have seen several distributors perform similar holding activities for contractors working in condensed urban environments. Perhaps these contractors would be willing to pay for storage and delivery of product on an "as needed" basis. If the question is not asked, it will never be answered.

In the traditional supply chain, distributors provide value-added services for the gross margin they receive from the transaction. As this compensation for services performed continues to get squeezed, I would like to see distributors rekindle an interest in monetizing the services they have been historically giving away for free. +



USING SOCIAL MEDIA TO HELP THOSE IN NEED

BY AMANDA WILSON AND GINNY POWELL



AMANDA WILSON is Manufacturer Representative for Southeast Architectural Solutions. She can be reached at Amanda@southeastarchitecturalsolutions.com or @AGWilsonBS on Twitter.

GINNY POWELL is Digital Marketing Specialist for Hager Companies. She can be reached at gipowell@hagerco.com or @GinnyPowell on Twitter.

WE'VE ALL SEEN IMAGES OF THE DEVASTATION HURRICANE MICHAEL LEFT AFTER HITTING THE FLORIDA PANHANDLE AND CONTINUING THROUGH GEORGIA, SOUTH CAROLINA AND NORTH CAROLINA. SINCE SOCIAL MEDIA HAS CHANGED HOW DISASTERS AND RECOVERY EFFORTS ARE REPORTED, MANY OF US SAW LIVE VIDEOS FROM PEOPLE IN THE PATH OF THE STORM WHILE IT WAS HAPPENING.

The door and hardware community is small and holds a special niche within the AEC industry. It became personal for those of us in Florida when the path of the storm was heading right toward a customer, Boyd Construction Specialties in Panama City.

David Boyd has been a member of DHI for several years and never misses a conNextions show. He works hard and is always willing to lend a helping hand while keeping work fun but profitable for his customers and his business. So, as Hurricane Michael hit Panama City, we waited to see what, if any, damage, our friend and his employees would suffer.

After the storm, Boyd Construction Specialties, like many other businesses, sustained a lot of damage and will be out of commission for a while. Most importantly, everyone was safe, though in shock at the sheer extent of destruction in their city and neighboring communities. Knowing David would feel responsible not only for his properties and livelihood but also his employees and their families, we wanted to help. The question was, how? Raul Gomez of Southeast Architectural Solutions had the idea to pull our resources together as an industry to send relief supplies to David and his team.

Using GoFundMe, a campaign was set up and communicated to the door and hardware industry through email, Facebook, LinkedIn, Twitter and Instagram. Distributors, sales agencies, manufacturers, and industry professionals came through with

generous donations. Each donation, big or small, was important and appreciated. A toothbrush, bottle of water, tarp, or bag of dog/cat food can make all the difference to people putting their lives back together.

We've shared pictures on social media of the supplies we've purchased with the generous donations received. Several stores gave us discounts without us even asking. Enterprise also gave us a discount when we shared why we were renting the cargo van. We made sure to tag these companies on social media to share our gratitude in hopes they would be rewarded with excellent public relations for their generosity.

On Wednesday, Oct. 17, seven days after Hurricane Michael hit, a trip was made to Panama City to personally drop the supplies off to David and his crew. David will distribute the food and provisions to his employees, customers, friends and neighbors.

Thinking ahead, understanding business still goes on; surrounding distributors offered to receive shipments for orders, store the product, and deliver to Panama City whenever David needed. Distributor helping distributor, neighbor helping neighbor; each step forward made us proud to be part of this industry.

We couldn't have made this happen without the incredible generosity of the door and hardware community and spreading the word via social media. A sincere thank you to everyone who pitched in to make this happen. +

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GLASS BY OTHERS

BY SCOTT FOLEY



SCOTT FOLEY is a Project Manager with Sunrise Door Solutions. He recently started filling out forms for his formal retirement from the Carpenters Union, and says, "I have proudly been around a long time in our industry and know there is so much I don't know and so much more I have to learn ...it's a long road and I am still enjoying the ride." Email him at SFoley@sunrisedoorny.com.

OVER THE LAST 25 YEARS, I'VE HEARD A COMMON PHRASE IN OUR INDUSTRY—"GLASS BY OTHERS." HOWEVER, IN THE LAST FIVE YEARS, IT'S BECOME MORE AND MORE A PART OF OUR SCOPE OF WORK. WITH MY CURRENT EMPLOYER, WE ORDER ALL THE GLASS, AND IT'S NEVER "GLASS BY OTHERS." AT FIRST, THIS SEEMED LIKE IT WOULD BE A GIANT LEARNING CURVE, BUT IN A VERY SHORT TIME, I LEARNED WHAT I NEEDED TO KNOW TO SPECIFY THE GLASS I NEEDED. ONCE YOU FIND A SUPPLIER WHO ALLOWS YOU TO PICK THEIR BRAINS, IT'S NOT SO SCARY.

I would recommend adding glass to your scope of work to everyone; it can add a lot to your bottom line at the end of the year; does not add that much additional work; and is one less thing the General Contractor has to shop for.

According to Richard Whitcombe Sr., Project Manager with McGrory Glass, one of the most prominent trends within the glass market is the rise of security glazing.

"The surge of violent acts, domestic terrorism, and need for protection has driven architects and building owners to seek out methods to protect their building occupants," Whitcombe says.

"Security glazing typically found in correctional facilities is now being regularly used in schools, government buildings, and offices across the nation. Rising demand has allowed for new technological advancements to develop a wide array of product solutions in this field."

When existing conditions and time constraints are a factor, glass film is another option, typically 8-14 mils thick; however now more recently up to 23 mils thick. It's important to note not all films are equal; some have one layer, others, multiple layers, and everyone

has their preference. As you can imagine, the costing can be crazy, and the cost and the sell/bottom line profit of the project can be quickly impacted.

I don't see this trend slowing down in the near future with security concerns on the rise in light of recent tragic events. What was once thought to be a specialty product reserved for high-risk buildings has been increasingly used in other nonresidential building segments.

Glass or film can be one more layer to look at more closely when determining the security of a facility, and easy to add to scope to quickly help improve your bottom line. +

We Want to Hear from You!

Have something on your mind that you want to share with *Door Security + Safety* readers? Email dgable@dhi.org, to be included in a future *Closing Thoughts* column.

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