SPECWORK

CSI® LITTLE ROCK CHAPTER

Little Rock Chapter - Chartered November 1965 December 2023

CELEBRATING 75 YEARS OF CSI

In This Issue

LITTLE ROCK CHAPTER
CONSTRUCTION SPECIFICATIONS INSTITUTE

CSI® LITTLE ROCK CHAPTER

President's Message

December 2023

Unfortunately, Melissa is unavailable to write this month's message, so I will attempt to fill in. We are in the time of the year where we begin to reflect on the past 12 months and begin to plan for the upcoming 12 months. This is both a blessing and a curse as we can see where we need to be and we can see where we fell short. I know Melissa would say to be positive and I have adopted the view on life that it is a good day because I am six feet tall and not six feet under.

For this upcoming year, the Chapter needs to make a few goals. One of these is to increase our active membership and to get younger people involved. I am 67 years old and have been a member of CSI since 1998. I have witnessed many changes and challenges overcome, but the one thing we need most of all is new blood at the helm.

This is where you come in. You the younger Members. We need your vitality, your youth, and your knowledge of the world we are living in and moving into. While we seasoned members do our best to understand this world of internet, social media, and all things modern, we come from a much different world and cannot always grasp the ins and outs of modern society. That is where you come in. We need you to usher us into your would. We need to know how to connect to the younger generations and we especially need the younger generation to step up and take over the reins of the Chapter, Region and Institute.

How about joining in on the fun, give us old timers some lessons in how things are done.

I am looking forward to the upcoming year and I hope that I will see a great deal more of the younger generations getting involved.

Billy J. Mathis, FCSI, CDT
Newsletter Editor and Secretary of the Little Rock Chapter.

"Diversity is a fact. Equity is a choice.

Inclusion is an action.

Belonging is an outcome."

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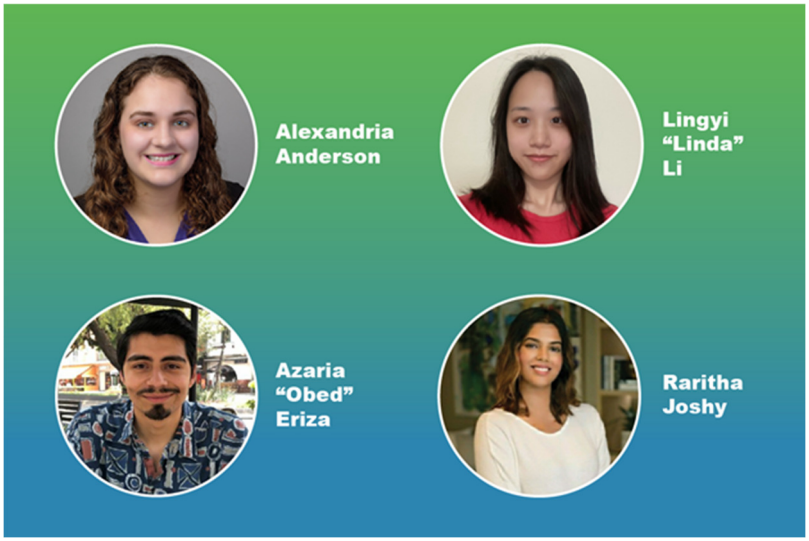
CALENDAR OF EVENTS

Wednesday, November 8, 2023	Event Cancelled	Rescheduled to January
DECEMBER	Closed for the Holidays	
Wednesday, January 10, 2024	**Barry Hillyer, Hillyer Sales**	**Introduction to Pultruded FRP Façade Attachment Systems (1 AIA LU/HSW)**
Wednesday, February 14, 2024		

If you have a Program that you feel would be interesting to the Membership and Guests, please contact Melissa at mjaguiar@garverusa.com or me at bjmathis@taggarch.com

CSI Community Supports the Next Generation of Aspiring AECO Professionals

By: CSI Institute



Lingyi "Linda" Li has always been fascinated by building.

As a child, she loved designing with Lego. At 15, she began helping with the maintenance of her mother's home. Before entering architecture school, she worked at three different firms to better understand the aspects of the architecture, engineering, construction, and owner (AECO) industry.

Now, as a student at the University of California, Linda is working to build her network. She took a major step toward that goal by attending the 2023 CSI National Conference held this past fall in Minneapolis, MN

"Being among the few Chinese women and one of the younger attendees at the conference added to the uniqueness of my experience," Linda says. "Attending this conference marked my first exposure to such a large-scale event, and it was truly remarkable to witness individuals sharing their wealth of experience and knowledge in the field of construction. I believe it's essential for other students to have this kind of opportunity."

Another recipient of a CSI scholarship is Alexandria Anderson, a recent graduate of the University of Tennessee College of Architecture. Alexandria has already studied abroad in Denmark and served in the US Army Reserves as a 12WCarpentry and Masonry Specialist, experiences that helped her develop a strong love for the construction process.

Now, she's starting to build her professional network too.

"The networking [at the CSI Conference] events felt like large community get-togethers, strongly representing the positive discourse and relationships CSI builds," Alexandria says. "Being able to connect with the CSI community in this way is life-changing, and without the scholarship, my future would not be as bright. Being a part of the CSI community to me means being a part of a team—a massive, nationwide team focused on improving our built environment."

Scholarship recipient Azaria "Obed" Eriza says he felt the same sense of community at CSI's National Conference. As a new graduate, working in his first job as a specifications consultant, Obed describes his attendance at the conference as an extension of his experience interacting with CSI events at a local level.

"To me, the CSI community is full of welcoming arms and open minds. I have only been a part of the organization for about a year, but within that year, I have seen a great amount of support for emerging professionals," Obed says. "I would like to say thank you to all the donors who made these scholarships possible. I wish I was able to shake hands with each and every one of you!"

Yet another scholarship recipient, Raritha Joshy, says she shares the same gratitude to the donors who made her trip to the conference possible.

"Their support is an investment in the future of professionals like myself, enabling us to contribute meaningfully to the AECO industry. I want to express my heartfelt thanks for believing in the potential of students and for making a positive impact on our lives and careers," she adds.

Raritha has a Master of Science in Construction Management from the University of Florida and is working on completing her Architectural Experience Program.

"Attending the CSI National Conference was an invaluable experience," Raritha says. "The ease with which you feel at home in the CSI community could be attributed to the inclusive nature of the group. When surrounded by like-minded individuals who share common values and aspirations, it's natural to feel a sense of belonging and comfort."

The CSI Foundation is committed to empowering more aspiring professionals like Linda, Alexandra, Obed, and Raritha to expand their knowledge and network.

Thinking about taking the Certification Test for the Construction Document Technologist (CDT) this Spring.

The Nashville Chapter of CSI will hold CDT Classes again in 2024. The "CDT 2024 class Information & Agenda / Calendar" is posted on our Nashville CSI Chapter website:

https://csinashville.org/ click on Certification. Please forward this invitation to anyone that may be interested.

If you would like to attend the on-line classes, register by downloading and completing the registration form on the Nashville CSI website. Send to: **CManka@comcast.net**

Thank you for your interest and let me or Lynn Jolley **LJolley@comcast.net** know if you need more information.

What I Learned From CSI - The Mystery of Toilets: Think Outside the Bowl :

By: Gary Bergeron, CSI, CCS, GSR Technical Chair

What is the one item that we all use approximately three times per day, in private, but seldom talk about? Some clues: The device It has been discovered in many ancient ruins but was seldom seen in the Mmiddle Aages. Also, iIt is a device that is responsible for helping to prevent the spread of diseases, such as dysentery and cholera. An estimated 2.6 Billion people worldwide lack access to proper fixtures and approximately 1.8 million people per year DIE from lack of access to suitable sanitation. The US patent office received 350 applications for new designs between 1900 and 1932 before the current version we all know was designed.

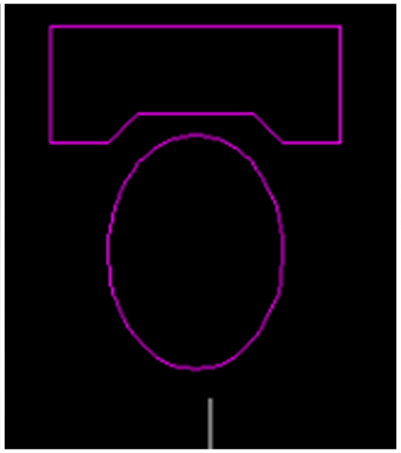
Whether you call it a toilet, water closet, can, throne, latrine, head, potty, Loo, crapper, john, or something else,; it is something most of us take for granted. An estimated 2.6 Billion people worldwide lack access to proper fixtures and approximately 1.8 million people per year DIE from lack of access to suitable sanitation. The US patent office received 350 applications for new designs between 1900 and 1932 before the current version we all know was designed. The “modern” toilet was invented for Queen Elizabeth in 1596 by Sir John Harrington, but the ball cock that creates the siphonic action was designed by Thomas Crapper. Various versions of “toilets” have been discovered in the ruins of Neolithic Britain, along with India, Egypt, Greece, and Rome. The Water Closet, or WC, was a polite term used to describe the small closets where the first toilets were installed.

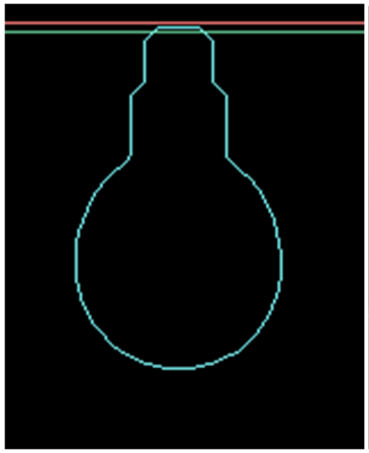
Plumbing engineers often talk about flush tanks, flush valves, floor mounted, and wall mounted water closets. Most architectural interns don’t make a distinction between the graphic symbols, but there is a difference to most plumbing designers. See the diagrams below for the different symbols.

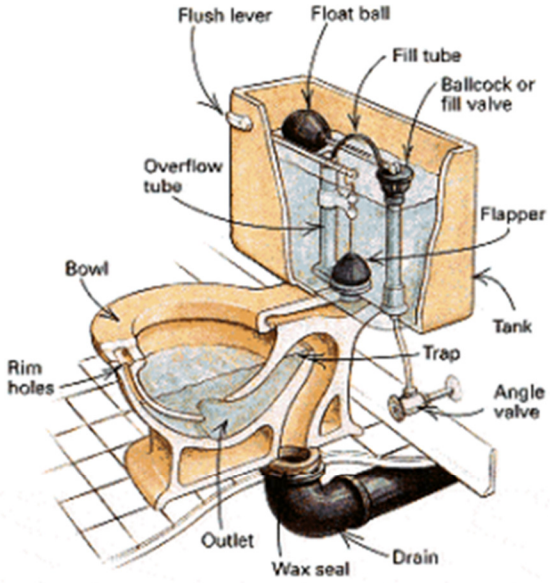
Tank type toilets are often specified in residential or light commercial buildings. The “working parts” (flapper, ball cock, lever and chain) often need adjustment or maintenance. Tank toilets are less expensive, require smaller water lines, and operate with lower water pressure.

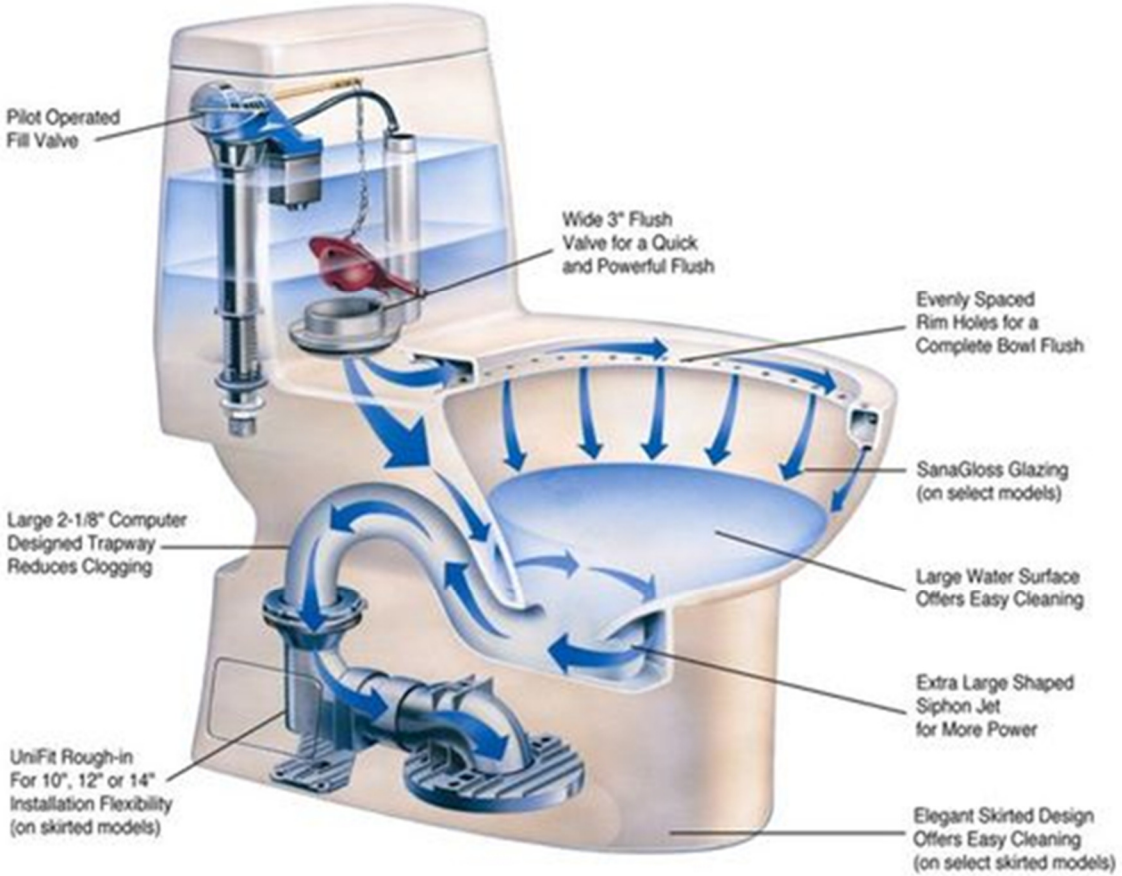
Flush valve toilets are usually specified in commercial buildings where frequent use is expected. The working parts of flush valves require much less maintenance provided they are adjusted correctly during the original installation. Flush valve toilets require larger water lines, higher water pressure, and cost slightly more than tank toilets.
Floor mounted toilets with bottom outlets are less expensive and require less space than wall hung toilets. They are specified when the building budget is a concern. A floor mounted toilet is difficult to clean around the base and behind the toilet.
Wall hung toilets are usually specified for institutional buildings. The back outlets of wall hung toilets require a deep wall chase for athe cast iron wall carrier to support the toilet. The wall hung toilets are much easier to cCleaning around and under the fixture is much easier with wall hung toilets.

All modern toilets include a siphon jet that evacuates the bowl;, a hollow flushing rim that washes the bowl;, and a glazed trap way that provides an exit for waste and also prevents sewer gases from entering the room. This is a porcelain china fixture that has undergone significant improvements over the years and that has become what we all recognize today as the toilet, water closet, can, throne, latrine, head, potty, Loo, crapper, john, or something else.




Flush lever
Float ball
Fill tube
Ballcock or fill valve
Overflow tube
Flapper
Bowl
Tank
Trap
Rim holes
Angle valve
Outlet
Wax seal
Drain


Pilot Operated Fill Valve
Wide 3" Flush Valve for a Quick and Powerful Flush
Evenly Spaced Rim Holes for a Complete Bowl Flush
SanaGloss Glazing (on select models)
Large 2-1/8" Computer Designed Trapway Reduces Clogging
Large Water Surface Offers Easy Cleaning
Extra Large Shaped Siphon Jet for More Power
UniFit Rough-in For 10", 12" or 14" Installation Flexibility (on skirted models)
Elegant Skirted Design Offers Easy Cleaning (on select skirted models)

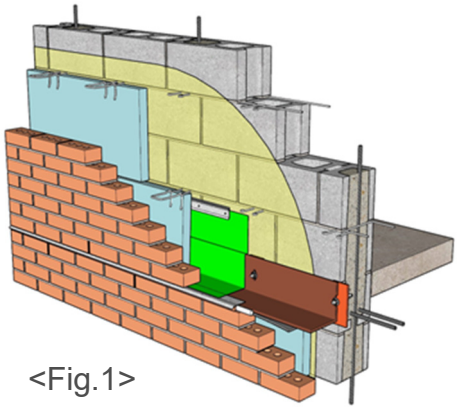
Shelf Angles in Masonry Veneer Walls

By: Scott Conwell, FAIA, FCSI, CDT, LEED AP

Shelf angles in masonry veneer walls add cost and are not always necessary. So why use them? The truth is, there are ways to design around the masonry code's prescriptive requirements for shelf angles allowing us to minimize, or in some cases, eliminate shelf angles altogether.

Perhaps the biggest myth is that shelf angles serve a structural function. They do not. Their purpose is to provide a continuous horizontal expansion to accommodate vertical movement of the veneer below the angle. This video clip shows a classic example of a steel shelf angle, protected with flashing of course, with a horizontal expansion joint below.

Depending on the height of the wall, the locations and pattern of openings, and whether all the movement can be taken at the top of the wall, alternative movement strategies can sometimes be employed that help minimize the use of shelf angles.

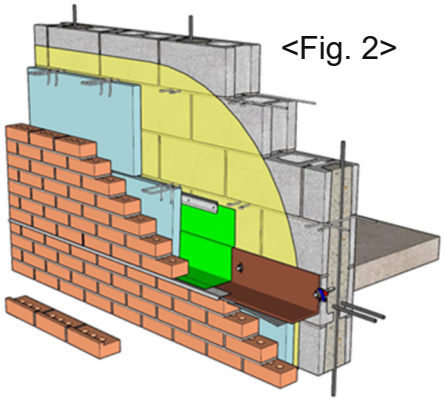


<Fig.1>

Some designers have concerns about the wide horizontal expansion joint resulting from the thickness of the angle's leg added to the width of the expansion joint when a conventional non-lipped brick is used.

First of all, this condition is most likely 30 feet or more above ground level, so a horizontal joint that is 5/8" or 3/4" instead of 3/8" will probably be imperceptible. Secondly, any good union bricklayer can compensate for that wide joint in the coursing above and below and still hit their required elevations.

In special circumstances, if the joint is at eye level and requires the more typical 3/8" width, a lipped or notched brick may be used. These units are typically fabricated at the manufacturing plant, but they could be field-cut. This video clip shows that it's a simpler flashing installation to install the lipped brick below the angle rather than above it.

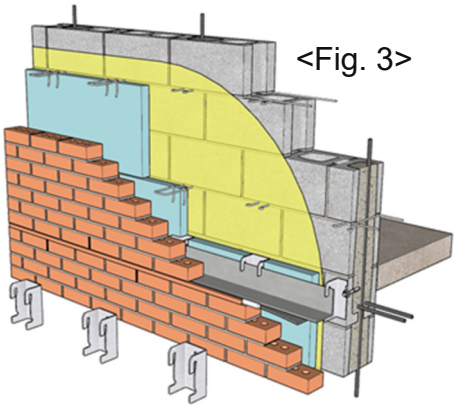


<Fig. 2>

While the strategic use of shelf angles in a masonry veneer wall can effectively manage vertical movement of the veneer, continuous direct contact between the angles and the backing wall can compromise the wall's thermal performance.

Masonry's thermal mass makes it inherently good for heat storage, and the ability to place continuous insulation (CI) in the cavity of a multi-wythe wall even further enhances thermal performance. However, heat loss can occur when a thermal bridge like a continuous steel angle interrupts the CI. Fortunately, there are many ways to avoid this condition.

"Standoff" devices serve to separate the shelf angle from the backing wall and allow for CI to pass behind the angle uninterrupted. These mechanisms can take many forms, from off-the-shelf clip angles to proprietary brackets. A good standoff device will be adjustable, allowing the shelf angle to be installed level and the veneer to be installed plumb. This video clip shows some examples of standoffs.



<Fig. 3>

Whether you love or hate them, you shouldn't be using shelf angles when you don't need to, and when you do, please be smart about it. Here are a few key points to take away:

Shelf angles solve a movement problem, not a structural problem.

Use shelf angles sparingly.

Protect shelf angles with flashing.

Simpler details tend to be better.

Project the shelf angle from the backing wall to maintain continuity of insulation.

For downloadable details on shelf angles and other common masonry conditions, visit International Masonry Institute's Masonry Detailing Series (MDS) web page at https://imiweb.org/detailing-series/.

Video 1: Conventional shelf angle design: https://www.linkedin.com/feed/update/urn:li:activity:7125443873648115712/

Video 2: Shelf angle with lipped brick: https://www.linkedin.com/feed/update/urn:li:activity:7130532407362940928/

Video 3: Shelf angle with standoffs: https://www.linkedin.com/feed/update/urn:li:activity:7134888636138881024/

Code Requirements for Fire-Rated Glass and Glazing

By: Lori Greene - I Dig Hardware Blog

I can't believe it has been more than 10 years since I researched the requirements of the codes and standards and wrote about traditional wired glass and other glazing in the article called Breaking Tradition. The article addresses changes to the International Building Code (IBC) with regard to impact-resistance, but it doesn't delve into the requirements for fire-rated glass and framing.

Fortunately, a wealth of information on glazing for fire door and window assemblies can be found on TGP's website! (https://www.fireglass.com/resources/fire-rated-basics/)

Topics include:

- Intro to Fire-Rated Glass and Framing (https://www.fireglass.com/resources/fire-rated-basics/intro-to-fire-rated-glass-and-framing/)
- Fire-Rated Glass Testing (https://www.fireglass.com/resources/fire-rated-basics/fire-rated-glass-testing/)
- Fire-Rated Glass Codes (https://www.fireglass.com/resources/fire-rated-basics/fire-rated-glass-codes/)
- Fire-Rated Glazing Applications (https://www.fireglass.com/resources/fire-rated-basics/fire-rated-glazing-applications/)
- Innovations in Fire-Rated Glazing (https://www.fireglass.com/resources/fire-rated-basics/innovations-in-fire-rated-glazing/)
- Common Misconceptions About Fire-Rated Glazing (https://www.fireglass.com/resources/fire-rated-basics/common-misconceptions/)

These pages answer many of the common questions about fire-rated glazing, but if you have additional questions, just leave them in the comments and I'll track down the answers!

Introduction to Pultruded FRP Façade Attachment Systems (1 AIA LU/HSW / GBCI / 1 IIBEC CEH)

Presenter: Barry Hillyer / Hillyer Sales

CSI LITTLE ROCK CHAPTER

STRONGWELL

In this session, Architects, Engineers, and Designers who work with exterior cladding systems will receive an introduction to pultruded fiber-reinforced polymer (FRP) composites and their characteristics as structural building materials. Using this information, session participants will be able to demonstrate how FRP girts can be used for a cladding support structure and simultaneously create a thermally efficient wall. Participants will be able to define continuous insulation (CI) systems per ASHRAE 90.1 and differentiate FRP CI systems vs. traditional steel girt systems. Finally, participants will be able to obtain the necessary design resources to integrate FRP CI systems in future projects.

Learning Objectives:

- describe the beneficial characteristics of pultruded fiber-reinforced polymer (FRP) composites used as building materials, including how this will impact the user's experience living/working in the building.
- identify the relevant codes and standards that apply when using FRP as a building material and discuss their application in common architectural designs.
- demonstrate how FRP girts can be used for a cladding support structure and simultaneously create a thermally efficient wall, and specifically address how this benefits occupants of the building.
- obtain and utilize the necessary design resources to integrate FRP CI systems in future projects to foster increased efficiency and longevity of structures for building owners and occupants.

Wednesday - January 10, 2024 / 12:00 – 1:00 pm

Location - Garver Engineering Office, Third Floor Academy Room
4701 Northshore Drive, North Little Rock, Arkansas 72118

PLEASE JOIN US AT THE GARVER OFFICE FOR A PRESENTATION. WE WILL PROVIDE LUNCH TO ALL ATTENDEES DURING THE PRESENTATION.

PLEASE RSVP ASAP AS TO WHETHER YOU WILL BE ATTENDING.

Quick Question: Product Certification to Codes and Standards

By: Lori Greene, I Dig Hardware Blog

This Quick Question has come up quite often over the years – I was shocked to find that I had not yet answered it here:

Is XYZ product certified as compliant with NFPA 101 (or any other model code)?

No matter which piece of hardware or model code we're talking about, the short answer is no. Products are not certified to NFPA 101 – Life Safety Code, the International Building Code (IBC), or the International Fire Code (IFC). The same goes for many referenced standards, like NFPA 80 – Standard for Fire Doors and Other Opening Protectives, and ICC A117.1 – Accessible and Usable Buildings and Facilities. These are not test standards. Doors, frames, and hardware are not tested or certified to these publications.

Here's an example: I was recently asked whether a particular electric strike was certified to NFPA 101. Let's not get hung up on the word "certified" (as I said before, the answer is no) – I can't say whether the strike is compliant with NFPA 101 either. The answer depends on the application:

- What kind of lockset is being used along with the electric strike? Is it a function that allows free egress without the use of a key, tool, special knowledge or effort?
- Is the strike being installed as part of a fire door assembly? If so, is it fail secure and listed to UL 10C?
- Is it a fire door that needs to allow for stairwell reentry and also remain positively latched?
- Does the opening require panic hardware, and if yes, is the strike of the correct type?
- Does the door unlatch with one releasing motion, and without tight grasping, pinching, or twisting of the wrist?
- Is the releasing hardware mounted between 34 inches and 48 inches above the floor?

The list of questions goes on and on, and it's up to the hardware consultant or other professional responsible for product selection to determine whether a particular application meets the requirements of the adopted code or reference standard. There is no simple answer or certification to verify this – if it was easy, it would be called easyware!

Note that some standards referenced in the model codes ARE test standards – products may be certified to these standards. For example, NFPA 101 requires panic hardware to comply with ANSI/BHMA A156.3 – Exit Devices. To determine whether a particular panic device is compliant, you can refer to the BHMA Certified Products Directory (https://buildershardware.com/Certification-Program/Certified-Products-Directory). The same applies to test standards like UL 10C – Standard for Positive Pressure Fire Tests of Door Assemblies. The list of products certified to this standard can be found in UL's Product iQ database. (https://productiq.ulprospector.com/en).

Wordless Wednesday: I have no words

By: Lori Greene, I Dig Hardware Blog

Really. What can I say about this Wordless Wednesday “emergency exit”, sent to me by Tim Weller of Allegion. Feel free to comment with suggested captions.

Fixed-It Friday: Airport Restroom

By: Lori Greene, I Dig Hardware Blog

Considering the number of airport-related photos I've posted lately, I've clearly been spending too much time on planes. Here is one more Fixed-it Friday airport photo (for now)…does anyone else think it's strange that a semi-permanent sign was printed about the broken lock, instead of repairing the broken lock?

Specifying Practices--Laws and Regulations in Construction Documents

By: Kevin O'Beirne, PE, FCSI, CCS, CCCA, CDT

A project owner's attorney once said to me, with some bemusement, "The law applies to everyone.". While he was referring to our mutual client for a capital project, the same, exceedingly basic precept engenders the question for architects, engineers, and specifiers, "Is it necessary to expressly cite specific laws or regulations in construction documents?"

For decades, this writer has encountered a strong belief among many design professionals and project owners that applicable laws, statutes, ordinances, codes, rules, regulations, and lawful orders, decrees, and resolutions of governmental authorities having jurisdiction (collectively referred to in this article as, "laws and regulations") should be expressly cited in construction specifications,, perhaps under the assumption that contractors, subcontractors, and suppliers may be unaware of the laws and regulations that pertain to their business. However, appropriate procedure on this matter is more complex and, often, less well understood by practitioners.

The Overarching Obligation to Comply

Because laws and regulations apply to everyone, is it necessary to address them at all in construction docs?

The answer is yes, because it is in the owner's interest, and is an appropriate risk management provision, to place on the contractor the contractual responsibility to comply with laws and regulations. Such provisions clarify that the owner, design professional, and others retained by the owner, such as a construction manager as advisor (CMa) or program manager, are not responsible for the contractor's compliance with laws and regulations. Without such a provision, it is possible a contractor might adopt a position that the owner, design professional, or others were co-responsible for, or should have advised the contractor of, the contractor's non-compliance with laws and regulations

Furthermore, while it is obviously in the owner's and design professional's interest to have the work performed in accordance with laws and regulations, making such compliance a contractual obligation allows the owner, design professional, or CMa to enforce such compliance. When not a contractual requirement, only authorities having jurisdiction, such as a local building code official, municipal zoning code enforcement official, state or local health department, state environmental regulatory agency, or other such entity, can enforce compliance with laws and regulations.

The American Institute of Architects' document AIA A201—2017, Standard General conditions of the Contract for Construction, requires:

"§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

"§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

AIA A201—2017 Section 3.7.1 addresses the contractor's responsibility to obtain and comply with permits.

AIA A201—2017 and AIA A503—2017/2019, *Guide to Supplementary Conditions*, do ***not*** expressly address contractual obligations or entitlement in the event laws or regulations change after the parties have signed the construction contract. This appears to be a significant omission, because laws and regulations ***do*** change over time, regardless of when the contract was signed, compliance with laws and regulations is obligatory as soon as the law or regulation goes into effect. Such changes may have a substantial effect on the contractor's cost and ability to comply with the contract times. Obviously, changes to laws or regulations is a risk over which the contractor has no control. An example is the wave of executive orders issued at the state and federal level to combat the COVID-19 pandemic of 2020-2022. Without a provision addressing responsibility and entitlement for changes in laws and regulations, it is possible owners and contractors may have disagreements when such changes add to the contractor's cost or ability to comply with the contract times.

The Engineers Joint Contract Documents Committee's document C-700—2018, Standard General Conditions of the Construction Contract, includes the following defined term:

"{1.01.A.]25. Laws and Regulations; Laws or Regulations—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction."

EJCDC C-700—2018 also includes (bracketed text, below is not in the original and is added here for clarity. Also, "…", below, represents where selected text, present in the original, was omitted from this blog post for brevity):

"7.11 Laws and Regulations

"A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

"B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer… It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03 [regarding obtaining Engineer's interpretations and clarifications].

"C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim."

Notable in comparison with AIA A201—2017 is EJCDC C-700's Paragraph 7.11.C, copied above, which implies a potential change in the contract price, contract times, or both, as a result of changes in "Laws or Regulations".

EJCDC C-700—2018 addresses, at Paragraph 7.09, the parties' obligations regarding required permits.

Both AIA A201—2017 Sections 3.7.2 and 3.7.3, and EJCDC C-700—2018 Paragraph 7.11 require compliance with all applicable laws and regulations. Because literally thousands of laws and regulations apply to virtually any construction project, these are very powerful, important clauses. As further discussed below, they generally render it unnecessary to expressly cite specific laws and regulations in the contract documents, except under certain circumstances.

Laws and Regulations that Must be Included in Construction Contracts

In certain situations, especially in contracts for public work, it may be a requirement of selected laws or regulations to either expressly cite the law or regulation or include all or part of the law or regulation's language, in construction contracts. Common examples include local laws or executive orders regarding diversity business enterprise utilization, equal employment opportunity, "right-to-work" statutes (such as those prohibiting employment of undocumented workers), minimum prevailing wage rates (where applicable), and others.

Such requirements can be incorporated into the project's supplementary conditions, but such clauses may be lengthy. In such cases, it may be appropriate to bind the requirements into the construction documents following the supplementary conditions.
CSI MasterFormat—2020 includes, among other assigned numbers and titles, the following:

- 00 73 19 - Health and Safety Requirements
- 00 73 33 - Non-Segregated Facilities Requirements
- 00 73 36 - Equal Employment Opportunity Requirements
- 00 73 39 - Minority Business Enterprise Requirements
- 00 73 43 - Wage Rate Requirements
- 00 73 46 - Wage Determination Schedule
- 00 73 73 - Statutory Requirements

When any of the foregoing are included in the construction contract documents, for enhanced potential to be enforceable, as contractual requirements, in the event of a claim or dispute. they should be expressly indicated in the list of what comprises the "contract documents" in the owner-contractor agreement.

Many public owners' construction contracts include language similar to the following:.

"ALL LEGAL PROVISIONS DEEMED INCLUDED: Where a Law or Regulation requires all or part of such Law or Regulation be included or indicated in the Contract, this Contract is deemed to include each and every such Law and Regulation. Every such provision is deemed to be so inserted herein. If, through mistake or otherwise, any such provision is not included or indicated in the Contract, or is not indicated or included in correct form, then this Contract shall forthwith, upon the application of either party, be amended by such inclusion or indication, to comply with the subject Law or Regulation without prejudice to the rights of each party to this Contract."

Short of a determination by a court or arbitrator, the extent to which the above provision is enforceable is unclear. This writer advises against relying on such a clause. However, such provisions are nonetheless reasonably common.

Citing Laws and Regulations in Specifications

Except for the circumstances discussed above and other, rare, instances discussed below, it is unnecessary and, perhaps, unwise to expressly cite selected laws and regulations in construction documents. The broad language of the general conditions, such as AIA A201—2017 Section 3.7.2 and EJCDC C-700—2018 Paragraph 7.11, already require compliance with all applicable laws and regulations.

There is a compelling reason to not cherry-pick a few of the thousands of laws and regulations applicable to the work: It is desirable to not emphasize certain laws and regulations, which has potential to imply they are somehow more important or more relevant than others.

Worse still, by expressly citing only a limited number of applicable laws and regulations, a contractor may potentially argue that compliance with the cited statutes was intended, but compliance with others, not cited, was not contractually required. In other words, the contractor may argue that omissions were intentional. Based on numerous published decisions, courts and arbitrators have often found such arguments to be compelling. Thus, expressly citing in the specifications selected laws and regulations has some potential to weaken the broad applicability and strength of clauses such as EJCDC C-700 Paragraph 7.11 and AIA A201 Sections 3.7.2 and 3.7.3.

However, in limited situations, it may be appropriate to expressly cite certain laws or regulations in the construction documents. The most obvious example is indicating in the Division 01 specifications the applicable building code and related codes. The proper, local titles of the applicable codes should be indicated. While many construction specifications in the United States refer to model codes, such as, “International Building Code” and NFPA 70, National Electrical Code, no state or municipality has codes with such titles. Rather, every state and territory, and many municipalities, have their own amendments to the model codes. Thus, the applicable code indicated should be the proper, local title, such as “Uniform Fire Prevention and Building Code of New York State” or, “City of Erie, Pennsylvania, Construction Codes”. Most states and many municipalities have separate codes for new buildings, renovation or modification of existing buildings, electrical, plumbing, mechanical, energy, and other topics. When applicable to the contractor’s work, each construction code should be expressly indicated once in the construction contract documents. Appropriate section numbers and titles are assigned in MasterFormat under “01 41 00 – Regulatory Requirements”

In selected circumstances, a law or regulation applicable to the work of a certain specifications section may be unique to the jurisdiction where the project site is located and, therefore, some bidders or contractors may reasonably be expected to be unfamiliar with it. In such cases, which are likely rare, it may be appropriate to expressly cite the law or regulation in the specifications section.

CSI SectionFormat—2007 allocates provisions for regulatory requirements as follows;

In “Part 1 – General”, as the first subdivision in the “Quality Assurance” article; however, this pertains only to sustainability requirements.

In “Part 2 – Products”, in the “Systems”/”Assemblies”/”Equipment”/”Materials” article, under the “Description” provision, in the suggested, “Regulatory Requirements” subparagraph, for regulatory requirements applicable to manufactured or fabricated items.

SectionFormat does not allocate a location for laws or regulatory requirements in “Part 3 – Execution”.

Thus, when it is necessary to cite a law or regulation that applies to all the work of a given section, including both products and execution, it would appear the “Quality Assurance” article in “Part 1 – General” may be the most appropriate location, likely in a provision titled, “Regulatory Requirements”.

When including such a provision, care should be taken to avoid intermixing requirements for compliance with specific laws and regulations with third-party reference standards, such as those published by ASTM, ANSI, ASME, UL, and many others. Laws and regulations are enacted by governmental authorities having jurisdiction and are compulsory. In contrast, reference standards, no matter how common or advisable, are not laws, statutes, ordinances, codes, rules, or regulations. Thus, reference standards and laws and regulations when included, should not be intermixed.

It is typically unnecessary and inadvisable to indicate a specific year or edition of applicable laws or regulations. By omitting indication of the year or edition, the contractor will be contractually obligated to comply with the current edition of the subject law or regulation. When the specifications indicate a specific year-of-issue or edition of a law or regulation, if the law or regulation is subsequently superseded before the associated work is performed, the owner would be entitled only to compliance with the year or edition expressly indicated. EJCDC C-700—2018 Paragraph 3.02 (“Reference Standards”) directly addresses, among other things, the edition of laws and regulations, as well as reference standards, applicable to the work.

Conclusions

It is appropriate to include in construction contracts a clear obligation for the contractor’s work to comply with all applicable laws and regulations, via language similar to that drafted by EJCDC or AIA. Such provisions are extremely important and powerful, and should generally not be weakened by expressly citing in the specifications selected laws or regulations. Before including such citations in the specifications, design professionals should exercise careful judgement, recognizing that such provisions may have unintended, adverse consequences.

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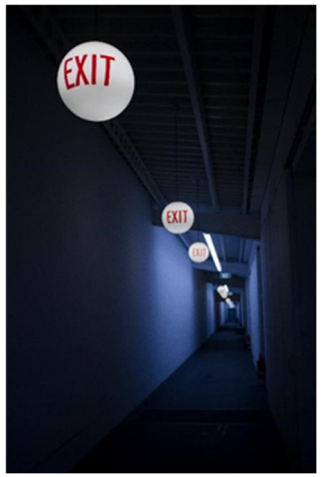
Model Code Update on Swinging Door Openings

By Lori Greene, I Dig Hardware Blog

Author's Note: At the 2023 DHI conNextions Conference in Boston, I taught an interactive code update class in a game show format for an enthusiastic and competitive group of attendees. I am sharing some of the information from that session in this article, so everyone can benefit from what was covered in the presentation.



When learning about the code requirements related to swinging door openings, there are several basic concepts to understand first:

- Adopted Codes – The model codes are updated every 3 years, but these codes may not be adopted in a particular jurisdiction right away. Most states and cities make local modifications to the model codes, so it's important to check the adopted codes in a project's jurisdiction for specific requirements. The updates presented here are changes to the model codes and may not apply in all locations.
- Changes vs. Clarifications – When a code or standard is modified, changes do not technically apply until they are adopted in the project's jurisdiction. However, some code changes are actually clarifications that help to establish the intent of the codes. Learning about new requirements proactively can be very helpful when interpreting the codes.
- Use Groups – The use group or occupancy classification for a particular building (or portion of a building) will affect the code requirements for the space. For example, the egress requirements for an assembly occupancy such as a theater, will differ from those of a residential occupancy like a multifamily apartment building.
- Layered Requirements – Each door opening may be subject to one or more sets of code requirements. If a door is required for egress or provided for egress purposes, it must comply with the egress mandates of the adopted codes. Some openings will also be fire door assemblies, with prescriptive criteria that must be met. Most doors must also comply with the accessibility standards.

What's new?

The 2024 editions of the International Building Code (IBC), the International Fire Code (IFC), and NFPA 101 – Life Safety Code are now complete, and the following topics are just a few of the most important changes that have been made with regard to swinging doors in recent editions of the model codes.

Classroom Security

After the 2018 code change cycle was complete, a Tentative Interim Amendment (TIA 1436) to NFPA 101 was approved, which modified the number of releasing motions allowed to unlatch an existing classroom door for egress. While the IBC and IFC continue to require one motion to unlatch all latching and locking devices simultaneously, NFPA 101 allows a second, non-simultaneous releasing motion for existing classroom doors in existing schools. The intent was to allow a separate deadbolt to be installed along with the latching

Existing classroom doors in existing schools are allowed by NFPA 101 to have two releasing motions for egress, but the I-Codes continue to require one releasing motion to unlatch all locks and latches simultaneously.

This change has been carried forward into the 2021 and 2024 editions of the Life Safety Code, but it's important to remember that the second motion is only allowed in jurisdictions where NFPA 101 is the adopted code and the IBC and IFC do not apply. Some states and local jurisdictions have made code modifications that may also allow a second releasing motion. In addition to the unlatching requirements, the hardware must comply with the other mandates of the applicable codes and standards related to mounting height of the releasing mechanism, egress without the use of a key, tool, special knowledge or effort, and operation without tight grasping, pinching, or twisting of the wrist. Beginning with the 2018 model codes, classroom doors must also allow an authorized person to enter from the outside with a key, credential, or other approved means.

Operable Force for Door Hardware

In the 2010 edition of the ADA Standards for Accessible Design, an editorial change was made which affected the allowable operable force for door hardware. These standards require hardware to operate with 5 pounds of force, maximum. Prior to this change, operable force for hardware was not addressed in the accessibility standards.

The 2017 edition of ICC A117.1 – Accessible and Usable Buildings and Facilities includes a limitation on operable force that differs from the 5-pound limit in the ADA standards. A117.1 states that the operational force for door hardware is limited to 15 pounds of pushing or pulling motion (ex. panic hardware), and 28 inch-pounds of rotational motion (ex. lever handle). The same requirements were included in the 2021 edition of the IBC and IFC, which creates a conflict with the 5-pound limit in the ADA standards. This conflict will exist until the ADA standards are updated, so it's important to consider how to manage this inconsistency on current and upcoming projects.

Automatic Door Operators

Automatic operators are sometimes installed to resolve accessibility issues related to manually operated doors. For example, if a door opening does not have the maneuvering clearance that is required by the accessibility standards for a manual door, adding an auto operator may bring the door into compliance, as the automatic door section of the standards does not require the same clearance.

In the past, automatic doors were not specifically required by the model codes or the accessibility standards, but a change to the 2021 IBC mandates auto operators in certain locations. In buildings of particular use groups and occupant loads, at least one automatic door or set of automatic doors (exterior and vestibule) must be provided at each accessible public entrance. This applies to assembly occupancies (with the exception of Use Group A-5) that have a calculated occupant load of more than 300 people, and to business, mercantile, and residential Group R-1 occupancies with a load of more than 500 people.

Doors Serving Roofs and Other Exterior Spaces

The model codes have been clarified over the last few editions regarding security for doors serving roofs that are not intended to be occupied, such as roofs that contain mechanical equipment. Generally, the IBC and IFC allow doors serving unoccupied roofs to be locked, preventing access from the stairwell to the roof and from the roof to the stairwell. NFPA 101 allows the door to be locked on the roof side if it is also locked on the stair side.

The 2021 IBC and IFC include additional requirements that apply to exterior spaces where the egress route passes through the building, for example, a roof top restaurant or an enclosed courtyard. The need for egress from these spaces often creates a security problem by allowing unauthorized people to access the exterior space and enter the building. Prior to the 2021 editions, the codes did not include prescriptive information for securing these doors.

The I-Codes now allow the doors serving these exterior areas to be locked when the space is not occupied, if certain criteria are met. The maximum occupant load of the space must not be more than 300 people, and signage must be posted stating that the door is to remain unlocked when the outdoor area is occupied. The locking device must be key-operated and readily distinguishable as locked – such as a double-cylinder deadbolt with an indicator. Each exit access door serving the exterior space must have a clear vision panel that measures at least 5 square feet, and at least one of these openings must have a weatherproof telephone or two-way communication system mounted nearby on the exterior side. The codes include additional detailed requirements for the communication system.

Electrified Hardware

For more than 20 years, the Builders Hardware Manufacturers Association (BHMA) has been working in code development, including many proposals related to electrified hardware. Several important changes have been made to the 2024 model codes:

- Elevator Lobby Egress Doors – In many buildings, the elevator lobby does not have direct access to a stairwell/exit; building occupants must leave the elevator lobby to access a means of egress. This can create a security issue by allowing unauthorized access to tenant spaces. Beginning with the 2009 edition of NFPA 101, the code has included a section specific to locking these doors electrically, but the I-Codes did not include a comparable set of requirements. The 2024 IBC and IFC will include a section similar to the requirements of NFPA 101, which allows elevator lobby doors to be locked with fail safe electrified locks if the other criteria in the code are met. This includes a two-way communication system in the elevator lobby and hardware that unlocks immediately upon activation of the fire alarm or sprinkler system, along with other mandates. Refer to the adopted code(s) for detailed information.
- Stairwell Reentry – Although the industry typically specifies and supplies fail safe locking devices on stairwell doors to allow building occupants to leave the stairwell during a fire, the codes did not mandate a specific hardware type. The 2024 I-Codes will clarify that the locking hardware must unlock on the stair side via a signal from the fire command center or a location inside the building's main entrance, upon activation of the fire alarm signal, and/or power failure to the electrified lock. The power failure requirement means that a fail safe lock must be used.
- Electromagnetic Locks – Currently, the model codes allow electromagnetic locks to be released for egress in one of two ways:
    - Option A is for the lock to be released by the activation of a sensor detecting a building occupant approaching the door on the egress side. This type of system also requires the lock to be released by an auxiliary push button beside the door, by activation of the fire alarm or sprinkler system (if present), and upon power failure.
    - Option B is for the lock to be released by a switch in the door-mounted hardware (ex. RX switch in panic hardware, lever handle, or sensor bar). With this type of system, the lock must also release for egress upon power failure, but the auxiliary switch and fire alarm release mentioned in Option A are not required by the model codes for Option B.

- A change proposed by a code official and approved by the technical committee states that if the door is required to have panic hardware and is also equipped with an electromagnetic lock, Option B must be used. Option A – the mag-lock released by a sensor – will no longer be allowed on doors with panic hardware. The panic hardware will have to incorporate a switch the releases the mag-lock as described in Option B above.

- Listings for Electrified Hardware – The model codes currently require some electrified hardware to be listed to UL 294 – Standard for Safety for Access Control System Units. This requirement typically applies when the hardware is part of a special locking arrangement. Beginning with the 2024 model codes, this hardware may be listed to either UL 294, or UL 1034 – Standard for Safety for Burglary-Resistant Electric Locking Mechanisms.

A revision to the 2024 I-Codes clarifies that a door with access control hardware is not considered a special locking arrangement if it is readily openable from the egress side without a key or special

The 2024 I-Codes include another very important clarification related to electrified hardware. One of the issues that causes the most confusion with the codes related to door openings is the concept of special locking arrangements vs. normal locking arrangements. The electrified hardware used in the various types of special locking arrangements is addressed in specific code sections that ensure a balance of security and life safety.

However, the most common electrified hardware applications are not special locking arrangements – they are normal locking arrangements. This hardware allows free egress the same way standard mechanical hardware does and complies with the codes that address standard locking or latching hardware. Because this was not completely clear in the model codes, code officials and others would often try to apply one of the special locking arrangements sections to a door with a normal locking arrangement, just because the hardware was electrified. There was no specific section in the codes that applied to electrified hardware that allowed free egress.

This will change in the 2024 I-Codes, with a clarification stating that electrified hardware used in an access control system must either comply with one of the sections addressing special locking arrangements, OR it shall be readily openable from the egress side without the use of a key or special knowledge or effort. Stated another way, access control hardware that is readily openable from the egress side is not required to comply with the sections on special locking arrangements.

Here is the revised IBC section for reference:

Monitored or recorded egress, and access control systems. Where electrical systems that monitor or record egress activity are incorporated, or where the door has an access control system, the locking system on the egress side of the door shall comply with Section 1010.2.11, 1010.2.12, 1010.2.13, 1010.2.14 or 1010.2.15 or shall be readily openable from the egress side without the use of a key or special knowledge or effort.

For more information about the life safety, fire protection, and accessibility requirements that apply to door openings, refer to the codes and standards that have been adopted in the project's jurisdiction. The Authority Having Jurisdiction (AHJ) will make the final determination on matters of code compliance.

What Would You Do? Installing Protection Plates on Fire Doors

By: Lori Greene, I Dig Hardware Blog

A question came up yesterday about whether protection plates labeled for use on fire door assemblies could be installed with screws or if they required adhesive instead, so I did a little research. It seems like this is a potential pitfall that should be considered during the specification and detailing of a project.

First, I checked **NFPA 80 – Standard for Fire Doors and Other Opening Protectives** (*https://www.nfpa.org/codes-and-standards/8/0/80?l=100)*. The text of the standard does not state a required fastening method for protection plates, but the enhanced content in NFPA Link references the possibility that larger plates may have to be installed with adhesive instead of screws (I found this same reference in a previous NFPA 80 Handbook).

If you are interested in following the Little Rock Chapter, our links are as follows (*for Facebook and LinkedIn look for the CSI Little Rock Chapter*):

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For Membership Information:
https://www.csiresources.org/communities/membership/individual-membership

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Chapter Website:	**https://csilittlerock.org**
Chapter Newsletter:	**SpecWork**
Chapter Meeting Day and Time:	**2nd Wednesday of Each Month unless otherwise specified by the Chapter President**
Chapter Board Meeting Day and Time:	**1st Friday of each Month unless otherwise specified by Chapter President**

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