Fire Door Inspection & Testing 101

Presented by:
Ruben Garcia
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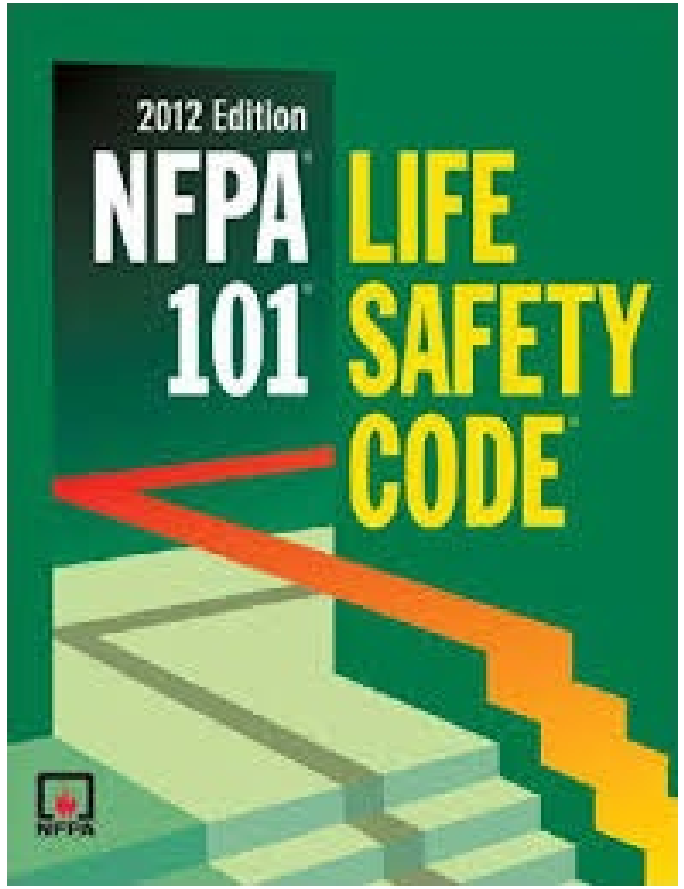
Fire Door Inspections & Testing 101

- The LSC is a set of fire protection requirements designed to provide a reasonable degree of safety from fire.
- The standards referenced in the code cover construction, protection, and operational features designed to establish minimum requirements that will provide safety from fire, smoke, and panic.
- CMS, Joint Commission, and DNV enforce the LSC.



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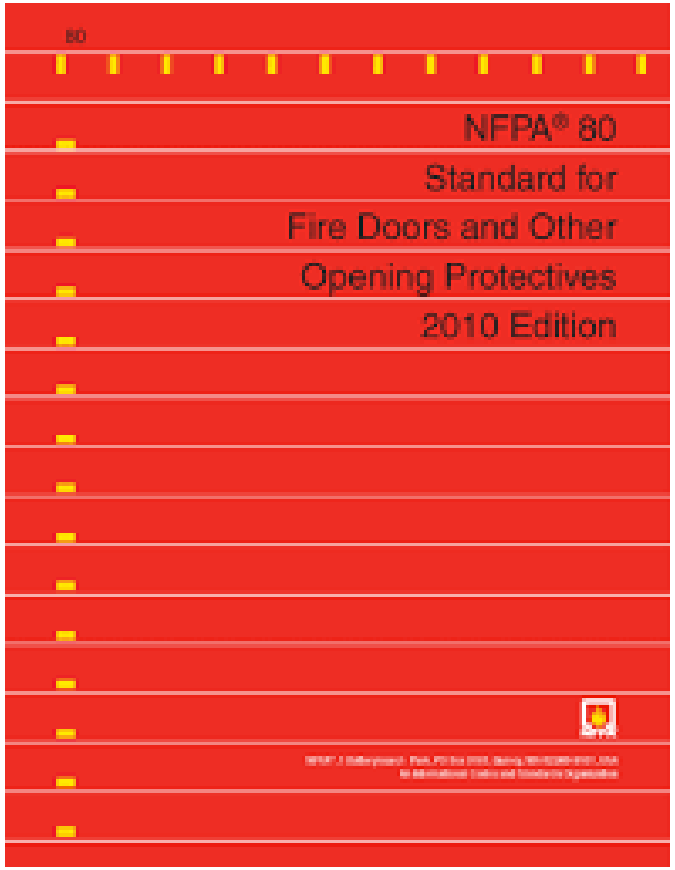
- NFPA 80 Standard for Fire Doors and Other Opening Protectives is a standard.
- NFPA 80 is a publication of the National Fire Protection Association (NFPA).
- CMS, Joint Commission, DNV, AAAHC and other accrediting organizations enforce NFPA 80, 2010 edition



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- 2012 NFPA 101 Life Safety Code adopted by CMS on July, 5th 2016
- Went from the 1999 edition to the 2010 edition.
- 2 cycles of code revisions in between CMS adoption. Newer additions: 2013, 2016, 2019, 2022 editions are available
- Requirement for annual inspections of fire doors did not come into play until the 2007 edition.

Fire Door Quiz: Question #1

Which of the following standard references the installation, testing, and maintenance of fire doors?

A) NFPA 80
B) BPFA 105
C) BFPA 101
D) NFPA 72

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- **Active Leaf** - The first operating door of a pair, which is usually the door in which a lock is installed.
- **Astragal (Overlapping or Wrap-Around)** - A horizontal or vertical molding attached to the meeting edge of one leaf of a pair of doors to protect against weather conditions, to minimize the passage of light between the doors, or to retard the passage of smoke, flame, or gases during a fire, and in the case of a Dutch door, also to ensure that the lower leaf of the door closes in conjunction with the upper leaf.
- **Coordinator** - A device used on pairs of swinging doors that prevents the active leaf from closing before the inactive leaf closes.
- **Door Closer** - A labeled device that, where applied to a door and frame, causes an open door to close by mechanical force. The closing speed can be regulated by this device.
- **Door Holder/Release Device** - A labeled, fail-safe device, controlled by a detection device, used on an automatic-closing door to release the door at the time of fire.

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- **Fire Door** - The door component of a fire door assembly.
- **Fire Door Assembly** - Any combination of a fire door, a frame, hardware, and other accessories that together provide a specific degree of fire protection to the opening.
- **Fire Door Frame** - A component, forming the perimeter of an opening in a fire door assembly, that is supplied welded or knocked down and anchored to the surrounding structure.
- **Glazing Material** - A transparent or translucent material used in fire door assemblies and fire windows.
- **Inactive Leaf** - One door of a pair of doors that ordinarily is latched; the second operating door of a pair.
- **Self-Closing Doors** - Doors that, when opened and released, return to the closed position.
- **Wired Glass** - A glazing material with embedded wire mesh.

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- Fire door assemblies and smoke door assemblies shall be inspected and tested at least **annually**
- Functional testing of the fire door and window assemblies shall be performed by qualified individuals
- Before testing, a visual inspection shall be performed to identify any damaged or missing parts that can create a hazard during testing or affect operation or resetting.
- Fire door assemblies shall be visually inspected from both sides to assess the overall condition of door assembly.

Fire Door Quiz: Question #2

At what intervals shall fire doors be visually inspected and tested to meet the minimum standard requirements'?

A) Monthly
B) Quarterly
C) Semiannually
D) Annually

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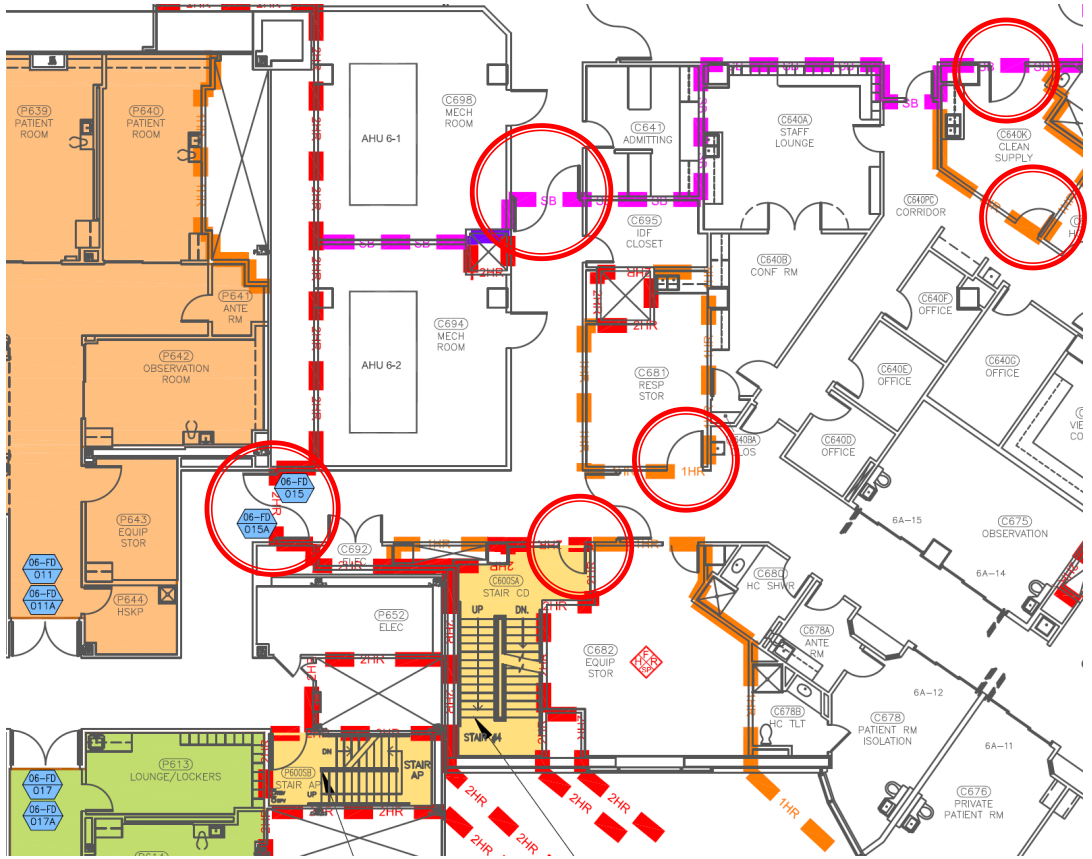
RATED PARTITION LEGEND	
1 HR FIRE BARRIER	1HR 1HR
SMOKE BARRIER	SB SB SB
2 HR FIRE BARRIER	2HR 2HR



Fire Door Inspections & Testing 101

CHI St. Luke's Health - Baylor St. Luke's Medical Center

6720 Bertner Avenue, Houston, TX 77030

Annual Fire & Smoke Door Inspection and Testing Report

Tested per NFPA 80 (2010), NFPA 105 (2010), and NFPA 101 (2012)

Inspection Start and Completion Dates: 10/05/2021 - 11/24/2021

Executive Summary

Floor	Total Number of Fire & Smoke Doors		Number of Fire & Smoke Doors Compliant		Number of Fire & Smoke Doors Non-Compliant	
1	31		28			
2	86		45			
3	67		39			
4	46		24			
5	15		8			
6	64		41			
7	74		60			
Total/Percentage	383	100%				

Building Information

Bldg: Baylor St. Luke's Medical Center

Address: 6720 Bertner Avenue
City/State/Zip: Houston, Texas 77030
Contact: Arthur Luna
Phone: 832-794-2518
Email: arthur.luna@commonspirit.org

Title: Supervisor - Facilities

X_____

Inspection Performed By

Company: Baylor St. Luke's Medical Center

Address: 6720 Bertner Avenue
City/State/Zip: Houston, TX 77030
Inspector: Ruben Garcia
Phone: 832-355-8028

Email: ruben.garcia@commonspirit.org

Qualifications: FDAI, CLSS-HC, CFPS

X_____

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Baylor St. Luke's Medical Center

CHI Baylor St. Luke's Medical Center
2021 Annual Fire & Smoke Door Assembly Inspection & Testing Report

Door Asset Unique ID	Floor	Inspection Date	Inspector	Room Location	Description	Door Assembly Type/Rating	Pass or Fail	Comments	Recommended Corrective Action	Work Order No.
SLB2FD01	B2	11/22/2021	Ruben Garcia	P0016	SUPPLY CHAIN WAREHOUSE	Double Metal 90 Minutes	Fail	1) Vertical astragal hinders independent operation of inactive door.	1) Remove metal astragal from active leaf and plug holes with steel fasteners.	654777
SLB2FD02	B2	11/22/2021	Ruben Garcia	G0051	STOREROOM	Double Metal 90 Minutes	Pass			
SLB2FD03	B2	11/22/2021	Ruben Garcia	G0000SC	STAIR AD	Single Metal 90 Minutes	Pass			
SLB2FD04	B2	11/22/2021	Ruben Garcia	G0028PC	MAINTENANCE SHOPS	Double Metal 90 Minutes	Pass			
SLB2FD05	B2	11/22/2021	Ruben Garcia	G0058	STORAGE	Single Metal Non Rated	Pass			
SLB2FD06	B2	11/22/2021	Ruben Garcia	G0028E	SAFTEY SERVICES	Single Metal 90 Minutes	Pass			
B2-FD-07	B2	11/22/2021	Ruben Garcia	G0036	WAYNE'S SHOP	Double Metal 45 Minutes	Fail	1) Active door has manual hold open feature installed on door closer. 2) Inactive door has manual flush bolts with no coordinator or door closer present.	1) Remove manual hold open feature from door closer. 2) Install door closer to inactive leaf, replace manual flush bolts with auto flush bolts, and install gravity coordinator.	989990
B2-FD-08	B2	11/22/2021	Ruben Garcia	G0036A	WAYNE'S SHOP OFFICE	Double Metal Non Rated	Fail	1) Door is not labeled as fire rated. 2) Door is missing door closer.	1) Field label door as 90 minute fire rated door. 2) Install door closer and ensure door self-latches.	989991
B2-FD-09	B2	11/22/2021	Ruben Garcia	G0036	WAYNE'S SHOP	Double Metal 45 Minutes	Fail	1) Stickers installed on fire rated glazing. 2) Inactive door has manual flush bolts with no coordinator or door closer present.	1) Remove stickers from door windows. 2) Install door closer to inactive leaf, replace manual flush bolts with auto flush bolts, and install gravity coordinator.	989992

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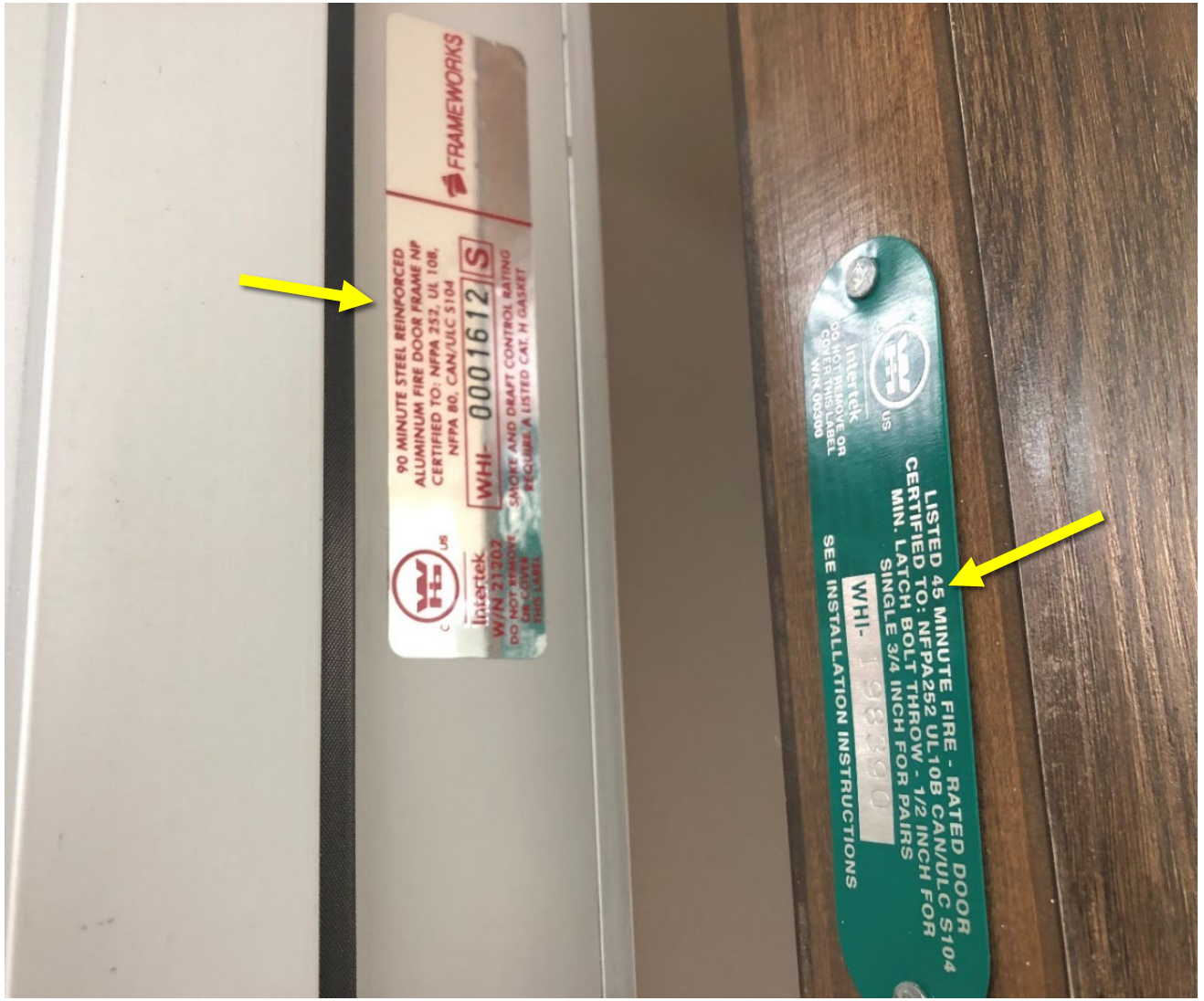
- *1) Verify that all fire door components are labeled and rated appropriately

- Includes, frame, door, glazing, exit hardware, kick plates more than 16 inches, and other listed devices



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- 2) No open holes or breaks exist in surfaces of either the door or frame.

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- 3) Glazing, vision light frames, and glazing beads are intact and securely fastened in place, if so equipped.
- Must be labeled for proper fire protection.

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- 4) The door, frame, hinges, hardware, and noncombustible threshold are secured, aligned, and in working order with no visible signs of damage.

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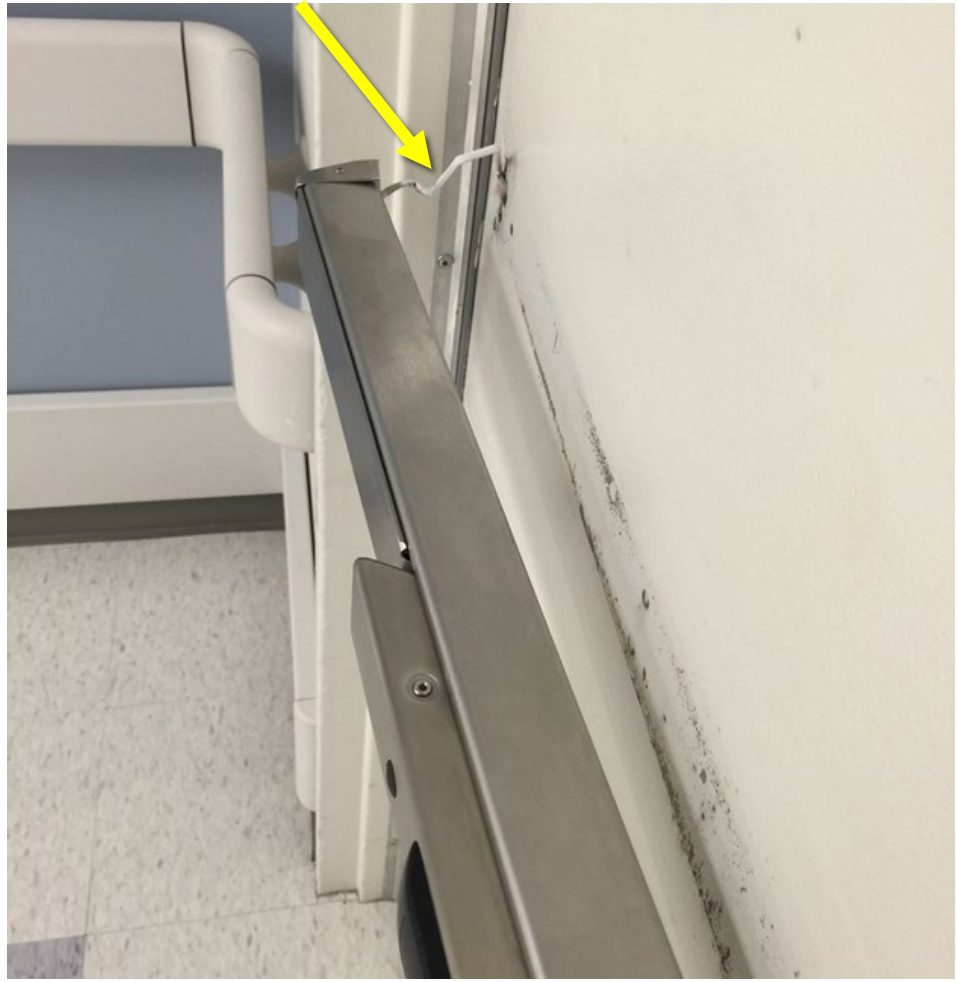
- 5) No parts are missing or broken.



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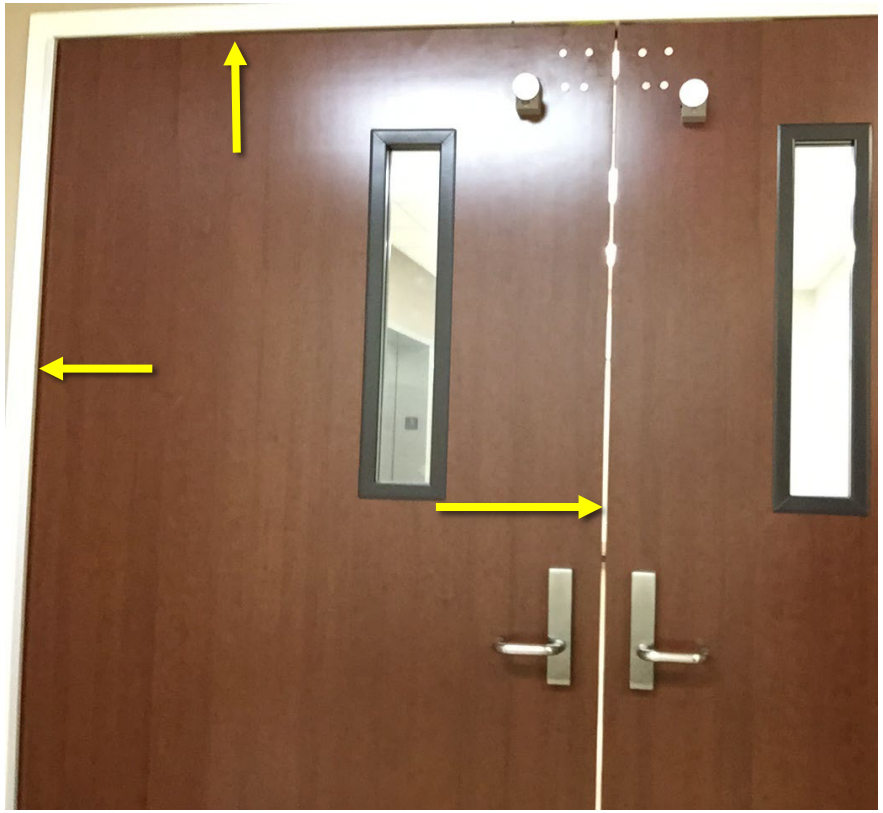
- 6) Door clearances shall be checked from the pull side do not exceed 3/4” on the undercut of any door and do not exceed 1/8” on top and vertical edges of wood doors. Top and vertical clearances on metal doors are within the range of 1/16” and 3/16”.



Fire Door Quiz: Question #3

What is the maximum clearance allowed on the top and vertical edges of a metal fire door?

A) 1/16”
B) 1/8”
C) 3/16”
D) 1/4”

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

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

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

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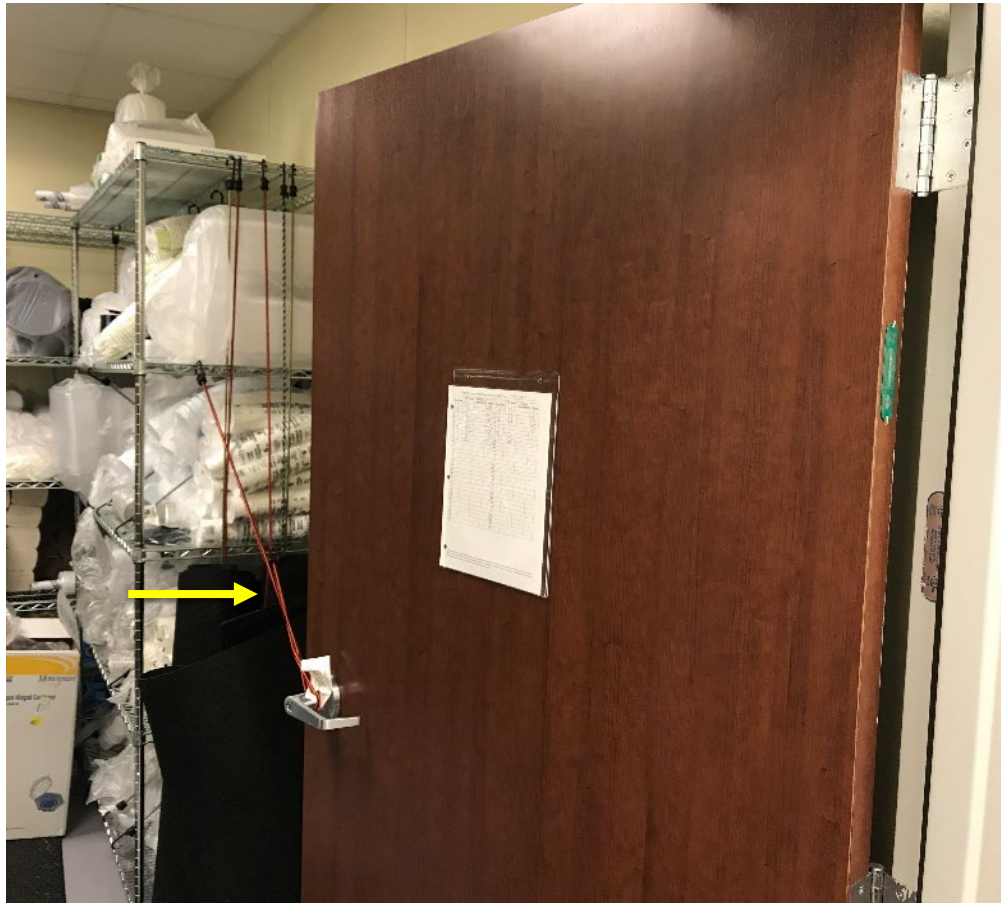
- 10) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.



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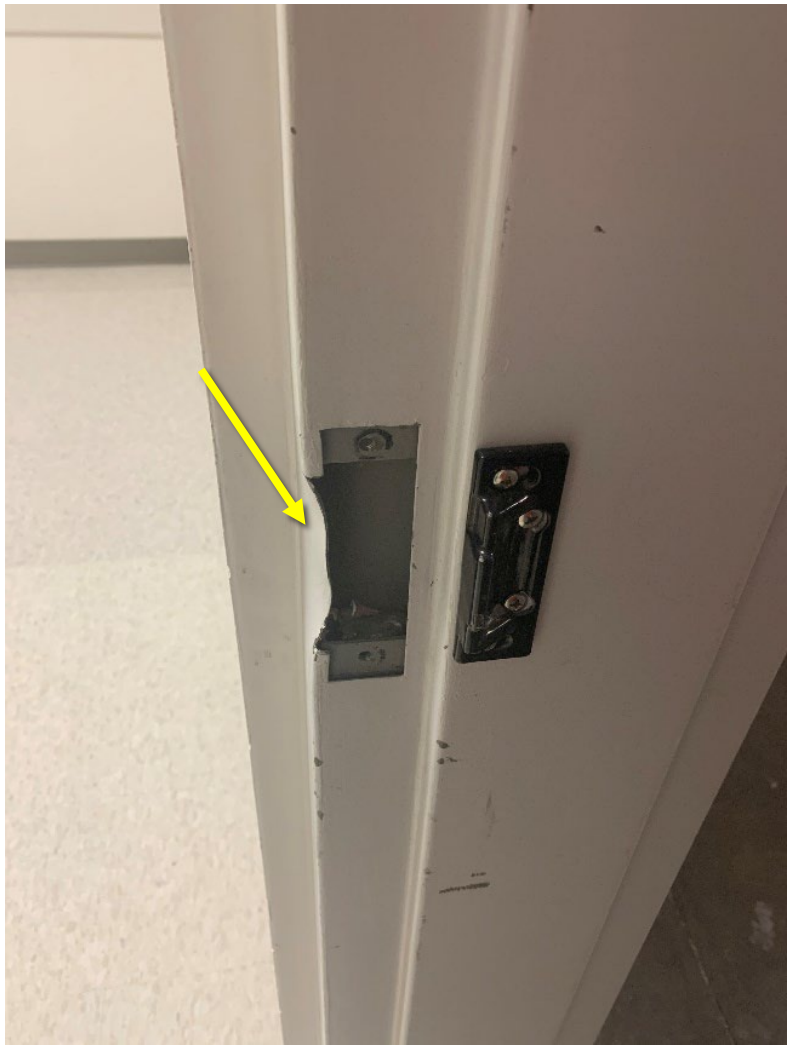
- 11) No field modifications to the door assembly have been performed that void the label.



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

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- *13) Unless otherwise tested and approved, protection plates are not to exceed 16” (405mm) from the bottom area of the door.

Fire Door Quiz: Question #4

Protective plates shall not be rated or listed if it does not exceed _____from the bottom of the door.

A) 10”
B) 16”
C) 32”
D) 48”

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- *14) Signage does not exceed > 5% of door face area and is attached with adhesive only. No signage on glazing.

Fire Door Quiz: Question #5

The total area of all attached signs to a fire door shall not exceed _____ of the area of the face of the fire door to which they are attached.

A) 5%
B) 10%
C) 15%
D) 20%

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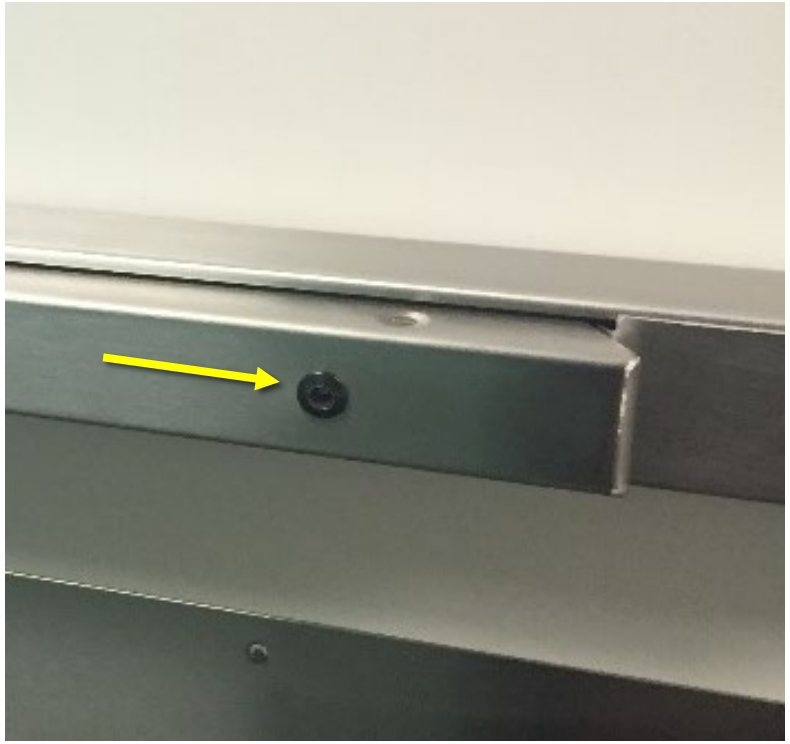
- *15) Only approved and labeled fire exit hardware shall be used on fire doors



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- Repairs to doors, frames, hardware and glazing shall be corrected with out delay.
- Replacement parts must be labeled and fire rated appropriately.
- Field modifications must be approved by the manufacturer.
- An Interim or Alternative Life Safety Measure will need to be conducted if the repair cannot be immediately corrected to determine if interim measures are necessary.

ACUTE CARE HOSPITAL
DAILY IC & ILSM MONITORING FORM

PROJECT NAME: **PROJECT #:**

A	**EXITS**	**YES**	**NO**	**N/A**
1	Exits clear, unobstructed, and functional.			
2	Construction exits designated during construction.			
B	**FIRE EQUIPMENT**	**YES**	**NO**	**N/A**
1	Life safety equipment, fire alarm, fire sprinklers, exit lights, etc. in proper operating condition or a temporary equivalent system available			
C	**FIRE SAFETY**	**YES**	**NO**	**N/A**
1	Fire watch personnel receive appropriate training.			
2	Cutting and welding operations properly conducted.			
3	New employees instructed in all policies and safety regulations and requirements. No smoking policy strictly enforced.			
4	Interim life safety measures in place and training conducted.			
D	**GENERAL SAFETY**	**YES**	**NO**	**N/A**
1	Hand and safety rails in place and in good condition.			
2	All areas clean and free of debris. Excess scrap material removed from site.			
3	Power properly secured at the end of each workday.			
4	New employees instructed in Right-To-Know regulations.			
5	Proper documentation available for all required agencies (OSHA 200, MSDS's etc..)			
6	All scaffolding complies with OSHA requirements			
E	**INFECTION CONTROL**	**YES**	**NO**	**N/A**
1	Monitor barrier for integrity and airflow from clean to dirty (construction).			
2	Demonstrate compliance with traffic patterns, both construction worker and debris/worker movement.			
3	Floors not showing visible track dirt in clinical corridors and support areas.			
4	Demonstrate compliance with cover clothing.			
5	Demonstrate use of equipment to prevent airborne particle material from migrating to patient care areas to include: portable HEPA filters, HEPA filtered vacuums, self-closing construction doors, or appropriate use of exhaust fans or debris chutes.			
6	Doors closed to project and properly signed.			
7	Demonstrate appropriate debris transport: covered cart, dedicated elevator, designated route, etc.			
8	All windows, doors, and debris chutes to the outside are closed and secured after hours.			
9	Carpet or other track dirt compliance aids are in place at the doors leading to the hospital/clinic/support space. Housekeeping notified for "as needed" cleaning.			
10	Areas cleaned at the end of day. Trash emptied in break area.			
11	Water leakage must be handled in an emergent fashion in occupied clinical areas. Immediate control of large leaks may necessitate drying. (<72 Hrs.)			
12	Pest control—no visible signs of mice, insects, birds, or squirrels or other vermin.			
13	Roof protection in place for projects on the roof.			

ADDITIONAL COMMENTS: _____

_____

_____

HFDS PROJECT MANAGER: _____ **DATE:** _____

CONTRACTOR: _____ **DATE:** _____

DATE SENT TO SAFETY COMMITTEE: _____

Fire Door Quiz: Question #6

When shall the repairs be made to a fire door assembly?

A) Without delay
B) Within 7 days
C) Within 45 days
D) Within 60 days

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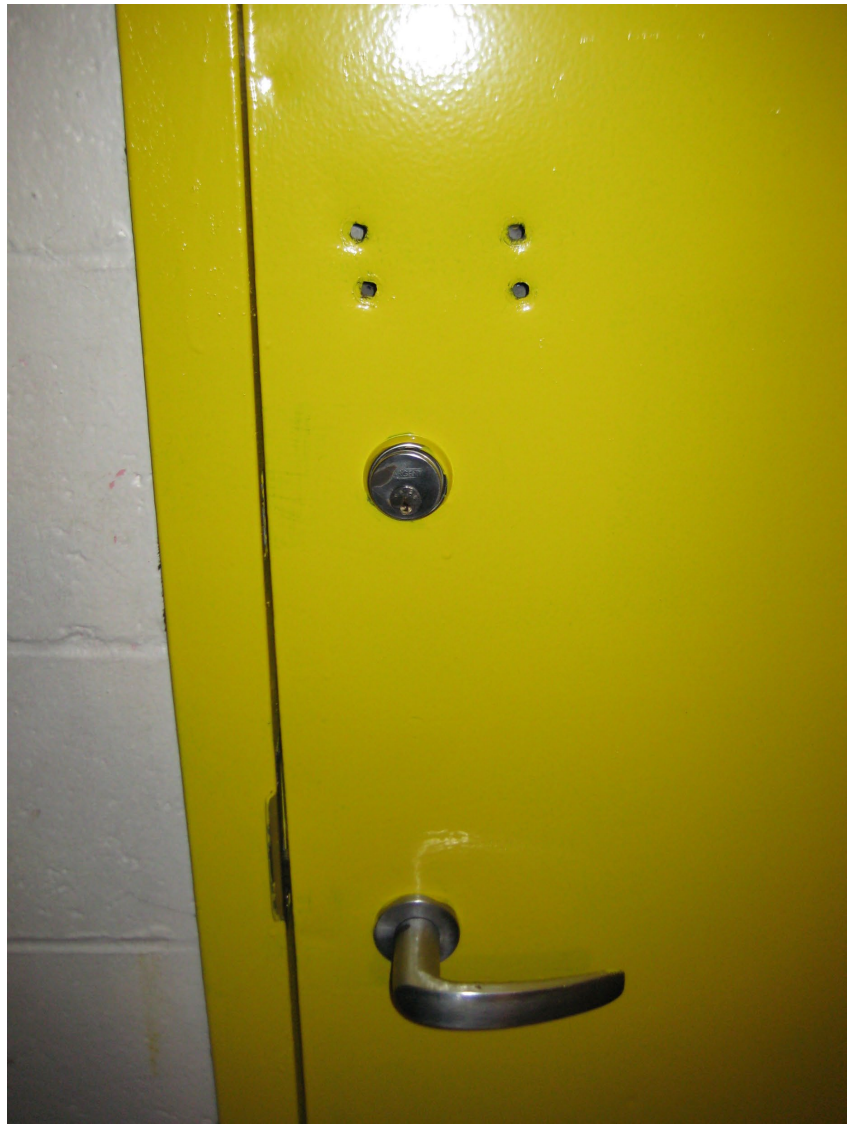
- Holes left in doors and frames due to previous hardware or changes should be filled with steel fasteners or with the same material as the door or frame.
- There are listed fire stops for use on penetrations on wood fire doors.



Fire Door Quiz: Question #7

Which of the following methods can be used to fill small holes on fire doors due to removal or changes of hardware?

A) Fill the hole with the same material as the door or frame
B) Install steel fasteners
C) Fill the hole with firestop listed specifically for use on fire doors
D) All of the above

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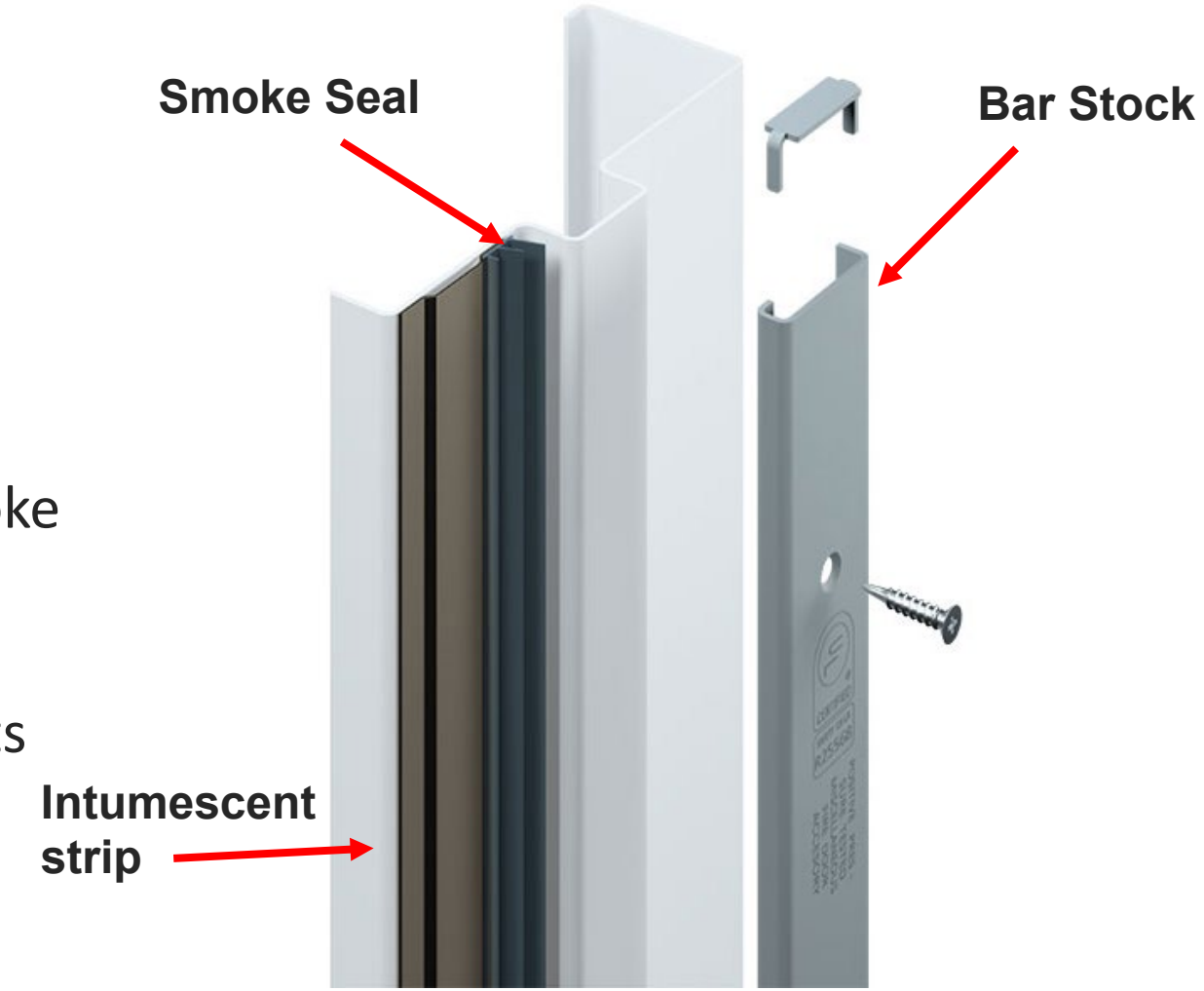
GAP90

- Rated up to 90 Minutes
- Used to remedy excessive perimeter clearances up to 5/16”.
- 3 piece component system includes a smoke seal, stop extender, and an intumescent strip
- It comes in 36”, 48”, 84” and 96” segments
- This product can be used on wood and hollow metal doors.



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9990

- Rated up to 90 Minutes
- Used to remedy excessive top clearances up to ½”.
- It comes in 36” and 48” segments
- This product can be used on wood and hollow metal doors.

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9590

- Rated up to 90 Minutes
- Used to remedy excessive undercut clearances up to 1 ½”.
- It comes in 36” and 48” segments
- This product can be used on wood and hollow metal doors.
- They do have an option for uneven floors.

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Continuous Hinges (Piano Hinges)

- When you have multiple gaps on your fire door assembly it's recommended to use a continuous hinge for cost savings.

- A full surface continuous hinge allows you manipulate the
- door assembly in the opening to meet required gap tolerances.

- Note: You will also need to order hinge blanks to cover the
- void in the frame where the old butt hinges were previously located.

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Shimming

- Shimming of doors is permitted but not recommended due to the potential to cause excessive clearances in the process of shimming
- Shims used on fire doors must be of steel material

Fire Door Quiz: Question #8

What type of shims can be used on hinges when adjusting clearances on fire doors?

A) Shimming is prohibited
B) Plastic
C) Cardboard
D) Steel

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Fire Doors Work

Fire doors serve the purpose of hindering the spread of smoke, flames, and gases during a fire, and protecting the means of egress for a period of time. In an emergency, properly functioning fire doors are essential for the safety of occupants seeking escape or refuge within a building, and firefighters needing time to extinguish a fire and safely evacuate occupants.

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Questions?

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