SPECWORK

CSI® LITTLE ROCK CHAPTER

Little Rock Chapter - Chartered November 1965 February 2026

In This Issue

President's Thoughts

By: Billy J. Mathis, FCSI, CDT, Little Rock Chapter President

Well here we are, in the month of February and it seems just like yesterday when we celebrated New Years Day. How time flies when you are having so much fun. Anyway, I know many of you are anxious to hear what we have to tap for the upcoming year. On the next page you will find some information as to Certification training classes available out there and I am hoping to see if there are any others out there as well. In addition, we have advertised for some leadership opportunities for people who want to become involved and who also have a desire for some leadership training. Leadership, that is a word that gets overused so much these days. People use the word to both ascribe and detract from leaders currently out there. But leadership is not just a person who is in charge. Leadership is a calling for an individual or group to work together to complete tasks or achieve goals with one person being in the lead role. Good leadership is something that someone can learn, although there are those who seem to be born to be leaders. Most of us have to knuckle down and learn the roles of a leader.

One thing about a leader is that he or she will surround themselves with good people. Not just people who know the difference between good and evil, but those who a gifts, special skills or training that can move the group as whole towards their goal. This person will give people tasks that they can accomplish and then let them do it. Applying mentorship along the way to keep things on track and finally celebrating with the group when they meet this goal. Just like there is no I in Team, there is no U in Leadership. I mean there is no assigning blame when something does not work, there is understanding where the goal was lost and moving to correct the pathway to achieve the goal. A good leader knows his or her people, assigns tasks to their strengths, and helps them recognize when they may need help or even something as simple as a little advice.

Just like a football, baseball, socker or some other team, the good leader understands that we win or lose as a group. Nobody is responsible for a loss and there is nobody that made us win. Everyone contributes in their own way and that contribution must be acknowledged and rewarded. This is why we have Awards Programs. Not for recognition of a singular accomplishment, for to recognizing the person and their contributions to the team and our goals. We can't move forward without both effort and recognition. And since we are a totally volunteer organization, we can only pay someone with recognition.

Finally, leadership is also making sure that you are continually adapting to the local situation so you can overcome any obstacles, including planning for the time when you may not be around. A good leader is always training and mentoring those who come after them and leads by example. Now that you can see what leadership is all about, maybe consider starting down the path through volunteering. Join us and get started.

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One of the best benefits of CSI membership is the opportunity to lead — and our Little Rock Chapter is looking for a few members ready to bring fresh ideas and energy to our Board of Directors. These roles are very manageable (often handled over lunch hours) and are great for emerging professionals and seasoned members looking to give back.

We're currently looking to fill the following positions:

Treasurer - Much simpler than it sounds. With only a few recurring expenses and a streamlined credit card system in place, this role focuses on maintaining clear records and providing a brief monthly financial update. Low time commitment, high impact.

Director of Programs - Help bring CSI to life by coordinating monthly programs. This includes reaching out to speakers, organizations, or product reps to host lunch-and-learns, tours, or occasional evening events. Perfect for someone outgoing who enjoys networking and planning ahead.

Director of Communications - This behind-the-scenes role keeps our chapter connected and informed and includes:

Website Manager – Help maintain and grow our chapter website into a go-to resource for the local construction community.
Newsletter Editor – Pull together a monthly newsletter highlighting chapter news, upcoming events, member spot lights, and industry content.

If you've ever thought about getting more involved but weren't sure how — this is your sign. A small time commitment can make a big difference for our chapter. Interested? Let us know — we'd love to talk with you! We're hoping to have these roles filled by March 1, 2026.

As part of our ongoing attempts to aid those wishing to take one of the Certification Courses, we have been notified of two Chapters who are making available their Training Courses.

(1) The Northeast Region is offering a virtual CDT Prep Course for the Spring 2026 Exam and would like to send this notice to as many people as possible. Classes will begin on Tues, February 17, at 6 pm and run through April 28, concluding just ahead of the exam window (May 5-June 10). For more details, go to CDT Preparation Class - CSI Northeast Region (https://nercsi.com/cdt-preparation-class/)

(2) The Phoenix Chapter CSI will also be holding a 3 day CDT Exam Prep course on Fridays, January 23rd, January 30th and February 6th at The Reference Library, 99 E. Virginia Ave., Suite 140, Phoenix AZ 85004.
Costs are as follows: Members - $175.00 / Non Members - $200.00.
Register Here - https://phxchaptercsi.starchapter.com/meetinginfo.php?id=29&ts=1765389650

Certification

The CSI Certifications are designed to educate, inform and validate those in all areas of design and construction. The Nashville CSI Chapter aggressively promotes the Construction Documents Technology (CDT) certification program which is the basis for the other three certifications: CCS, CCCA and CCPR. Starting in February each year the Nashville Chapter provides 10 weeks of two hour classes focused on the CDT criteria. The CDT Certification is a comprehensive overview for anyone who writes, interprets, enforces, or manages construction documents. Classes are open to anyone (within the Gulf States Region) interested. CSI membership is not required and there is no cost to attend the classes. The CDT classes cover MasterFormat, UniFormat, AIA A201 – 2017 General Conditions and various other documents commonly used in construction. To find out more about CSI and the CDT and other Certification programs visit csiresources.org/home and click on Certification. In addition to the CDT classes, the chapter may provide assistance for candidates who intend to take the CCS, CCCA or CCPR exams. For more information contact: Carl Manka CManka@comcast.net or Lynn Jolley LJolley@comcast.net Class information is shown below.

CSI CDT Classes will be live online using Zoom – Thursdays from 5:00 pm until 7:00 pm CST starting February 12, 2026 and running for 10 weeks. Invitation is open to anyone in the CSI Gulf States Region. Membership in CSI is not required to attend these classes. A 2025 CDT Registration form is available on the CSI Nashville website: https://csinashville.org/ Click on Certification. We will use the CSI Project Delivery Practice Guide (PDPG) – Third Edition as our class text. Students should have access to a digital or hard copy of the PDPG-3. It is available from https://www.csiresources.org/home or check around to borrow a copy. We will also use AIA A201-2017 General Conditions and related documents. Each class is eligible for 2 CEU's. Upon request we will issue an attendance certificate for each class.

Agenda and Class Schedule

Week 1 – February 12 Fundamentals – Domain 1, Chapter 1 plus Introduction & Formats (CM)
Week 2 – February 19 Project Conception & Delivery – Domain 2, Chapter 2&3 (CM)
Week 3 – February 26 Design Process – Domain 3, Chapter 4 (LJ)
Week 4 – March 5 AIA A-201 General Conditions (JWP)
Week 5 – March 12 AIA A-201 General Conditions (JWP)
Week 6 – March 19 Construction Documents – Domain 4, Chapter 5 (LJ)
Week 7 – March 26 Procurement & Preconstruction – Domain 5&6, Chapters 6&7 (SP)
Week 8 – April 2 Construction – Domain 7, Chapter 8 (CC)
Week 9 – April 9 Life Cycle Activities – Domain 8, Chapter 9 & General Review (CM – LJ)
Week 10 – April 16 Mock Exam

Concrete Curing: The Chemistry that Builds Strength

By: Mr. MADAPURI HARI KRISHNA, M.Tech.,(Ph.D)., MISTE., IAENG. Assistant Professor Junior & Research Scholar @ VIT Vellore, excerpted from Linked-In Article

Concrete does not gain strength by drying—it gains strength through hydration. From the moment water meets cement, a sequence of chemical reactions begins, continuing for days, months, and even years.

Hydration Chemistry (Why curing matters):

1. C_3A (Tricalcium aluminate) reacts rapidly with water and gypsum, releasing heat and controlling flash set
2. Dormant period (1–12 h): Ettringite barrier forms, providing the essential working window
3. C_3S (Tricalcium silicate) dominates early-age hydration, producing C–S–H gel (primary strength-giving phase) and $Ca(OH)_2$, causing rapid strength gain
4. C_2S (Dicalcium silicate) reacts slowly, contributing to long-term strength and durability
5. Continuous moisture is essential—no water = incomplete hydration = weak concrete

Curing Techniques (to sustain hydration):

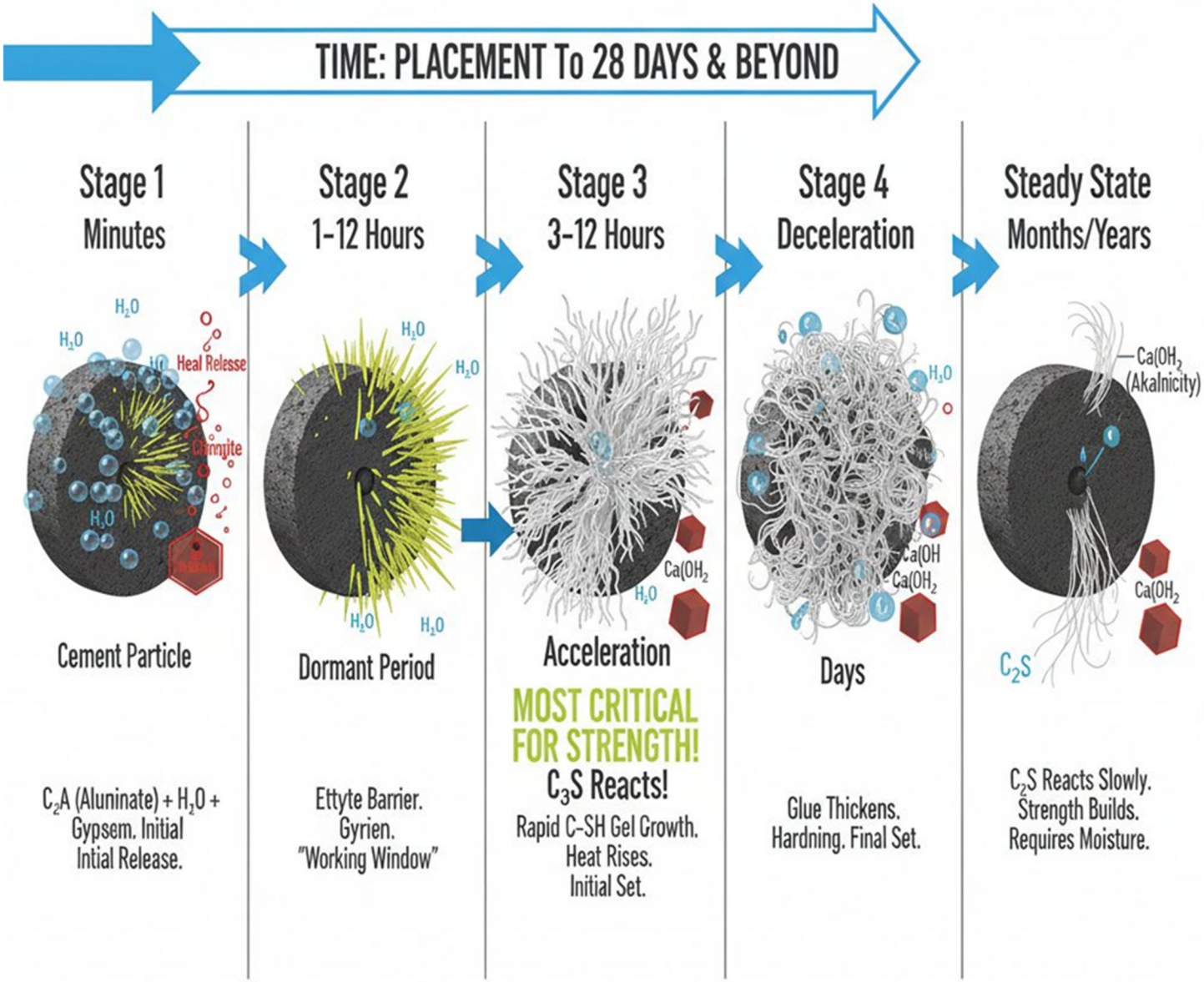
1. Water curing – Ponding, sprinkling, wet coverings (most effective for full hydration)
2. Membrane curing – Curing compounds forming moisture-retaining films
3. Sheet curing – Plastic sheets or wet burlap to prevent evaporation
4. Steam curing – Accelerates early strength (precast applications)
5. Internal curing – Lightweight aggregates / superabsorbent polymers supplying internal moisture
6. Accelerated curing – Elevated temperature and pressure (industrial use)

Key Insight:

1. 7 days of proper curing can achieve ~70% of design strength
2. Long-term durability, permeability, and crack resistance depend on sustained hydration

Curing is not a site formality—it is a chemical requirement. If hydration stops, strength development stops

CONCRETE CURING: THE CHEMISTRY OF HYDRATION



NO WATER = NO CHEMISTTY! CURING IS VITAL! 7 DAYS = 70% STRENGTH! KEEP IT WET!

How is Wood Cut?

By: Excerpt from Linked-In by Michael Magri, Supply Chain Specialist at Costco Wholesale Corporation

It uses a "myth vs. reality" format, contrasting a stylized conceptual model with technical diagrams used in the lumber industry.

1 **THE CONCEPTUAL MODELS (TOP)**

- The top half of the image features two 3D renderings of a log being "unpacked."
- The Visualization: It shows a log where boards are cut from all four sides, leaving a solid square beam in the center.
- The Purpose: This is likely meant to show how a single log contains many different potential boards, but it is an idealized representation rather than a standard commercial milling pattern.

2. MILLING METHODS (BOTTOM)

- The bottom half explains the four primary ways logs are actually sawn in a mill. Each metho results in a different grain appearance and level of stability.

A, PLAIN SAWN (FLAT SAWN)

- The Cut: The log is sliced horizontally. It is the most common and efficient method with the least amount of waste.
- The Result: Produces a "cathedral" grain pattern (the arched shapes seen in the bottom left plank).
- Characteristics: It is the most affordable but more prone to "cupping" or warping over time.

B. QUARTER SAWN

- The Cut: The log is first cut into quarters, and then each quarter is sawn at a specific angle, usually perpendicular to the growth rings.
- The Result: This often reveals "flecking" or medullary rays (the shimmering spots seen in the second plank).
- Characteristics: It is very dimensionally stable (resists shrinking and swelling) and is highly prized for high-end furniture and flooring.

C. RIFT SAWN

- The Cut: Similar to quarter sawn, but the boards are cut at a specific angle (usually to) to the growth rings to ensure the grain remains linear.
- The Result: Produces the most consistent, straight-line grain pattern with no "flecking."
- Characteristics: This is the most expensive and wasteful method because it leaves many wedge-shaped scraps, but it offers the most uniform look.

D. LIVE SAWN (SLAB SAWN)

- The Cut: The saw passes straight through the log from one side to the other without turning it.
- The Result: A single board will contain a mix of grain patterns—plain sawn near the center and quarter/rift sawn near the edges.
- Characteristics: It captures the full character of the tree and is often used for "rustic" designs or wide-plank flooring.

However this is how wood is actually cut

Wordless Wednesday: Special Knowledge and (Gentle) Effort

By: Lori Greene, I Dig Hardware Blog

Catrinia Molitor sent me today's Wordless Wednesday photos, taken in two different gas stations. One is the ladies' restroom and the other is the main entrance. #wordless!

Quick Question: Auto Operator Coordination

By: Lori Greene, I Dig Hardware Blog

Last week I posted about whether automatic operators are required by the International Building Code (IBC) for accessible public entrances on schools, which raised another Quick Question:

When a door that is secured to prevent unauthorized access from the outside is equipped with an automatic operator, how does the interface between security and accessibility function?

This has become a common application, but as with most door openings, this takes a bit of preplanning. If the proper hardware and operational description are not in place from the start, you could end up with a door that doesn't unlatch for the automatic operator to open the door, or a locked door that allows free access when someone presses the button for the automatic operator.

It has been a while since I've written a hardware spec, so I asked Mark Kuhn of Allegion for a typical hardware set for this application, including the operational description explaining how it will work. The key is the electric latch retraction panic hardware (or latch retraction lockset), which retracts the latch before the door opens automatically, along with the relay in the power supply to coordinate the exterior actuator with the access control system. If someone does not present a valid credential, the exterior actuator will not open the door, but the interior actuator will always open the door automatically to allow someone to exit (the door can also be used manually for egress at all times).

The hardware set is below…is there anything that you would do differently? If the idea of specifying this hardware makes your head spin, you can always contact a specwriter for help.

Hardware Group No. 36

For use on Door #(s): 100.1

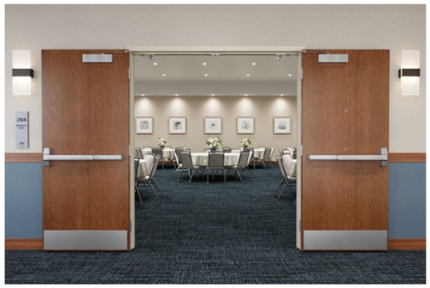
Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC PANIC HARDWARE	SD-RX-QEL-9949-EO 24 VDC	626	VON
1	EA	ELEC PANIC HARDWARE	SD-RX-QEL-9949-NL-OP-110MD 24 VDC	626	VON
1	EA	INTERFACE BOX	JB7 AS REQUIRED		VON
2	EA	SFIC MORTISE CYL.	80-110 CAM AND CYLINDER RING AS REQUIRED	626	SCH
1	EA	SFIC RIM HOUSING	80-129	626	SCH
3	EA	SFIC CORE	80-032	626	SCH
2	EA	LONG DOOR PULL	9266 72″ O	630-316	IVE
2	EA	OH STOP	100S	630	GLY
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	PA MOUNTING PLATE	4040XP-18PA	689	LCN
1	EA	CUSH SHOE SUPPORT	4040XP-30	689	LCN
1	EA	BLADE STOP SPACER	4040XP-61	689	LCN
1	EA	SURF. AUTO OPERATOR	4642	689	LCN
1	EA	WEATHER RING	8310-801		LCN
1	EA	RELAY/DOOR SEQUENCER	8310-845	689	LCN
2	EA	ACTUATOR, TOUCH	8310-853T	630	LCN
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	566A-MSLA-10	A	ZER
1	EA	CREDENTIAL READER	MTB15	BLK	SCE
2	EA	DOOR CONTACT	7764	628	SCE
1	EA	POWER SUPPLY	PS902 900-4RL 120/240 VAC	LGR	SCE
1			PROVIDE FACTORY POINT TO POINT WIRING DIAGRAMS AND RISER DIAGRAMS		
1		NOTE	SEALS BY DOOR MFR		

OPERATIONAL DESCRIPTION: DOORS NORMALLY CLOSED AND LOCKED. PRESENTING VALID CREDENTIAL TO READER MOMENTARILY RETRACTS PANIC DEVICE LATCHES AND MOMENTARILY ENABLES EXTERIOR ACTUATOR BUTTON. PUSHING ENABLED EXTERIOR ACTUATOR BUTTON SIGNALS AUTOMATIC OPERATOR TO MOMENTARILY OPEN DOOR. INTERIOR ACTUATOR ALWAYS ENABLED. PUSHING INTERIOR ACTUATOR BUTTON SIGNALS AUTOMATIC OPERATOR TO MOMENTARILY OPEN DOOR. PANIC DEVICE LATCHES ALSO CAPABLE OF BEING ELECTRONICALLY DOGGED DOWN (I.E. PUSH/PULL MODE) AS DESIGNATED BY ACCESS CONTROL SYSTEM SCHEDULE. EXIT DEVICES LATCH AND LOCK WITH ACTIVATION OF SECURITY SYSTEM. DOOR REMAINS LOCKED TO PREVENT ACCESS UPON POWER LOSS. DOOR ALLOWS FREE EGRESS AT ALL TIMES.

Quick Question: Auto Operator Coordination

By: Lori Greene, I Dig Hardware Blog



The model codes spell out where panic hardware is required for doors serving certain occupancy types and occupant loads.

In this Decoded article for the next issue of Door Security + Safety Magazine, I answered some frequently asked questions about which doors require panic hardware.

When it comes to panic hardware, the requirements of the model codes have not changed much in the last 20 years, but there are still questions that arise often. This month's Decoded article is a quick refresher on the requirements, including the answers to some frequently asked questions.

I like to use the term "panic hardware" instead of exit device, crash bar, push bar, or any of the other terms that could be used to describe this particular type of hardware. That's because panic hardware is a term that is defined in the model codes. The International Building Code (IBC) and International Fire Code (IFC) define panic hardware as: "A door-latching assembly incorporating a device that releases the latch upon the application of a force in the direction of egress travel." The definition for panic hardware also refers to fire exit hardware, which is defined as: "Panic hardware that is listed for use on fire door assemblies."

Based on these two definitions, using the term "panic hardware" is inclusive of both panic hardware and fire exit hardware. With that said, I do use the term "fire exit hardware" when I'm specifically referring to panic hardware that is installed on a fire door assembly.

Which occupancy classifications and occupant loads require panic hardware?

Beginning with the 2006 edition, the IBC and IFC require panic hardware on swinging doors equipped with a lock or latch, serving the following:

- Group A, assembly or Group E, educational occupancies with a calculated occupant load of 50 people or more
- Group H, high hazard occupancies of any occupant load

The NFPA codes mandate panic hardware on required means of egress doors equipped with a lock or latch, serving:

- Assembly, educational, or day care occupancies with a calculated occupant load of 100 people or more
- Areas of high hazard contents with a calculated occupant load in excess of 5

Note that these requirements apply to doors that are equipped with a lock or latch. If a door has push/pull hardware, for example, and no locking or latching hardware, panic hardware would not be required. Also keep in mind that the requirements apply to certain occupancy types and certain calculated occupant loads; both criteria must be met. For example, a residential occupancy with an occupant load of 200 people would not require panic hardware because although the occupant load is over the threshold, the model code requirements for the use group (R-residential) do not mandate panic hardware.

One question that comes up occasionally is whether the requirement for panic hardware apply only to the doors immediately serving the space in question (for example, a theater), or whether the requirement applies to all doors in the means of egress for that space. The answer is: the latter. The I-Codes (IBC and IFC) state: "Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than panic hardware or fire exit hardware." All of the doors in the means of egress between these spaces and the public way are "serving" these spaces.

NFPA 101 – Life Safety Code applies the panic hardware requirements to "any door in a required means of egress" from spaces with the occupancy classifications and occupant loads stated above. The means of egress extends from any point in the building to the public way, so all doors in that path that are equipped with a lock or latch would require panic hardware.

Are there any exceptions in the model codes for the panic hardware requirements?

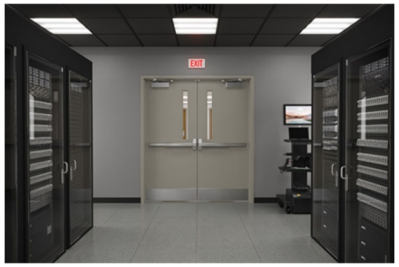
There is an exception in both sets of model codes that would allow key-operated locks (double-cylinder deadbolts) instead of panic hardware on the main exterior door(s) or main door(s) to a tenant space, including some assembly occupancies. The I-Codes also permit doors serving enclosed exterior spaces such as courtyards and roof terraces to have key-operated locks if certain criteria are met.

Some doors serving exterior spaces will require panic hardware, while others may be permitted to have key-operated locks (double-cylinder deadbolts).

The 2024 IBC made a change to the exceptions for doors required to have panic hardware that are also equipped with electrified hardware – typically electromagnetic locks. Previous editions of the code permitted electrified locks to be released by a sensor detecting an approaching occupant on doors with panic hardware, however, the 2024 edition removed this exception. The other option is to have electrified locks released by a switch in the panic hardware. Beginning with the 2024 code, only the second option is permitted on doors equipped with panic hardware, and sensor-release locks may not be used on these doors.

Are there additional types of rooms that are required to have doors with panic hardware?

Recent editions of the IBC require panic hardware on doors serving refrigeration machinery rooms that are larger than 1,000 square feet in area. At least two egress doors are required from these spaces, the doors must be outswinging, and both doors must be equipped with panic hardware or fire exit hardware. The IBC also requires panic hardware on doors serving some rooms that contain electrical equipment. According to the 2024 edition, these rooms include transformer vaults, rooms designated for batteries or energy storage systems, and modular data centers. Rooms containing electrical equipment rated 800 amperes or more that contain overcurrent devices, switching devices or control devices require panic hardware when the exit or exit access door is less than 25 feet from the equipment working space.



Some rooms housing electrical equipment are required to have outswinging doors with panic hardware or fire exit hardware.

NFPA 70 – National Electrical Code requires panic hardware on some rooms housing electrical equipment. The requirements vary slightly depending on which edition of the code has been adopted, but recent editions require panic hardware on doors serving:

Rooms housing equipment of 1000 volts, nominal, or less, with equipment rated 800 amps or more that contains overcurrent devices, switching devices, or control devices

Electrical vaults and rooms housing equipment of more than 1000 volts, nominal

Transformer vaults, battery rooms, and modular data centers

The NFPA 70 requirements apply to personnel doors doors intended for access to and egress from the working space, and that are within 25 feet of the nearest edge of the required working space around the electrical equipment. There may be other locations where panic hardware is required by the state or local codes, so it's always best to check the adopted codes in the project's jurisdiction.

What other code requirements apply to panic hardware?

Where panic hardware is installed, it must comply with the following:

- Panic hardware must be listed in accordance with UL 305 – UL Standard for Safety, Panic Hardware, and fire exit hardware must be listed in accordance with UL 305 and UL 10C – Standard for Positive Pressure Fire Tests of Door Assemblies. In addition, NFPA 101 requires panic hardware to be listed to ANSI/BHMA A156.3 – Exit Devices.

- The actuating portion of the hardware – the push-pad or crossbar – must measure at least half the width of the door leaf. If panic hardware is required on balanced doors, the panic hardware must be push-pad type, and the pad must not extend more than one-half the width of the door (NFPA 101 states "approximately one-half the width of the door leaf"). This measurement is taken from the latch stile of the door.
- The force required to unlatch the door must not exceed 15 pounds according to the I-Codes and the NFPA codes. However, the ADA Standards for Accessible Design require operable parts of hardware to operate with a maximum of 5 pounds.
- Panic hardware must be mounted between 34 inches and 48 inches above the floor. NFPA 101 includes an exception for existing installations, which may be installed between 30 inches and 48 inches above the floor.
- NFPA 101 specifically states that panic hardware (in other than detention and correctional occupancies) must not be equipped with anything that prevents the release of the latch when pressured is applied to the releasing device.
- Fire doors serving the areas required to have panic hardware must have fire exit hardware, and the latch may not be held in the retracted position unless the devices are listed and approved for that purpose. Fire exit hardware with the electric latch retraction feature is typically permissible if the latch projects automatically upon activation of the fire protection system.

As always, it's important to check the adopted codes for requirements related to a particular jurisdiction. For questions, consult the adopted code or the Authority Having Jurisdiction (AHJ).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MEN
CONTEM-
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FDAI: Inspection Criteria 7

By: Tim Murfin, Allegion

Today's post is the seventh post exploring the inspection criteria for fire door assemblies. The seventh criterion listed in NFPA 80 for the inspection of swinging doors is:

(7) The self-closing device is operational; that is, the active door completely closes when operated from the full open position.

This guest post by Adam Fisk of Allegion helps to sort through some of the available options for LCN products that may be installed on fire door assemblies.

LCN Door Closers for Fire-Rated Doors

Fire doors are vital to a building's fire safety. Without them, a small apartment fire can quickly turn into a building-wide emergency. A proper fire-rated opening is designed to stop or at least slow the spread of smoke and fire, giving first responders time to act, and people time to find safety. They can be the difference between a scary situation and a fatal one.

During a fire, fire-rated doors must be closed and latched to function properly. Not only does a closed fire door help contain the emergency, but it also can prevent a vacuum of fresh air from feeding the fire. This essential function leads us to a critical component with features to prevent these doors from staying open during a fire: the door closer.

LCN offers a wide range of mechanical and automatic door closers. Which are suitable for fire doors? All of them. Every LCN product is listed to UL 10C, the standard for positive pressure fire tests of door assemblies, meaning they are all approved for use on a fire door.

NFPA 80 is the Standard for Fire Doors and Other Opening Protectives. This standard divides the operation of fire doors into three categories – self-closing, automatic-closing, and power-operated. There are several distinctions between these categories, but the key piece is the hold-open functionality (or lack thereof). By understanding the categories below, you can better determine which closer is best for the day-to-day operation of each fire-rated opening.

Self-Closing Fire Doors: A fire door with a standard, mechanical closer and no hold open capability

Closers used on self-closing fire doors include our full roster of LCN mechanical products. From the light-duty, cast aluminum 1250 to the heavy-duty, cast iron 4040XP, all of our LCN closers are UL listed for self-closing doors and follow the NFPA 80 standard. This also includes our full suite of arm options, from parallel to SCUSH, with the important exception of any hold-open configuration. Mechanical hold-open options are not permitted on fire-rated doors.

Automatic-Closing Fire Doors: A fire door that will automatically close upon fire alarm activation

The most straight-forward automatic-closing fire door is equipped with any LCN mechanical closer and one of our LCN Sentronic 7800 Series magnets to hold the door open. These magnets automatically release when the fire alarm is triggered and allow the mechanical closer to operate and close the door. These magnets should be reviewed during system checks to ensure they are releasing properly.

Beyond the standard mechanical closers, our LCN Sentronic Series offers a mix of single point, multi point, and scanner operated hold open options.

3130SE / 4040SE – The 3130SE concealed and 4040SE surface mounts have a single-point hold-open, which is adjustable between 85° and 110°. Once the closer receives a fire alarm signal, the electric current will be cut off and the hold-open will release, allowing the door to close. They're recommended for interior openings and are ideal for doors that will be kept fully open given they cannot be repositioned without disabling the hold-open. These closers can be tested with a built in "Release Test Switch" next to the solenoid assembly. With the door in the hold-open position, push this switch, and the door should close immediately.

2310ME / 4310ME / 4410ME – The 2310ME concealed and 4310/4410ME surface mounts can hold doors open at any angle and can be repositioned while maintaining the hold-open function The hold-open is then disabled once the closer receives a signal from the fire alarm and cuts the electrical current to the closer, resulting in the door closing mechanically. These closers are recommended for interior doors and are a great choice for hospital patient areas, senior living centers, and retirement homes due to the ability to hold-open past 120° of opening and the swing free arm on the 4310MESF.

4310HSA / 4410HSA – The 4310/4410HSA surfaced mounted closers include a scanner activated hold-open function. Once the door is opened past the 80° point, the hold-open engages. As pedestrians use the doorway, they trigger the scanner, resetting the hold-open timer, which can be up to 30 seconds. If the timer elapses with no new movement, the hold open function will disengage and allow the door to close. They can be used on both interior and exterior facing doors and are ideal for areas that may receive large amounts of traffic over a short time. Openings in theaters, concert halls, and stadiums are great examples of ideal settings.

Power-Operated Fire Doors: A fire door controlled by an automatic door operator

The third option for fire rated doors is an automatic operator. Once connected to the building's fire alarm system, all LCN low energy operators—from our 4600 AutoEQ to our 6400 COMPACT—meet the NFPA 80 standards and will become disconnected from power upon fire alarm activation.

With low energy door operators, the hold open has a great deal of flexibility. It can be set as a timer after the door is open or configured with an overhead occupancy sensor. Some LCN operators can also be set into a continuous hold open mode. Regardless of which is chosen, once the operator receives a signal from the alarm system, the power will be disconnected, and the door will close mechanically.

These operators are perfect to add accessibility, convenience or touchless access to any opening, whether that's a high-traffic entryway or a lower traffic office suite. Visit our LCN Low Energy Operators page for more specifics on each product.

Conclusion

As a vital part of the fire safety system, it's essential to choose right closer for each fire door configuration. With a full range of UL 10C listed products, LCN offers solutions for every fire-rated opening, easing the intimidation of combing through dozens of options. Whether it's our light duty 1260 or a heavy-duty operator like our Senior Swing, you can install our products with confidence knowing they've been through rigorous testing and designed with fire containment in mind.

FDAI: Inspection Criteria 8

By: Ian Heckman, Allegion

Today's post is the eighth post exploring the inspection criteria for fire door assemblies. The eighth criterion listed in NFPA 80 for the inspection of swinging doors is:

(8) If a coordinator is installed, the inactive leaf closes before the active leaf.

This guest post by Ian Heckman of Allegion covers the basics of coordinators – the function, available types, and other considerations for pairs of fire doors.

Coordinators for Paired Door Assemblies: Ensuring Proper Closing Sequence

In paired door assemblies, closing sequence isn't just about appearance—it's a critical function that ensures proper latching, code compliance, and safety. The component that makes this possible is the door coordinator. A door coordinator is a device, mounted on the frame header, that controls the order in which two door leaves close to ensure the inactive leaf closes first so the active leaf can latch securely. Coordinators are essential in openings with overlapping astragals, flush bolts, or any hardware configuration that requires precise sequencing for performance and protection.

Functional Role of a Coordinator

A door coordinator is a mechanical device mounted on the header (top frame) of a double-door opening. Its primary job is to control the closing sequence of two door leaves—the inactive leaf must close first so the active leaf can latch properly. This is critical for fire-rated openings (to ensure that the door is closed and latched during a fire) and security compliance.

A coordinator is needed when you have an overlapping astragal, automatic or constant-latching flush bolts, or any other requirement that requires the doors to close in sequence to latch properly. It interacts with the door closers and any auxiliary hardware to ensure the inactive leaf closes first, followed by the active leaf.

Types of Coordinators

There are two types of door coordinators – Bar Coordinators and Gravity Coordinators.

Bar coordinators are surface mounted to the bottom surface of the frame soffit. They use an active door lever, located nearest to the active stop, to hold the active door open until the trigger mechanism is released by the closing of the inactive leaf. This makes them ideal for heavy-duty, high-traffic openings where soffit space is available, and durability is key.

Gravity coordinators are surface mounted on the face of the frame head on the pull side of the opening. When the active door is open, the coordinator prevents it from closing until the inactive door closes. As the inactive door closes, its strike plate contacts the cam and lifts the arm, allowing the active door to close. The roller then rides over the strike plate onto the door bracket, holding the arm above the active door. Gravity coordinators are ideals for applications where soffit mounting isn't practical, or aesthetics and retrofit flexibility matter.

Key Considerations

Application

- Coordinators are only required on paired doors where closing sequence matters.
- Consider compliance with fire and life safety codes, as coordinators often play a critical role in meeting these requirements.

Compatibility

- Must be coordinated with door closers, automatic operators, and any concealed hardware to avoid interference.
- They must be compatible with additional hardware like flush bolts or astragals.
- Hardware mounted on the underside of the frame head (e.g., parallel arm closers) may require a mounting bracket when used with a coordinator.

Mounting Location

- Bar-type coordinators are mounted under the frame head; gravity coordinators are mounted on the face of the frame.

Performance

- Verify the coordinator’s capacity against door weight and width.
- Regular inspection and maintenance are essential to ensure reliable performance.

Design

- Account for aesthetics and space constraints—visible components or additional brackets may impact design.

Maintenance Checklist

Visual Inspection

- Check arms, cams, and strike plates for wear or damage.
- Ensure the coordinator is securely mounted.

Alignment Check

- Confirm doors close in the correct sequence (inactive leaf first).
- Adjust arm or mounting if needed.

Lubrication

- Apply light lubricant to moving parts (cam, roller, pivot points).

Hardware Compatibility

- Inspect for interference with closers, operators, or brackets.Verify mounting brackets are intact and properly positioned.

Cleaning

- Remove dust and debris from the mechanism.

Functional Testing

- Open and close both doors several times to ensure smooth operation.

Periodic Adjustment

- Re-adjust if door sag or frame shifts affect sequencing.

Conclusion

Specifying a coordinator for paired doors is not optional when closing sequence impacts hardware engagement or code compliance. Proper selection, installation and maintenance help ensure life safety, security, and operational integrity of the opening.

FDAI: Inspection Criteria 9

By: Sarah Finley Gilman, Allegion

Today's post is the ninth post exploring the inspection criteria for fire door assemblies. The ninth criterion listed in NFPA 80 for the inspection of swinging doors is:

(9) Latching hardware operates and secures the door when it is in the closed position.

In this guest post, Sarah Finley Gilman of Allegion shares some important considerations for the hardware that provides positive latching for fire door assemblies.

The evolution of panic hardware and fire exit hardware has been instrumental in advancing fire and life safety standards. Von Duprin's original "self-releasing fire exit devices" revolutionized building egress by providing a crossbar mechanism that allowed occupants to open doors quickly and effortlessly during emergencies. Over the decades, Von Duprin has expanded its product line to include self-latching, fire exit hardware that complies with modern safety codes and accessibility requirements.

A fire door's primary purpose is to function as a barrier to fire and smoke, slowing their spread and allowing occupants more time to evacuate safely. For a fire door to fulfill this function, it must close completely and latch automatically without requiring manual intervention. This is where self-latching hardware comes into play.

NFPA 80, Standard for Fire Doors and Other Opening Protectives, requires fire doors to be equipped with hardware that has an active latch bolt to provide positive latching when the door is closed. This hardware may be fire exit hardware, a lockset/latchset, or other hardware with an active latch bolt that is listed for use as a component of a fire door assembly. The latching hardware works with other components of the assembly to help ensure that when a door closes, it securely latches into the frame, creating a tight seal that prevents fire and smoke from passing through gaps.

This photo shows the fire exit hardware after the fire test – the hardware is not required to be functional for egress after testing.

Self-latching hardware works by engaging the latch mechanism into the strike after the door closes. The latching mechanism ensures that the fire door remains closed during a fire. Once a certain temperature is reached during a fire, many products incorporate a fusible link within the latching mechanism will melt, causing the door to permanently latch and allowing both fire and smoke to be compartmentalized.

If a door is not self-latching, it may remain slightly ajar or fail to latch properly, compromising the integrity of the fire barrier. This can lead to rapid fire spread, increased smoke inhalation risks, and, greater danger to building occupants. Fire doors are designed to withstand extreme heat and pressure for a specified period, depending on their rating. However, their effectiveness depends heavily on them being closed during a fire. Open fire doors provide a direct path for flames and smoke, negating their protective purpose.

To test fire doors, the full door assembly (door, latching hardware, and other components) is mounted in a test wall assembly. This entire test wall assembly is mounted into a test furnace and exposed to specified temperatures throughout a specified period of time. This is called the Fire Endurance Test and measures the length of time a door assembly can resist fire penetration and prevent the passage of flames and excessive heat.

Following the fire exposure portion of the test, the side of the assembly that wasn't exposed to the fire is then exposed to a stream of water from a fire hose. This is called the Hose Stream Test. This test simulates the impact of firefighting hoses and measures the door assembly's structural integrity after being exposed to fire and thermal shock. This test is designed to evaluate if the door assembly can withstand the force of water from fire hoses without collapsing or developing breaches that would compromise its ability to contain a fire.

Properly functioning fire doors are a critical component of any building's fire protection system, and their ability to self-latch and remain closed is essential to their effectiveness. By ensuring fire doors close securely and automatically, we help contain fires, reduce smoke spread, and provide safe evacuation routes. Regular inspection, maintenance, and education about fire door safety can make all the difference when seconds count.

For more information on which latching hardware is best for your fire doors, please contact an Allegion representative and we'll be happy to walk you through our product library.

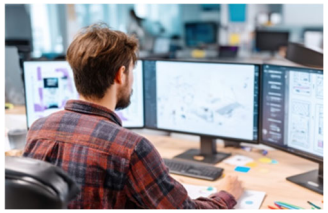
FDAI: Inspection Criteria 10

By: Allison Messer and Bill Lawliss, Allegion

Today's post is the tenth post exploring the inspection criteria for fire door assemblies. The tenth criterion listed in NFPA 80 for the inspection of swinging doors is:

(10) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.

In this guest post, Allison Messer and Bill Lawliss of Allegion discuss specifying the right hardware from the beginning, to avoid non-code-compliant retrofits.



Auxiliary Hardware May Compromise Fire Door Operation and Code Compliance

Fire and life safety codes require that fire doors remain operable and unobstructed. NFPA 80 specifically states that openings must not be equipped with auxiliary hardware items that interfere with operation. Unfortunately, well-meaning modifications like retrofit hardware, wedges, or aftermarket lockdown devices often interfere with door operation and may violate NFPA 80 requirements. These changes can leave doors unable to close or latch properly, creating serious life safety risks. While architects are typically well-versed in codes, hardware details can be complex.

The best way to prevent these issues?

Engaging a qualified door hardware professional early in the design process ensures that required components aren't omitted and that openings function as intended throughout the building's life cycle. Allegion's Architectural Services Specwriters go beyond simply listing products, we act as a strategic partner for architects. Our team understands the nuances of fire and life safety codes and helps translate operational needs into compliant, functional openings. By leveraging tools like Overtur, we streamline collaboration, provide accurate hardware schedules, and ensure that every detail aligns with code requirements. This proactive approach reduces costly field changes, minimizes project delays, and delivers peace of mind that every opening will perform when it matters most.

Allegion's Architectural Services help architects achieve fire code compliance by:

- Applying deep knowledge of building and fire codes to hardware selection.
- Using Overtur for real-time collaboration and accurate door schedules.
- Reviewing openings holistically within the egress path, not just individually.
- Preventing omissions of required hardware that could compromise fire door performance.
- Offering inspection tools and guidance for existing openings and retrofits.

Q&A with Bill Lawliss, Allegion Architectural Services

Q: Why do auxiliary hardware items pose such a risk on fire doors?

Bill: Auxiliary hardware—like surface bolts, wedges, or aftermarket lockdown devices—often seems harmless, but it can interfere with the door's ability to latch or close properly. NFPA 80 requires that fire doors operate as intended, and these modifications may violate that standard. Beyond code compliance, they create real safety hazards. For example, a door that's wedged open during a fire won't contain smoke or flames, putting lives and property at risk.

Q: Do architects typically struggle with fire codes?

Bill: Architects are generally very good with codes—they have to be. Where they rely on us is in the details of door hardware. Fire-rated openings can be complex, especially when you add access control, special locking arrangements, or specialty functions. We help interpret those requirements and apply them correctly to each opening.

Q: What advice would you give architects to ensure their openings pass inspection?

Bill: Start by telling us how you want the door to operate—access control, auto operators, locking functions. That gives us the context to select hardware that meets both operational needs and code requirements. Avoid trying to specify every piece of hardware yourself; it often leads to omissions or misapplications. Let us handle the details so you can focus on design.

Q: How does Allegion's Overtur platform enhance this process?

Bill: Overtur is a game-changer. It allows architects, spec writers, and other stakeholders to collaborate in real time, review door schedules, and share photos of existing conditions. That visual context helps us catch issues early—before they become costly field changes. It's efficient, accurate, and keeps everyone on the same page.

Q: Can you share a real-world example where proper specification prevented a problem?

Bill: Absolutely. We recently worked on a school project where the architect wanted a specific lockdown function. Initially, the design included aftermarket devices that would have violated egress codes. By collaborating early, we proposed a compliant solution using electronic hardware that met both security and life safety requirements. The result? No code violations, no delays, and a safer environment for students.

Q: What trends or upcoming changes in fire safety codes should architects prepare for?

Bill: We're seeing more emphasis on integrated solutions—hardware that combines security and life safety without compromising compliance. Also, expect continued scrutiny on aftermarket devices. Codes are evolving to address these risks, so staying informed and working with a knowledgeable specwriter is critical.

Fire doors are a critical life safety feature, but compliance depends on details. By partnering with Allegion's specification team early, architects can avoid code violations, reduce project risk, and deliver safer buildings—lives depend on it.

Want to Learn More About Fire Door Compliance?

Fire and life safety codes can be complex, and even small hardware changes can impact compliance. If you have questions about specifications or need guidance on ensuring your openings meet code, Allegion's architectural experts are here to help.

Connect with a specification professional for resources and support.

Allison Messer is Marketing Manager for Allegion, specializing in architect-focused strategies. With a strong background in the AEC industry, she develops targeted marketing programs and technical content that empower design professionals. Her experience includes leading strategic marketing initiatives, brand positioning, and integrated campaigns that strengthen visibility and drive engagement.

Bill Lawliss brings 37 years of industry expertise—including 21 years at Allegion—to his role as Architectural Services Director. His deep knowledge of commercial doors, hardware, and security, gained through experience as a distributor, specification consultant, project manager, and business leader, adds exceptional value to project teams. Bill leverages this background to guide successful outcomes across diverse construction projects, aligning resources and personnel to deliver on schedule and exceed client expectations.

FDAI: Inspection Criteria 11

By: Marilyn Latham, Allegion

Today's post is the eleventh post exploring the inspection criteria for fire door assemblies. The eleventh criterion listed in NFPA 80 for the inspection of swinging doors is:

(11)* No field modifications to the door assembly have been performed that void the label.

The asterisk indicates that there is additional information in Annex A of the NFPA 80 standard:

A.5.2.3.6.2(11) Aftermarket devices that are intended to alter the function and operation of door hardware could violate the listing and degrade the fire protection performance of the doorway. For example, magnetic strips that are marketed to apply over strike plates for quick school lockdowns directly defeat the purpose of the latching to hold the door in the closed position. Manufacturers and listing agencies should be consulted prior to making any modifications or adding any devices to fire doors.

In this guest post, Marilyn Latham of Allegion discusses the process for performing a job site preparation or field modification on a fire door assembly.

Prepping an existing frame for an electric strike is a common field modification that would require permission in advance.

NFPA 80 – Standard for Fire Doors and Other Opening Protectives defines the minimum criteria for fire door inspections. The 11th criteria instructs the inspector to verify that, "No field modifications to the door assembly have been performed that void the label". There are two types of modifications described in the NFPA standard: job site preparations and field modifications.

Job site preparations permitted by NFPA 80 2025 – Chapter 5, Section 5.1.4.2.2 are:

Holes for surface-applied hardware, function holes for mortise locks, and holes for labeled viewers

A maximum ¾ in. (19mm) wood and composite door undercutting

Installation of protection plates (see 6.4.5)

Note: NFPA 80 2025, Section 6.4.5 states: Protection plates shall be installed in accordance with the manufacturer's listing of the door and, where applicable, the listing of the protection plate.

Field modifications refer to any changes beyond these allowable preparations, which are considered more significant alterations to the listed assembly. Field modifications require prior permission because they involve changes that could affect the fire door's performance and certification.

The NFPA 80 standard also allows certain exceptions, such as drilling larger round holes for surface-mounted hardware and raceways for electrified hardware, provided these actions comply with the door and hardware manufacturers' listings and the listing laboratory's approvals.

If a field modification is needed, first contact the door/frame manufacturer if possible. The manufacturer may be able to provide information based upon traceability of the product, if available. If it is not possible to contact the manufacturer, for example, if the company is no longer in business, directly contact the labeling agency.

- UL Solutions / UL: https://www.ul.com/services/fire-door-inspection-service
- Intertek / ITS: https://www.intertek.com/building/fire-door-field-labeling/

The Allegion hollow metal team defers to NFPA 80 for allowable modifications and repairs. All other types of modifications must be reviewed prior to any rework.

Review begins with the door manufacturer.

A detailed description of the proposed rework must be submitted. Proposed rework description involves written details, graphics, pictures, templates, etc.

All information is collected, reviewed and shared with the labeling agency (reference NFPA 80 5.1.4.1.1). The listing / labeling agency upon review, will determine if proposed rework is acceptable. Additional engineering evaluation, testing and / or replacement of product may be required.

Once approved, modification or rework may proceed. Upon completion, it is at the discretion of the labeling agency if a field evaluation is necessary.

Unauthorized modifications can have serious consequences. Any modification or rework performed on a labeled fire door and / or fire door frame without approval nullifies the certification of the label. Modifications may affect the specified performance of the product.

In conclusion, careful planning and adherence to NFPA 80 requirements are essential when altering fire door assemblies. Starting with the manufacturer and, if necessary, the listing laboratory ensures compliance, maintains safety, and avoids costly penalties. Regular inspections after installation and maintenance further support ongoing fire door integrity.

FDAI: Inspection Criteria 12

By: Lori Greene, I Dig Hardware Blog

Today's post is the twelfth post exploring the inspection criteria for fire door assemblies. The twelfth criterion listed in NFPA 80 for the inspection of swinging doors is:

(12) Meeting edge protection, gasketing and edge seals, where required, are inspected to verify their presence and integrity.

In today's post I addressed a product that's very simple, but still causes confusion – meeting stile and perimeter gasketing.

The requirements related to smoke transmission continue to be one of the most confusing code-related topics for doors and hardware. Some fire doors must also meet the mandates for smoke doors, and some smoke doors are not required to be fire rated. The related code sections are inconsistent, leading to confusion (and frustration!). I have this issue on my code development wish list for the 2030 model codes.

In this series of posts, we've talked about the various criteria for fire doors – closing, latching, modifications, labels, and more. The topic of today's post – gasketing – should be very simple. There are no moving parts, and it's either present and continuous, or it isn't. But the tough question related to gasketing when inspecting a fire door in the field is…Does this fire door assembly require gasketing?

Unfortunately, it's not as easy as scanning the model codes and referenced standards for the word "gasketing." The only specific mention I can think of is that the model codes require astragals or rabbets at the meeting stiles of double-egress pairs in smoke barriers in health care facilities. If you know of other locations where the model codes and referenced standards specifically mandate gasketing, let me know!

The word gasketing also appears in the International Building Code (IBC) in the section on doors with "S" (smoke) labels. The section on smoke and draft control door labeling requirements states that doors complying with UL 1784 must have an S on the label. The code states: "***This marking shall indicate that the door and frame assembly are in compliance where listed or labeled gasketing is installed.***"

Does this mean that if you see an S on the label, the fire door assembly must have gasketing? Not necessarily. For many manufacturers, the S has been added to all fire door labels, so the labels can be used on doors that require gasketing to limit smoke transmission, and on doors that are not mandated to limit air infiltration. If listed or labeled gasketing is installed, the S applies. If the S rating is not needed for the location where the assembly is installed, gasketing is not required.

So how do we determine where gasketing is required by code? The key is to look for locations where the door openings must limit air infiltration in accordance with UL 1784 – Standard for Air Leakage Tests of Door Assemblies and Other Opening Protectives. For example, for smoke and draft control doors, the IBC states that when tested in accordance with UL 1784, the air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute per square foot [0.015424 m3/(s × m2)] of door opening at 0.10 inch of water (25 Pa) for both the ambient temperature test and the elevated temperature exposure test.

When door assemblies are required to meet this limit, it is difficult or impossible to achieve these values without gasketing at the head, jambs, and meeting stiles. For most doors, a seal at the bottom is not mandated, unless the door is required to meet the stated limits without the artificial bottom seal installed during the test (this occurs at some elevator lobby and hoistway doors). If the door must be tested without the artificial bottom seal it would typically require a sweep or automatic door bottom – both during the test and on the final assembly installed in the field.

Once a fire door assembly inspector determines whether gasketing is required for a particular fire door, compliance with the twelfth criteria is not difficult to assess. Is the gasketing present? Is it continuous? Has the gasketing been notched around the strike, overhead stop, or door closer shoe? This could compromise the seals' ability to resist the passage of smoke and gases, and in turn could affect the ability of the fire door assembly to do its job.

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