


## ***A Constant State of Readiness: Fire Doors Have One Job!***

*(2024 Update)*

★★★★★  
"Ensuring egress and fire doors are in a **CONSTANT STATE OF READINESS**  
to do their one job—Provide Safety."  
★★★★★


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## **Presented By:**

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## **Today's Topics Include**

- Overview of NFPA 80
- Overview of changes in the **2025** edition of NFPA 80.
- Inspecting and maintaining older existing fire doors.



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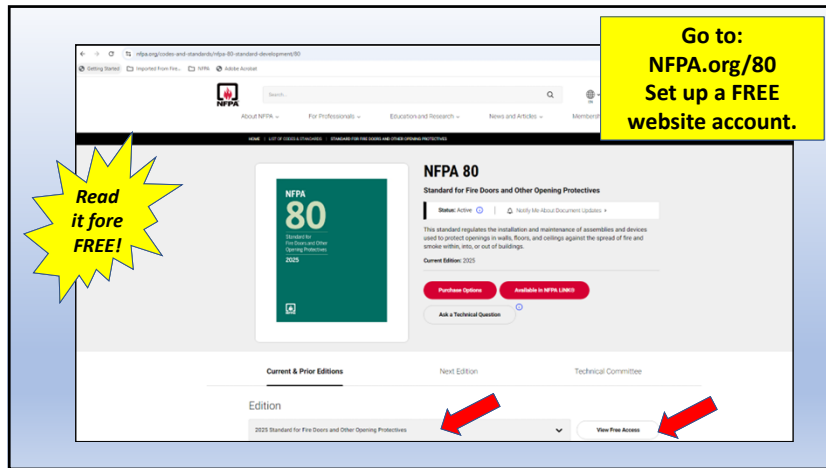


## **Handouts**

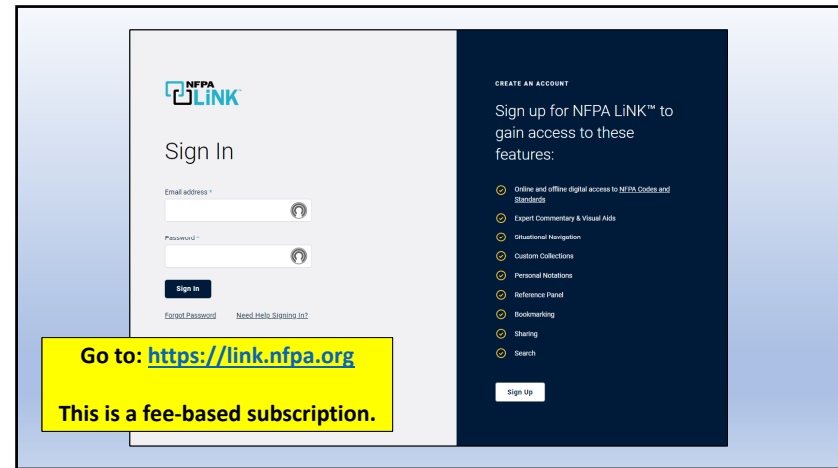
- Presentation slides (pdf file)
- Door Safety's publication ***Inspecting and Testing Oversized Fire Doors & Construction Labeled Door Frames and Doors*** (pdf file)

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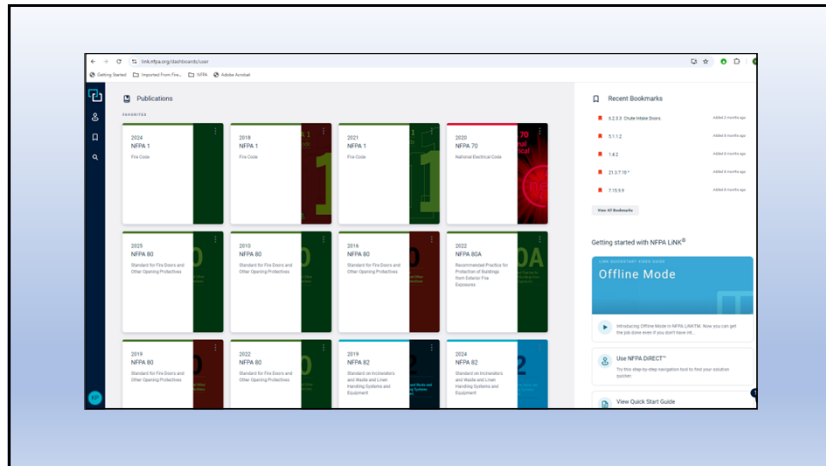
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## Fire Doors Have One Job!

- Fire doors prevent fires from spreading.
- Swinging fire doors, in general, also provide:
  - Convenience
  - Security
  - Privacy
  - Protection from equipment (e.g., lead-lined shielding)
  - Environmental control (e.g., heating and cooling, sterile/soiled conditions, and sound control)

***Preventing a fire from spreading takes precedence over all other functions; they must be kept in a CONSTANT STATE OF READINESS!***

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## A Constant State of Readiness


- All swinging fire doors must:
  - Swing easily and freely
  - Close completely
  - Positively latch

*NFPA 80's functional requirements are the same for each level of fire ratings.*

**FIRE** ✓ *Every swinging fire door must have positive latching hardware; there are no exceptions!*

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## A Constant State of Readiness

- **Self-Closing Door Operation**
  - Doors are intended to be kept closed.
  - Closing devices on swinging fire doors resist opening by occupants.
  - Doors become obstacles to occupants.
    - Occupants block-open, disable, or otherwise tamper with closing devices and latching hardware.

**FIRE** ✓ *Self-closing doors must close completely from any partially opened position. ALWAYS!*

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## A Constant State of Readiness

- **Automatic-Closing Operation**
  - Electrically held open self-closing doors
  - Must close complete and latch
    - Upon actuation of smoke detectors
    - Upon signal from fire alarm system
    - Upon loss of power

**FIRE** ✓ *Automatic-closing swinging fire doors become self-closing upon release of the hold-open device.*

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## A Constant State of Readiness

- The fire rating of an assembly is valid **ONLY** when:
  - All the required components are installed in accordance with their listings and installation instructions, and
  - The doors function as required by the codes.

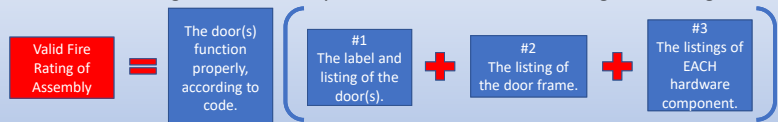
**FIRE** ✓ *Listings refer to how the components were tested for use on fire door assemblies.*

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## A Constant State of Readiness

The fire rating of an assembly starts with the door's rating and listing:



**FIRE** **ALWAYS in this order. Each component must be labeled or listed and be installed in accordance with it's listing and installation instructions.**

**The rating of an assembly is the rating of the door frame or door, whichever is less.**

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## Introduction to NFPA 80

### ➤ NFPA 80, **Standard for Fire Doors and Other Opening Protectives**

- It's a **standard**, not a code
- It defines what fire doors are, not where they are used

### ➤ Building, fire, and life safety codes require fire doors to comply with NFPA 80

- Codes mandate the placement and minimum fire protection ratings of all types of fire doors.

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## Introduction to NFPA 80

### ➤ Consists of 21 chapters and 12 annex sections

### ➤ *Base chapters (apply to all door types)*

- Chapter 1: Administration
- Chapter 2: Referenced Publications
- Chapter 3: Definitions
- Chapter 4: General Requirements
- Chapter 5: Inspection, Testing, and Maintenance

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## Introduction to NFPA 80

### ➤ *Opening protectives chapters*

- **Chapter 6: Swinging Doors with Builders Hardware**
- Chapter 7: Swinging Doors with Fire Door Hardware
- Chapter 8: Horizontally Sliding Doors
- Chapter 9: Special-Purpose Horizontally Sliding Accordion or Folding Doors
- Chapter 10: Vertically Sliding Doors
- Chapter 11: Rolling Steel Doors

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## Introduction to NFPA 80

- Opening protectives chapters
  - Chapter 12: Fire Shutters
  - Chapter 13: Service Counter Fire Doors
  - Chapter 14: Hoistway Doors for Elevators and Dumbwaiters
  - Chapter 15: Chute Doors
  - Chapter 16: Access Doors
  - **Chapter 17: Horizontal Fire Door Assemblies (NEW)**
  - Chapter 18: Fire Windows
  - Chapter 19: Glass Block Assemblies
  - Chapter 20: Installation, Testing, and Maintenance of Dampers
  - Chapter 21: Fabric Fire Safety Curtains
  - Chapter 22: Fire Protective Curtain Assemblies


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## Using NFPA 80 for Chapter 6 Doors

- Study these sections:
  - Chapter 4, General Requirements
  - Chapter 5, Inspection, Testing, and Maintenance
  - Chapter 6, Swinging Doors with Builders Hardware
  - Annex A, Explanatory Material

 **Chapter 7, Swinging Doors with Fire Door Hardware are NOT USED in most buildings and occupancies!**

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**Swinging Door with Builders Hardware (Chapter 6)**

**Swinging Door with Fire Door Hardware (Chapter 7)**

Full mortise hinges and surface-mounted door closer (other side)


Fire exit hardware.

Strap hinges.


Latch bar.

Counterweight, rope, and pulley closing mechanism

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## NFPA 80: Changes in the 2025 edition



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## Changes in NFPA 80 (2025)

- Chapter 5, Inspection, Testing, and Maintenance
  - Explicitly excludes
    - Chapter 20, Fire Dampers
    - Chapter 21, Fabric Fire Safety Curtains
    - Chapter 22, Fire Protective Curtain Assemblies
  - **DELETED** Field Labeling provisions that appeared in the 2016, 2019, and 2022 editions

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## Changes in NFPA 80 (2025)

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## Inspecting Older Existing Fire Doors

*Doors 25 years and older...*

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## Inspecting Older Existing Fire Doors

- Maintenance of NEW and EXISTING installations must be maintained in accordance with Section 5.5.
- AND,
- NEW and EXISTING installations must be inspected and tested upon completion of maintenance work that affects the OPERATION and PERFORMANCE of the doors.



**Let's look at how this works in NFPA Link...**

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## Inspecting Older Existing Fire Doors

- Chapters 6 through 16 (the door chapters) apply to NEW and EXISTING installations!

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## Inspecting Older Existing Fire Doors

- NEW installations must be installed in accordance with the door chapter (e.g., 6 through 16) AND Chapter 4.
- Acceptance testing of NEW doors must be performed upon completion of installation in accordance with 5.2.3. (e.g., 6.1.1.1.2)

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## Inspecting Older Existing Fire Doors

- EXISTING installations must be inspected and tested in accordance with 5.1.1.3 and 5.2.4.

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## Inspecting Older Existing Fire Doors

- 5.1.1.3 (it's new)

*"Where inspection criteria for door assemblies are not listed in this chapter, door assemblies shall be inspected in accordance with all of the following:*

- (1)\*The requirements of this standard that were in effect at the time of installation.
- (2) The manufacturers' published listings and installation instructions.
- (3) The requirements of the respective door chapter, Chapter 4, and Chapter 5, as applicable, where the manufacturers' published listings and installation instructions are not available."

***This is the second principle of NFPA 80's door safety inspections!***

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## Principles of Door Safety Inspections



- 1. Keep fire doors in A CONSTANT STATE OF READINESS.**
- 2. Inspect fire doors in accordance with the codes that were in effect at the time of installation.**
- 3. Assume fire-rated doors provide the appropriate level of protection for the openings in which they are installed.**

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## Principles of Door Safety Inspections



- 4. Older existing doors were not tested with today's newer fire door components and applications.**
- 5. Only AHJs and code officials determine what is acceptable under the codes.**



**Fire doors must be maintained in a CONSTANT STATE OF READINESS to prevent the spread of fire.**

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## Chapter 4: General Requirements



- Other topics covered in this chapter:
  - Components
    - Each component must be labeled or listed
    - Components can be products from different manufacturers
    - Components can be labeled by different certification and testing labs (e.g., FM, Intertek/Warnock Hersey, QAI Labs, and UL)
    - Unmarked components are permitted where they comply with NFPA 80's specifications
    - Components must be used according to their installation instructions and listings (how they were tested).
    - Components cannot be used on assemblies requiring higher ratings.

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## Chapter 4: Labels on Door Frames



- Hollow metal door frames
  - Most labels do not list the hourly rating.
  - Frames in masonry construction can be rated up to 3 hours.
  - Frames in drywall partitions can be rated up to 1-1/2 hours.
  - Standard sidelight frames are rated up to 3/4-hour (fire protection-rated), regardless of wall construction.
  - Special sidelight frames are rated up to 1-1/2 hours (fire resistance-rated), provided they pass ASTM E119 or UL 263 fire tests.
- **Door frame of other construction include the hourly ratings on their labels (e.g., 20 minutes, 45 minutes, and 90 minutes).**

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## Chapter 4: General Requirements



- Requirements for labels on door frames, doors, and hardware components
- Labels on door frames and doors are not required to match!
- An assembly's rating is the rating of the door frame or door, whichever is less.

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## Chapter 4: General Requirements



- There are no standard labels!

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## Fire Door Labels



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AMERICAN STEEL PROD. CORP.  
FARMINGDALE, N.Y.  
1-1/2 HOUR RATED FIRE DOOR  
BY ASTM E 152  
LATCH THROW 1/2 IN.  
SERIAL NO. 05494

FACTORY MUTUAL  
FM  
APPROVED

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## Construction Labeled Door Frames and Doors



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## What's Wrong With This Label?



Underwriters Laboratories Inc.  
INSPECTED  
FIRE DOOR FOR OPENING  
IN VERTICAL SHAFT  
No. A-489419



WELDWOOD  
COMPOSITE  
FIRE DOOR  
U.S. PLYWOOD CORP.  
ALGOMA, WI

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## Chapter 5: Inspection, Testing, and Maintenance

- Applies to all types of fire door and window assemblies
- New and existing installations
- Covers repair and replacement of fire door assemblies
- Includes inspection checklist for some types of doors
  - **Chapter 6: Swinging Doors with Builders Hardware**

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## Chapter 5: Inspection, Testing, and Maintenance

- Acceptance Testing
  - Visual Inspection and Functional Testing
    - Conducted upon installation
    - Conducted upon maintenance affecting operation
  - Records retained for life of installations
    - Each fire door and fire window assembly
- Periodic Safety Inspections
  - Conducted annually
  - Same process as above
  - Records retained for at least three years

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## Changes in NFPA 80, 2025

- New Definitions in Chapter 3
  - **Annual Frequency** (3.3.5)

*"Occurring once per year, with a minimum of 9 months and a maximum of 15 months between each occurrence."*

**FIRE SAFETY** *This applies to NFPA 80's inspection cycles for fire door and fire window assemblies. Other NFPA standards have the same frequency.*

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## Chapter 5: Inspection, Testing, and Maintenance

- Replacement of door assemblies
  - New doors in existing door frames
  - New door assemblies
  - New glass and glazing in existing door assemblies
- Repairing door frames and doors
  - Filling fastener holes
  - Filling other types of holes

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## Chapter 6: Swinging Doors with Builders Hardware

- Component-based systems and hybrid assemblies (unit-based systems)
  - Fire protection-rated assemblies
  - Fire resistance-rated assemblies

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**2-hour Fire Resistance-Rated Assembly:**  
it's tested to ASTM E119 or UL 263 as part of the wall construction.

**It's also tested to UL 10C and NFPA 252 as an NFPA 80, Chapter 6-Type Assembly**

Frame, Doors, Glass, and Hinges/Pivots are covered by the door label. Mortise lock and door closer are added separately.



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## Chapter 6: Swinging Doors with Builders Hardware



- Door operations
  - Self-closing operation
  - Automatic-closing operation
  - Powered operation

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## Chapter 6: Swinging Doors with Builders Hardware

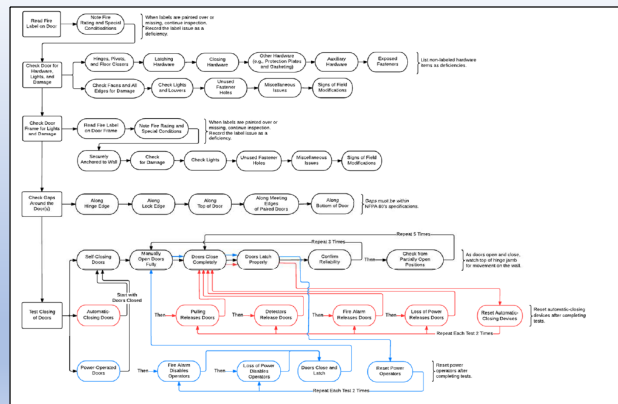


- Clearance dimensions on the pull-side of the assemblies
  - Between vertical and top edges of doors and door frames
  - Between vertical edges of pairs of doors

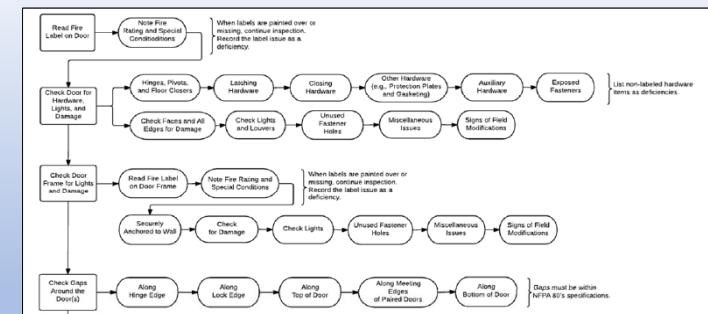
**FIRE** Chapter 4, General, specifies clearances under swinging doors.

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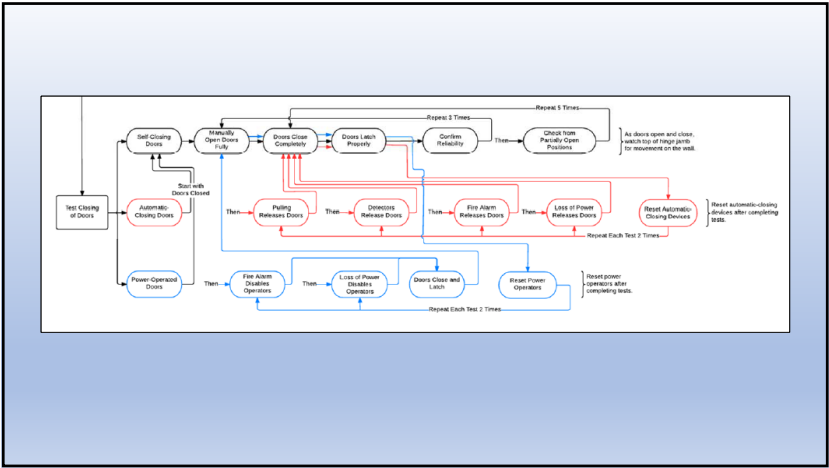
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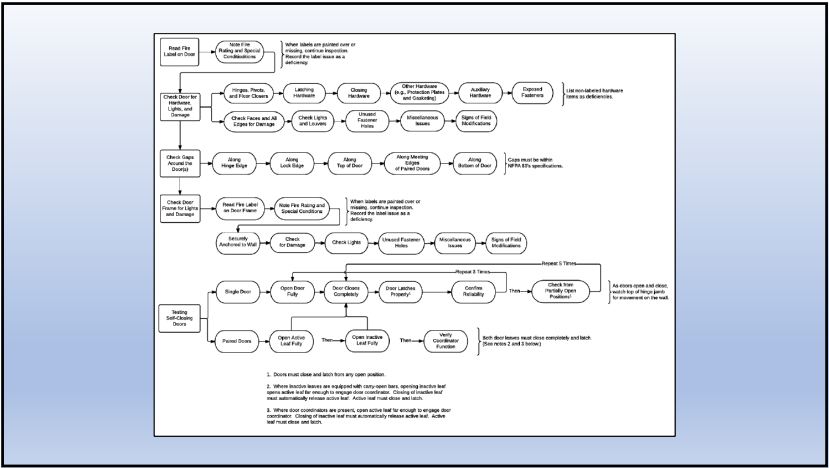
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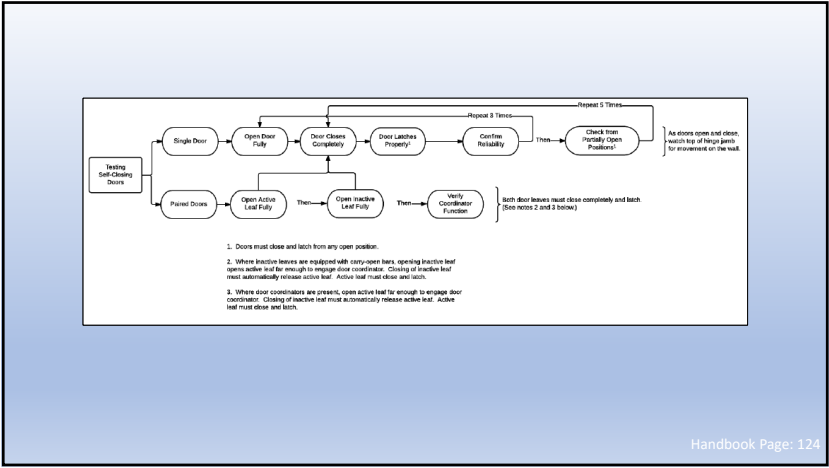
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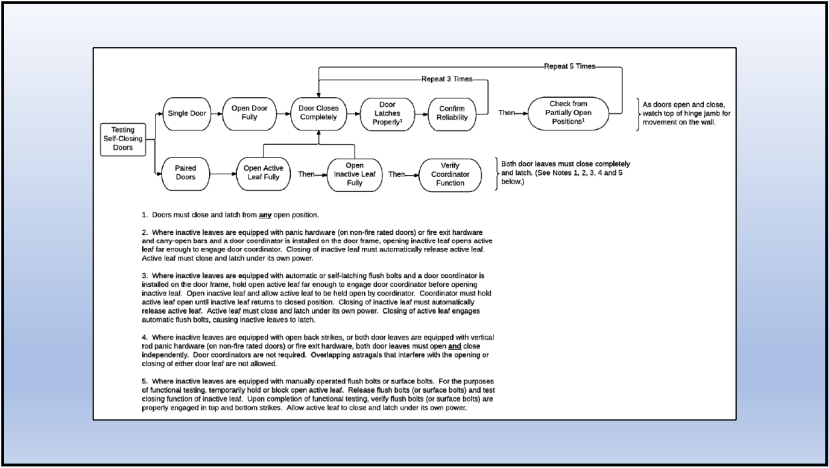
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## Summary

- Swinging fire doors are specially engineered systems
  - They have one job; preventing a fire from spreading.
  - They require increased attention during installation, and throughout their service lives.

 ***Fire doors must be kept in a Constant State of Readiness.***

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## Questions?

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