

## While you wait for the webinar to begin...

According to an FBI report on active-shooter incidents, an average of how many incidents occurred in educational occupancies each year between 2013 and 2017?

- a. 4 incidents per year
- b. 20 incidents per year
- c. 52 incidents per year
- d. 112 incidents per year

Beginning with which edition did NFPA 101 – Life Safety Code specifically mandate one releasing operation to unlatch doors in a means of egress?

- a. 1988
- b. 1997
- c. 2009
- d. 2015

According to an NFPA study of fires that occurred in educational occupancies between 2013 and 2017, what percentage of the buildings were equipped with sprinkler systems?

- a. 25%
- b. 39%
- c. 67%
- d. 92%

## While you wait for the webinar to begin...

According to an FBI report on active-shooter incidents, an average of how many incidents occurred in educational occupancies each year between 2013 and 2017?

- a. 4 incidents per year**

Refer to the FBI report: **Active Shooter Incidents in the United States**

Beginning with which edition did NFPA 101 – Life Safety Code specifically mandate one releasing operation to unlatch doors in a means of egress?

- a. 1988**

Prior editions required a simple type of releasing device with an obvious method of operation.

According to an NFPA study of fires that occurred in educational occupancies between 2013 and 2017, what percentage of the buildings were equipped with sprinkler systems?

- b. 39%**

Refer to the NFPA report: **Structure Fires in Educational Occupancies**

## Welcome to the AIA Continuing Education Webinar on Code Changes Affecting Classroom Doors

We will begin in just a few minutes.

Call in: 1-866-430-4132

Conference Code: 3178103300



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J247  
Code Changes Affecting Classroom Doors  
CDW003

Class Name: Code Changes Affecting Classroom Doors  
 Program: CDW003  
 Provider Number: J247  
 Learning Units: 1  
 Provider Name: Allegion

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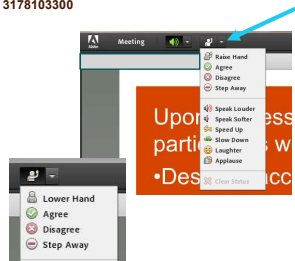
**Course Description**  
 The 2018 editions of the International Building Code, International Fire Code, and NFPA 101 – Life Safety Code, all include changes specific to classroom doors. A Tentative Interim Amendment was approved in 2019, which further modifies the 2018 edition of NFPA 101. This webinar will cover the requirements of the model codes and the ADA Standards for Accessible Design that apply to classroom doors.

#### OBJECTIVES

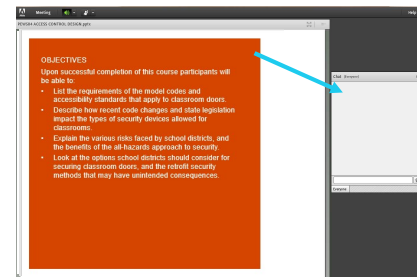
Upon successful completion of this course participants will be able to:

- List the requirements of the model codes and accessibility standards that apply to classroom doors.
- Describe how recent code changes and state legislation impact the types of security devices allowed for classrooms.
- Explain the various risks faced by school districts, and the benefits of the all-hazards approach to security.
- Look at the options school districts should consider for securing classroom doors, and the retrofit security methods that may have unintended consequences.

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**Lori Greene, DAHC/CDC, CCPR, FDAI**

- Manager, Codes & Resources for Allegion
- Responsible for support and education on building codes, fire codes, accessibility
- Development of NFPA, ICC, and BHMA codes and standards
- 25 years with the Allegion brands
- 33 years in the door and hardware industry
- iDigHardware.com

#### Learning Objectives

- Requirements of the model codes and accessibility standards
- Recent code changes and state legislation
- Risks of not considering all hazards
- Options for safely securing classroom doors
- Where to find more information



### Classroom Doors

- Critical point of security
- Requires holistic approach
  - Door, lock, glazing, etc.
- Must also meet code requirements for egress and accessibility
- Some classroom doors are also fire door assemblies



### State Legislation / Code Changes

- Laws/codes changed in Arkansas, Ohio, Utah, Illinois – other legislation pending
- Policies modified in Kansas, Louisiana, Michigan, Oregon – possibly others
- Changes remove some or all life-safety requirements from adopted codes
- Example:
  - **Arkansas:** *"A person may install and use a temporary door barricade device or security lockdown device for security purposes to protect individuals during active shooter events or other similar situations."*



### Sandy Hook Advisory Commission

"The Commission believes that the State of Connecticut should carefully consider: Requiring that all classrooms in K-12 schools be equipped with locking doors that **can be locked from the inside** by the classroom teacher or substitute. These doors should also be compliant with building code, fire safety code, and other regulations as required..."

Report: SHAC Interim Report 2013-03-18

### Codes to Consider

- Adopted Building Code
  - International Building Code (IBC)
  - NFPA 5000 – Building Construction and Safety Code
- Adopted Fire Code
  - International Fire Code (IFC)
  - NFPA 1 – Fire Code / NFPA 101 – Life Safety Code
- State Modifications
- Accessibility Standards / Americans with Disabilities Act (ADA)
- Referenced Standards like NFPA 80



### Combined code requirements

- Door must unlatch with one operation\*
- No key, tool, special knowledge or effort for egress
- No tight grasping, pinching, or twisting of the wrist
- Releasing hardware 34-48 inches AFF
- Authorized access from the outside (new in 2018)
- Panic hardware required for schools when door is serving 50+ occupants
- Hardware on fire doors must be listed to UL 10C
- NFPA 80 limits alterations to fire doors
- NFPA 101-2018 – lockable without opening door
- State and local codes may vary



*\*2 non-simultaneous releasing operations for existing classroom doors are now allowed in some jurisdictions.*

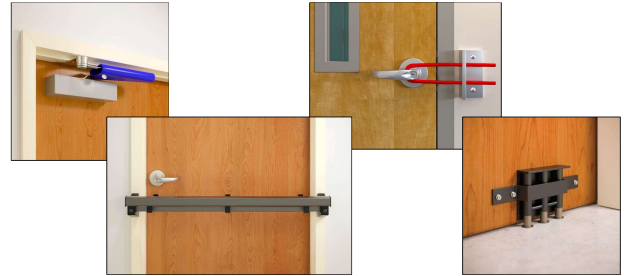


### NFPA 101 TIA 1436

- Tentative Interim Amendment has modified the 2018 edition of NFPA 101
- Two non-simultaneous releasing operations are allowed for K-12 classroom doors in existing schools
- All other requirements must be met (many barricade devices do not comply)
- Applies to jurisdictions that have adopted the 2018 edition of NFPA 101
- Intent is to allow a separate deadbolt

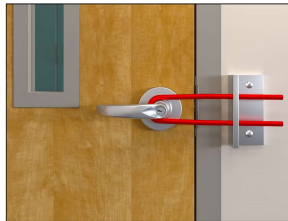


### Classroom Barricade Devices



### Why are classroom barricade devices used?

- Thought to be less expensive than purchasing new locks
- Easy to procure online – traditional hardware is too complicated
- Can be installed by carpenters
- Marketing based on fear
- Parent groups fundraising to purchase them
- Perception that locks aren't good enough
- Schools under pressure to do something (anything!) and do it now



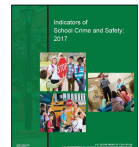
### What's the problem?

- Many are not compliant with life safety requirements
- May deter or prevent evacuation
- Take time to locate and deploy during an emergency – increasing lockdown time
- Potential for unauthorized use/liability
- Response time for school staff and emergency responders may be delayed



### Statistics on School Violence

- Between 2013 and 2017, the FBI reported an average of **4 active-shooter incidents** in educational occupancies per year.
- According to the National Center for Education Statistics – in 2017, students aged 12-18 experienced **827,000 incidents of crime** (includes theft, assault, and sexual assault) in US schools.



### What's the problem?

A California college was required to remove \$200,000 worth of barricade devices because they were not code-compliant.



Photo: Victor Tence, The Guardsman



### Fire Risk in Schools

- According to the National Fire Protection Association (NFPA), between 2013 and 2017, US fire departments responded to an average of **4,859 fires per year** in educational occupancies.
- "A report on the U.S. Experience with Sprinklers by Marty Ahrens found that sprinklers were present in only **39 percent** of the reported fires in educational properties."



### The Washington Post

#### Lockdown drills: An American quirk, out of control

School shootings are extraordinarily rare. Why is fear of them driving policy?

"The statistical likelihood of any given public school student being killed by a gun, in school, on any given day since 1999 was roughly **1 in 614,000,000.**"

- More children have died from **lightning strikes** than from mass shootings in schools in the past 20 years.
- It is **10 times** more likely that a student will die on the way to school than in a school shooting.
- **Restaurants** have 10 times as many homicides as schools.
- Chances of dying in a fire (all occupancy types) - **1 in 1,500.**

### A Key to Safe Classrooms

**Traditional Classroom Function Lock**

Usually, the lock is placed in "passage mode" during the day, leaving the door unlocked on both sides.

While this function was once the standard for classroom doors because it limited control to staff, the need to open and lock doors from the outside does not meet today's best practice guidelines.

**Pros:**

- In passage mode, staff and students have easy access to the unlocked room.
- Key control keeps unauthorized people from locking the door.

**Cons:**

- Key holder must be present to lock the door.
- During a lockdown, staff must enter the hallway to lock the door, increasing risk.

**NO LONGER RECOMMENDED**

### A Key to Safe Classrooms

- Classroom Security Function
- Key in inside lever locks outside lever
- Entrance/Office Function
- Pushbutton or thumbturn locks outside lever
- Storeroom Function
- Outside lever always locked

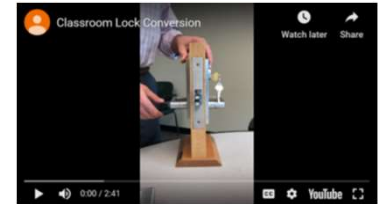
**All of these functions allow free egress, and authorized access with a key**

### Indicators



### Conversion Kits

- Available for mortise and cylindrical locks
- Change lock function and/or add indicator
- Lower cost than some barricade devices
- Does not void the warranty or fire door listing
- Code-compliant



### Why not use magnets on strikes?

- Prevent doors from latching
- Not allowed on fire doors
- Staff may not be accustomed to carrying/using keys – doors are never locked
- Affidavit for shooting at STEM School Highlands Ranch:
  - during the shooting one of the assailants *"pulled the magnetic strip on the door and pulled it shut so it couldn't be opened from the outside."*



Photo: [Daily Herald](#)

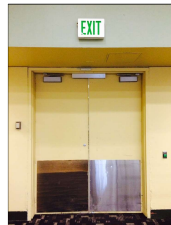
### Electrified Locks

- Networked - Can be locked remotely or by a teacher in the classroom.
- Standalone - Multiple doors can be locked by the teacher with a remote fob.
- 2018 model codes specifically allow remote locking of classroom doors, but locks must allow free egress.



### Why not use electromagnetic locks?

- Locks door when power is applied to an electromagnet
- Two sets of code requirements – must allow free egress
  - Door hardware release – switch in door-mounted hardware unlocks mag-lock
  - Sensor release - motion sensor may inadvertently unlock the door and allow access
- Unlocking the door only upon power failure is almost never code-compliant



### Delayed Egress Changes

- 2018 IBC Changes
  - Previous editions of the IBC do not allow delayed egress in assembly or educational
  - NFPA 101 has fewer limitations
- Classroom doors serving less than 50 occupants
- Secondary exits from courtrooms
  - building must have sprinkler system





### Other Considerations

- Impact-resistant glazing near door hardware
- Key distribution
- Notification/communication
- Visitor management
- Emergency planning and drills



### Sandy Hook Advisory Commission Final Report

*"The testimony and other evidence presented to the Commission reveals that there has **never been an event in which an active shooter breached a locked classroom door.**"*



### Marjory Stoneman Douglas High School

*"We have had meetings and teachers talking about what to do in these type of situations, actually, pretty recently and had initiatives to lock all the doors," he said, "and I think, honestly, that worked and easily **saved a couple hundred if not a thousand lives because all those doors were locked.**"*

~ MSDHS Student




### Thank You!

This concludes the American Institute of Architects  
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### Webinars

#### Webinar 1: Code Changes Affecting Classroom Security

Thursday, February 27th, 2020

As school districts and higher-education facilities work to improve school security, it's critical that the requirements of the model codes and accessibility standards are followed. The 2018 editions of the International Building Code, International Fire Code, and NFPA 101 - Life Safety Code, all include changes specific to classroom doors. A Tentative Interim Amendment was approved

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