



# Safe Escape

Escape Room Doors - Egress, Fire Protection, and Accessibility

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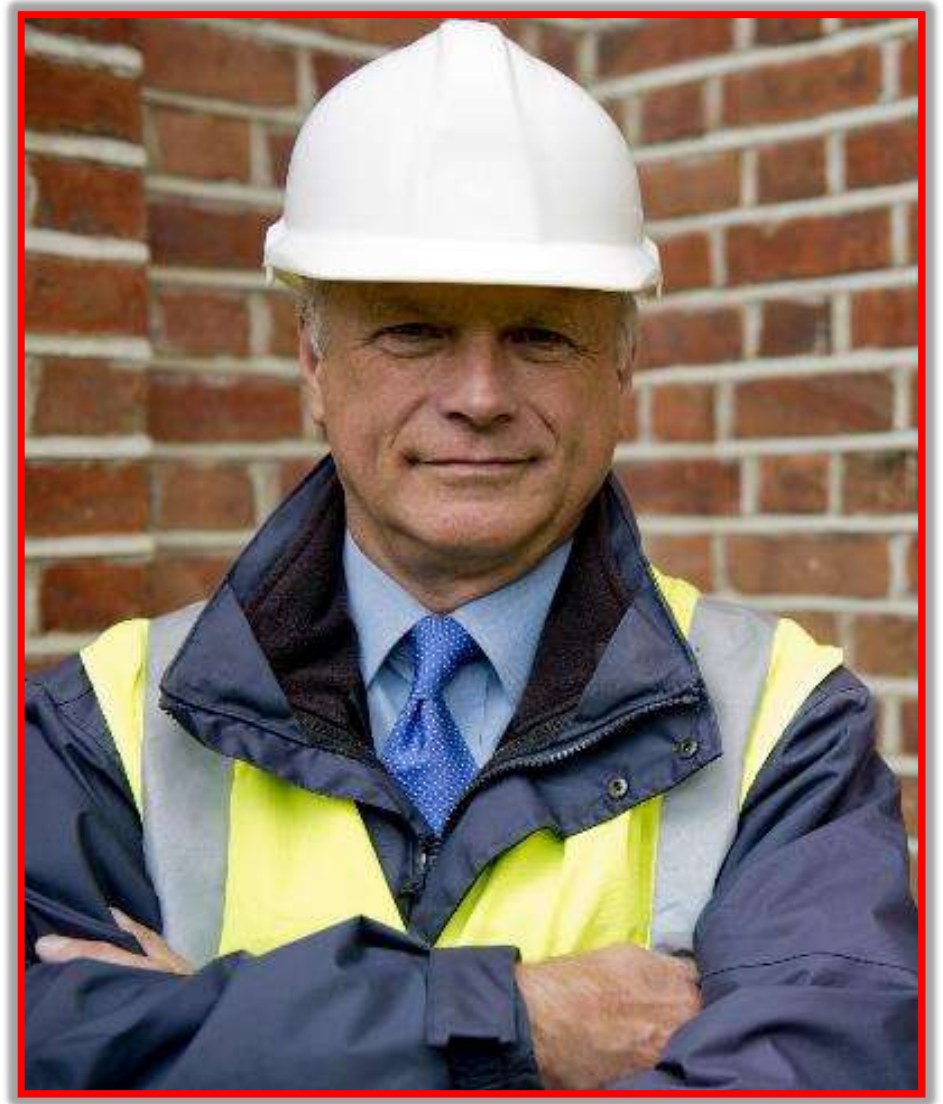




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WHY  
ARE WE  
HERE





News

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The Guardian

Int ▾

World Europe US Americas Asia Australia Middle East Africa Inequality Global development

## Poland shuts 13 escape rooms after five teenagers killed in fire

Prime minister urges people to report safety lapses at entertainment venues



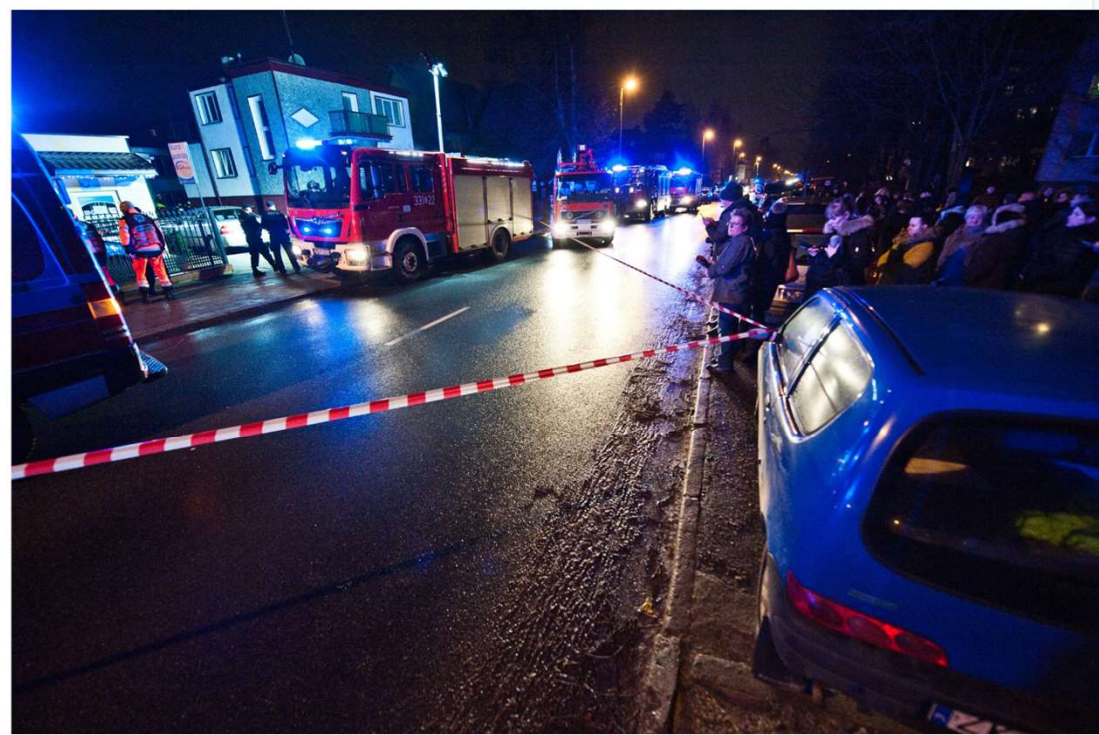
WHY  
ARE WE  
HERE




# NYC Cracks Down on 'Escape Rooms' Over Safety Concerns After Deadly Fire Kills 5 Teenage Girls in Poland

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WHY  
ARE WE  
HERE






An aerial black and white photograph showing the aftermath of a fire at Six Flags Haunted Castle. The large, multi-story building is heavily damaged, with its roof and walls partially collapsed. Debris is scattered across the ground. A sign on a structure to the right reads "GHOST CASTLE".

Six Flags Haunted Castle, 1984  
No sprinklers or smoke alarms  
Flammable building materials  
Insufficient lighting  
8 Teenagers Killed

*Photo: Asbury Park Press*

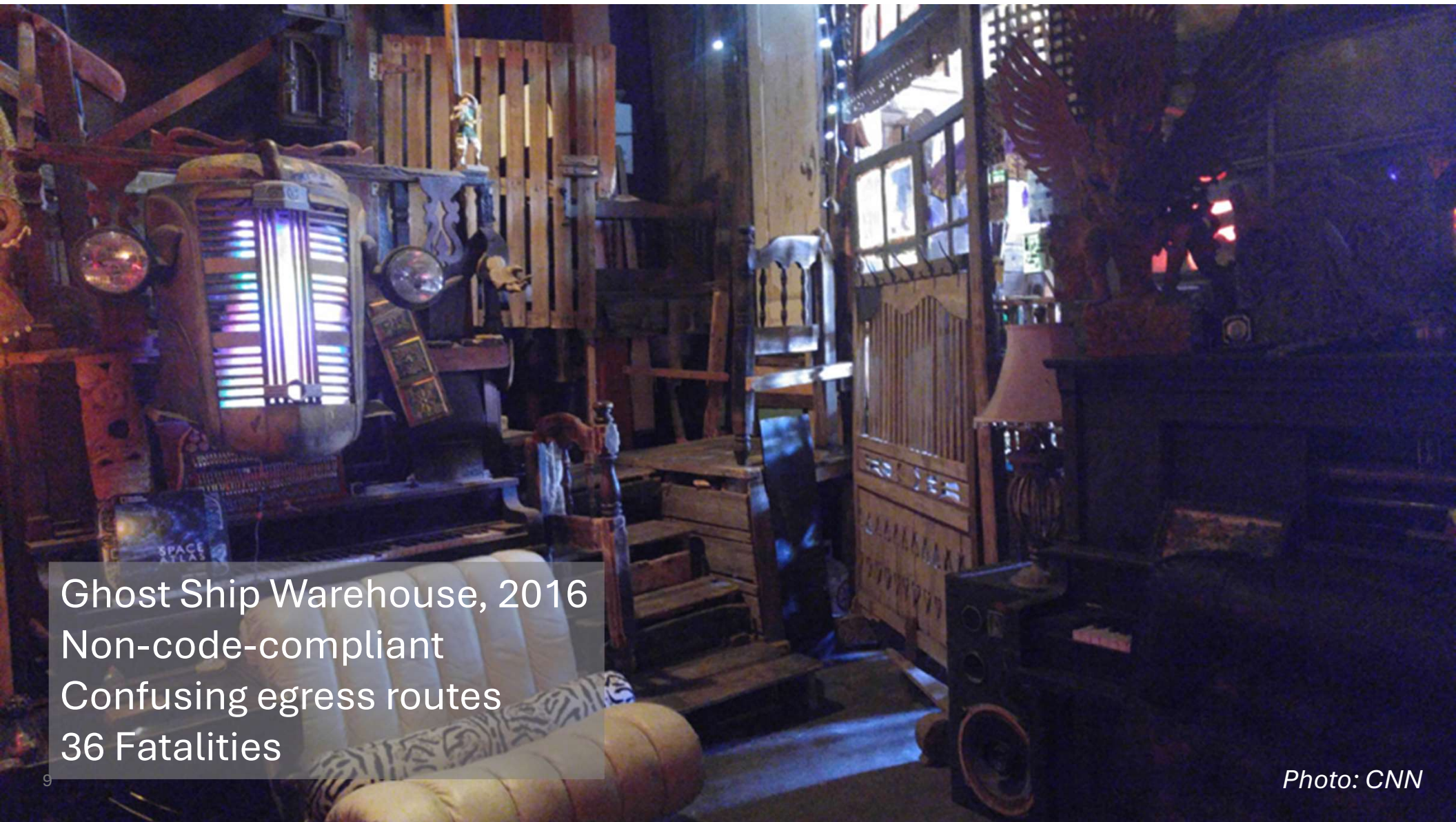


An aerial photograph showing the aftermath of the Station Nightclub disaster. The building is almost completely destroyed, with its structure exposed and debris scattered everywhere. A large fireball is visible in the upper right corner of the image. Several people, including emergency responders in yellow gear, are visible on the ground in the foreground and near the wreckage. A semi-trailer with a red and white striped pattern is partially visible in the center of the debris field.

Station Nightclub, 2003  
Pyrotechnics  
Non-fire-resistant materials  
Insufficient egress  
100 Fatalities

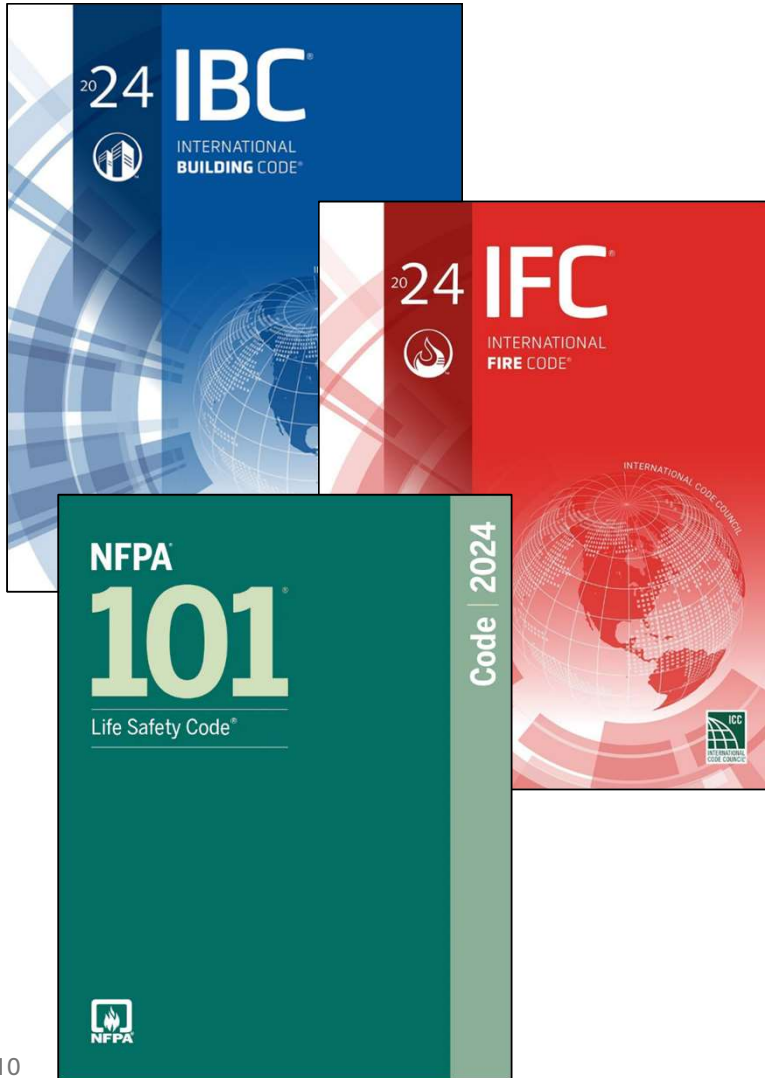
AP Photo





Ghost Ship Warehouse, 2016  
Non-code-compliant  
Confusing egress routes  
36 Fatalities

*Photo: CNN*



# Codes & Standards

- International Code Council
  - International Building Code (IBC)
  - International Fire Code (IFC)
- National Fire Protection Association
  - NFPA 1 – Fire Code
  - NFPA 101 – Life Safety Code
  - NFPA 80 – Standard for Fire Doors and Other Opening Protectives
- Accessibility Standards
- State adoptions



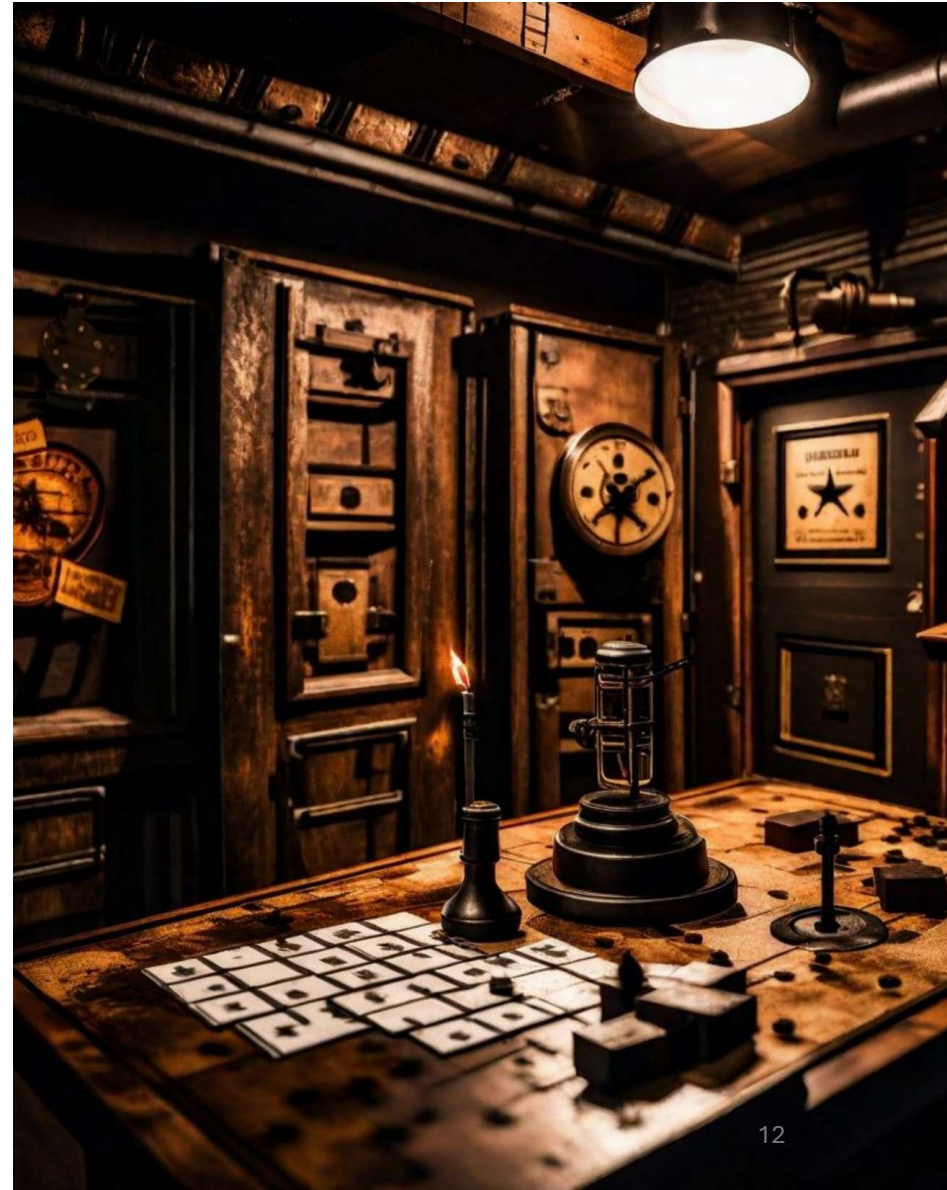
*Codes are a*

**M I N I M U M**

# Use Group or Occupancy Classification

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- Assembly
- Business
- Educational
- Factory and Industrial
- High Hazard
- Institutional
- Mercantile
- Residential
- Storage
- Utility & Maintenance







# Special Amusement Area

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- Temporary or permanent
- Used for amusement, entertainment, or educational purposes
- Means of egress path not readily apparent or not readily available



# Means of Egress

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- Path from any occupied area to a public way
- Continuous and unobstructed







# Public Way

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- Street, alley, or other area open to the outside air and leading to a street
- Dedicated for public use
- At least 10 feet in width and height





# Puzzle Room

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*A puzzle room is a type of special amusement area in which occupants are encouraged to solve a challenge to escape from a room or series of rooms. A puzzle room is sometimes referred to as an escape room.*





# Access Side (Entrance) vs. Egress Side (Exit)





Number of Exits





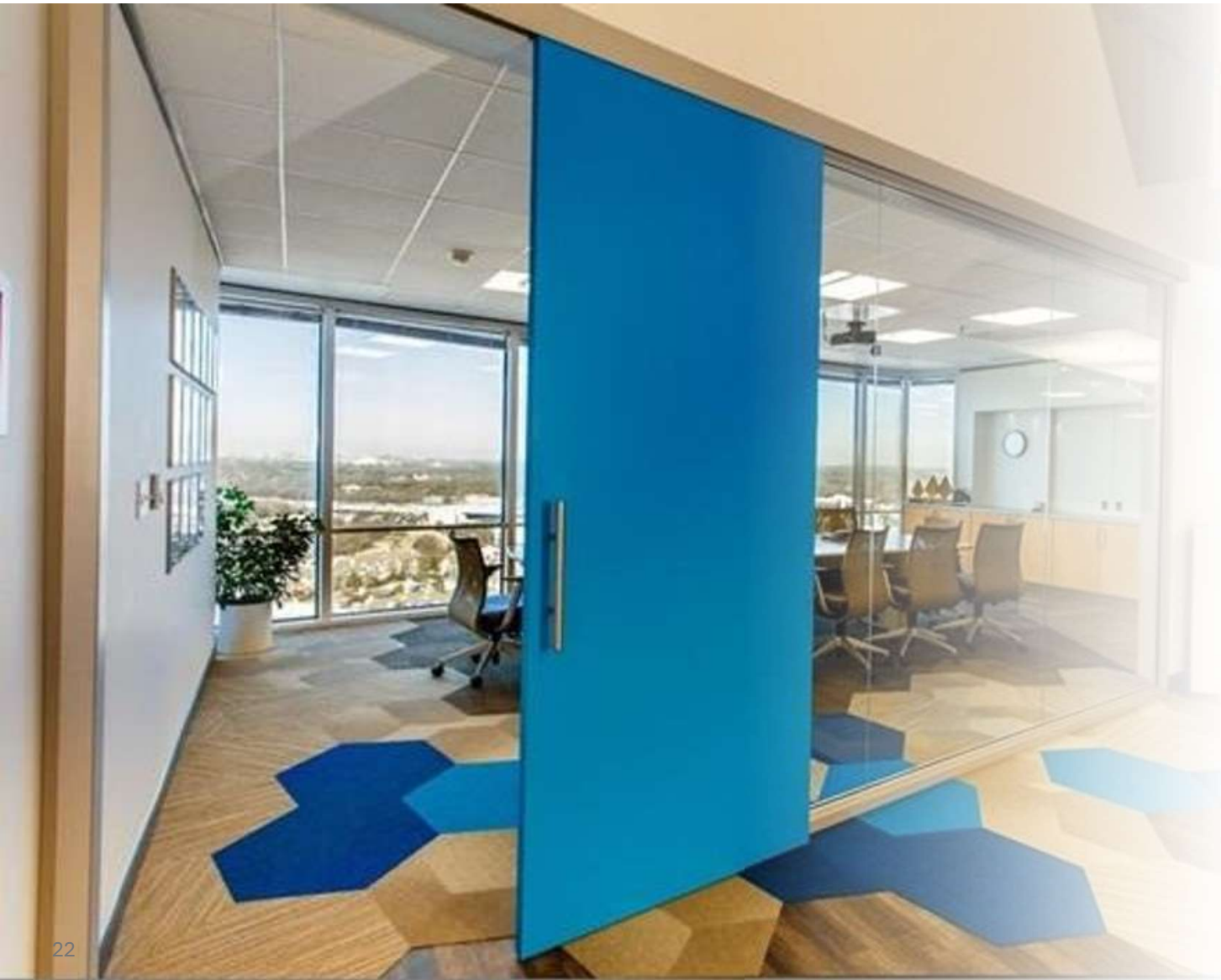


Outswinging  
Door

21



Inswinging  
Door




## Manually Operated Sliding Doors

Only allowed  
when serving an  
occupant load of  
10 people or less



# Calculated Occupant Load

The background image shows a museum gallery with historical documents and artifacts. On the left, a large wall display features a complex grid of small images or documents. To the right, several glass display cases are arranged, containing various items including a typewriter and a circular object. The room has a high ceiling with exposed pipes and a blue exit sign above a doorway in the background.

Example:

300 square feet area of the space  
divided by the occupant load factor of 50 square feet per  
person (concentrated business use)  
= 6 people  
OR the actual number of people who will occupy the space

# Panic Hardware

May be required by the AHJ if the escape room building is considered an assembly occupancy or where a hazard exists





# 2021 International Building Code (IBC)

## 2021 International Fire Code (IFC)

*411.5 Puzzle room exiting. Puzzle room exiting shall comply with one of the following:*

- 1. Exiting in accordance with Chapter 10.*
- 2. An alternative design approved by the building official.*
- 3. Exits shall be open and readily available upon activation by the automatic fire alarm system, automatic sprinkler system, and a manual control at a constantly attended location.*

**CODE  
CHANGE  
ALERT**





# 2024 IBC 2024 IFC

- *Puzzle rooms provided with a means of egress that is unlocked, readily identifiable and always available are not required to comply with this section.*



A person in a grey suit is walking away from the camera down a central path of a complex, white, 3D maze. The maze is composed of many rectangular blocks of varying heights, creating a series of interconnected paths and dead ends. The perspective is from behind the person, looking down the path towards the center of the maze. The lighting is bright and even, highlighting the geometric forms of the maze.

# Egress





## Exit readily distinguishable

- Exit must not be disguised by curtains, mirrors, or other means





# Clear opening

- 32 inches clear width, measured with the door open 90 degrees, between the face of the door and the stop on the frame
- 80 inches clear height, projections allowed for door closers and other hardware with a minimum clear height of 78 inches



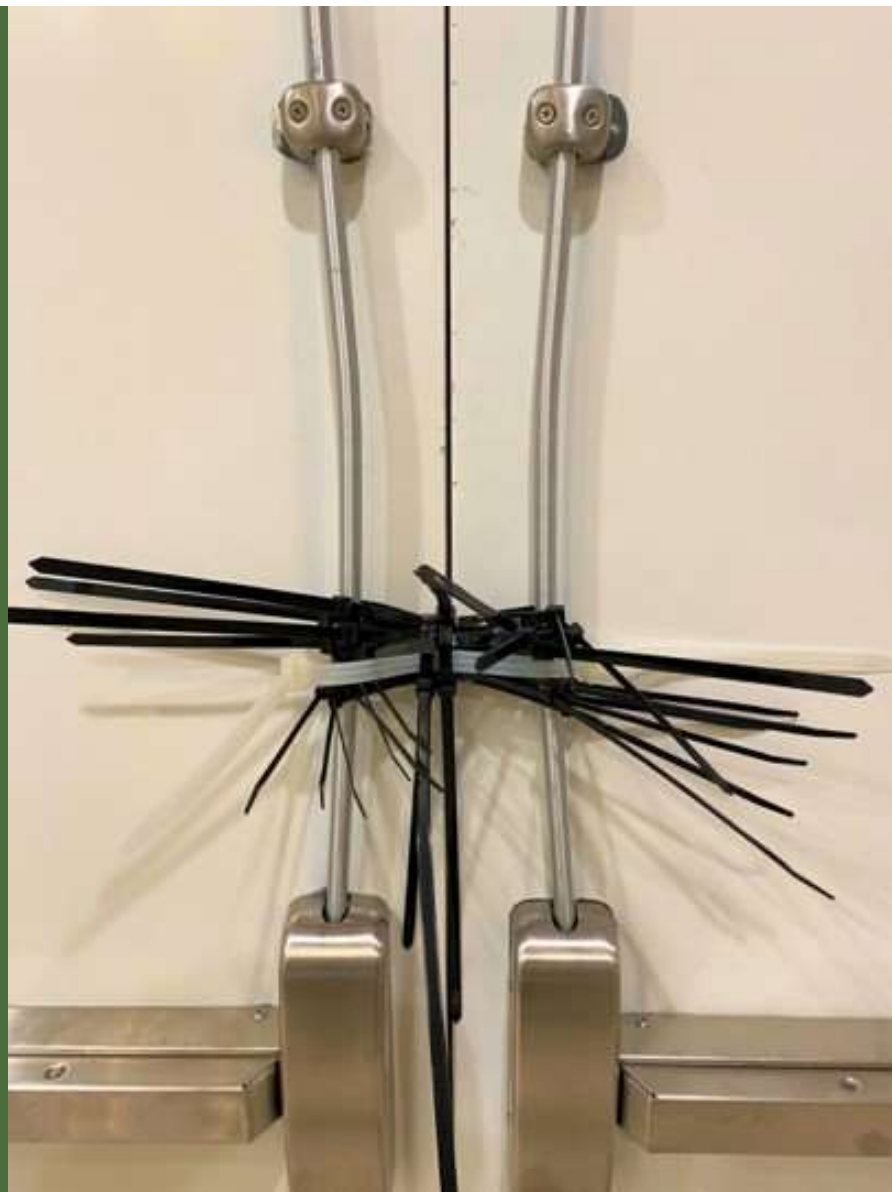
One  
releasing  
motion for  
egress



No key,  
tool,  
special  
knowledge  
or effort for  
egress











# Hardware mounting height

- 34 inches to 48 inches above the floor, or per state requirements



No tight grasping,  
pinching, or  
twisting of the wrist



# Fire door assemblies

- A building housing an escape room may have fire doors
- Look for the labels
- Designed to compartmentalize
- Do not modify or block open







# Accessibility

- No tight grasping, pinching, or twisting of the wrist
- Operable hardware 34-48 inches AFF
- Clear opening 32 inches x 80 inches, min
- Limited force to unlatch/open
- Maneuvering clearance







## Maneuvering clearance

- Refer to:  
<https://www.access-board.gov/ada/guides/>



# *Hardware Options*



# Mechanical or electromechanical hardware

- One motion for egress - separate deadbolt not allowed with other hardware
- No key cylinder or electronic credential on the egress side
- Push plate and pull – inexpensive option



# Exit alarms

- May be used to give the illusion of being “locked in”
- Do not restrict egress, only sound an alarm/activate a light
- Clues could lead to a code or key used to shunt the alarm





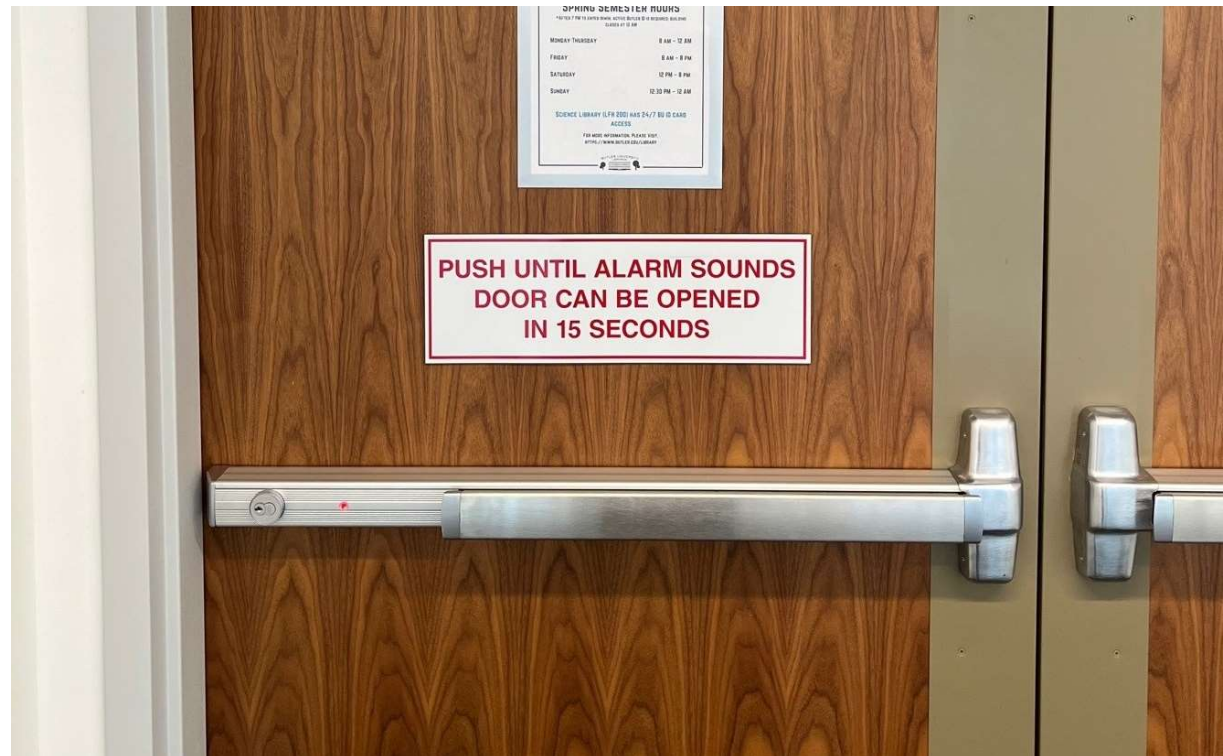
# Electromagnetic locks / Powerbolts

- Require additional releasing devices



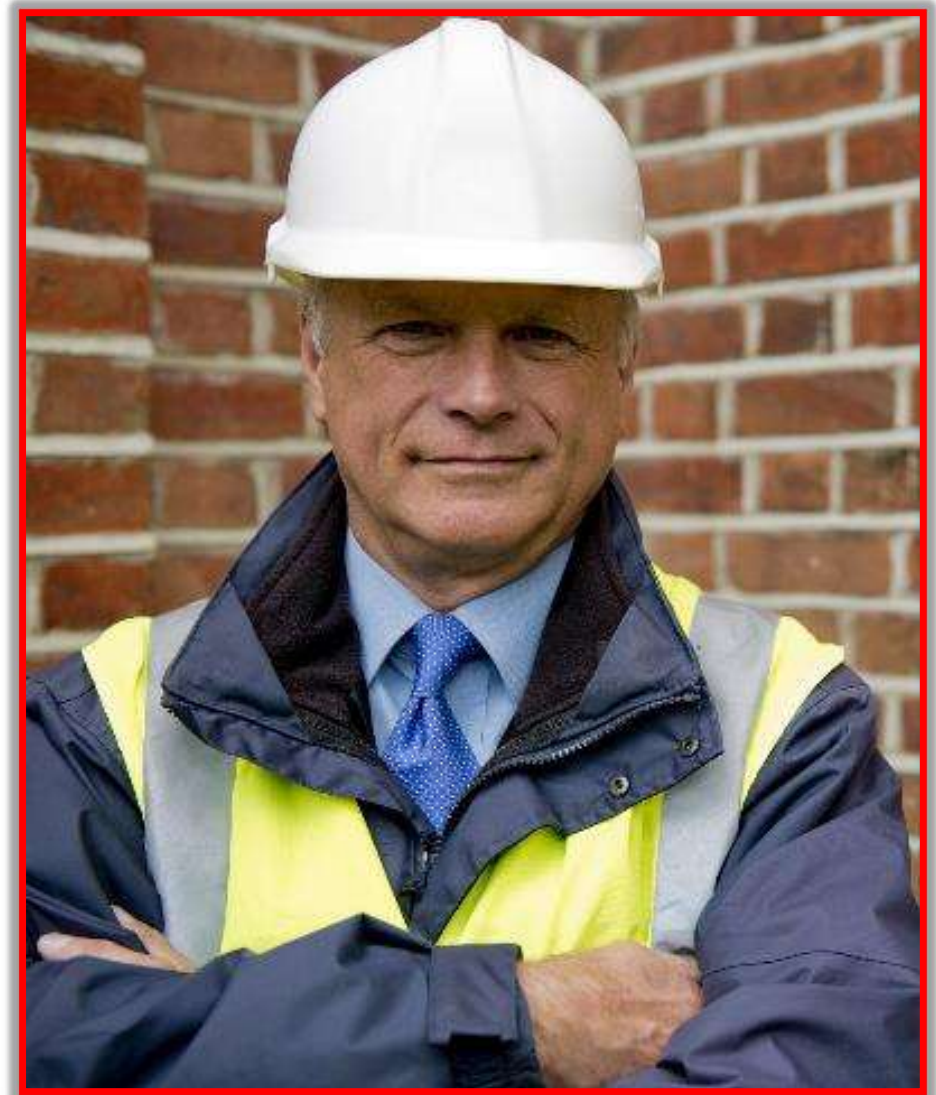
# Delayed egress locks

- Delay egress for 15 seconds
- Not allowed on assembly areas
- Alarm will sound
- Signage required
- Pricey



# Working with the AHJ

- Do your homework
- Be aware of local requirements
- Provide the required documentation
- Codes are a minimum





# SUMMARY

- Exits readily distinguishable
- Clear opening – 32 inches x 80 inches
- One releasing motion for egress
- No key, tool, special knowledge or effort
- Hardware mounting height – 34 inches to 48 inches AFF
- No tight grasping, pinching, or twisting of the wrist
- Fire door assemblies
- Accessibility



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### WW: Down at the Pizzeria

I know we have seen MANY of these blocked egress photos, but this one is pretty



### QQ: Dwelling Units – Motions to Unlatch

On a residential dwelling unit or sleeping unit, is there a limit to the number of



### US Glass: Proposal G88-25

Proposal G88-25 is intended to add a new standard – ASTM F3561 – to the



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