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Date: June 5, 2015

To: Ohio Board of Building Standards

From: Jerry Heppes, CEO, Door Security and Safety Foundation

Re: School Barricade Forum

The members of the Door Security and Safety Foundation believe that barricade devices used on doors in a means of egress compromise life safety and should not be approved by any jurisdiction. We have provided the following resources for your use while considering whether to allow barricade devices in the schools of Ohio:

- Door Security and Safety Foundation (DSSF) – Classroom Door Security (pg 2)
- Barricade Device Examples (pg 4)
- National Association of State Fire Marshals (NASFM) – Classroom Door Security & Locking Hardware (pg 5)
- Minnesota State Fire Marshal Information Sheet - Security and Barricade Devices on Classroom Doors (pg 6)
- New York State Education Department – Fire Safety and Proper Classroom Door Locks (pg 8)
- 2013 California Building Code Section 1008.1.11 – Group E lockable doors from the inside (pg 9)
- Florida State Requirements for Educational Facilities – Hardware (pg 11)
- Security Industry Association (SIA) – Letter to the Ohio legislature (pg 13)
- We need to do this right - Lieutenant Joseph A. Hendry Jr. , CLEE, Kent State University Police Department and ALICE Training Institute (pg 14)
- Barricade Device? Think Twice! – Lori Greene, AHC/CDC, CCPR, FDHI, CFPE, Door Security and Safety Foundation and Allegion (pg 16)
- A Call to Arms for All Locksmiths – John Truempy, ICML, CRL, CMIL, IFDI, ALOA - Institutional Locksmiths and University of Pennsylvania (pg 23)
- Buyer Beware – Paul Timm, PSP, RETA Security (pg 25)
- Appendix A – NASFM School Security – Suggested Classroom Door Checklist (pg 28)

If you have any questions about the enclosed information, please feel free to contact Jerry Heppes – 703.222.0972 or jheppes@dhi.org.

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info@doorsecuritysafety.org

Classroom Door Security

The mission of the Door Security and Safety Foundation (DSSF) is “to promote safe and secure openings that enhance life safety.” DSSF is dedicated to serving the public by advocating for safe openings through awareness, education and research.

Doorway systems are designed to instantly provide life safety or security depending upon the scenario—fire or threat. Accordingly, all proper door assembly designs equip the doorway to meet the NFPA 101 *Life Safety Code*. These intricate codes are met through complicated combinations of door and hardware products. The *Life Safety Code* appropriately prescribes the applicable balance.

Whether codes evolve in response to events like September 11, from active shooters in schools such as Columbine, or simply from specific industries, governmental authorities or the public, the good news is that they evolve in a time-tested system. The code process vets thousands of proposals in order to identify their impact, as well as to analyze unintended consequences from well-intended proposals.

With the recent well-publicized and horrific shootings at our schools, there is a growing public concern for safety in schools. Naturally, numerous opinions have evolved on improving student safety from an active shooter situation. In addition, several retrofit devices intended to provide protection for students while in the classroom are becoming available. Unfortunately, these products fall short of the code requirements.¹ It is critical that these devices are vetted through the formal code process to ensure that the proper balance is met.

The National Association of State Fire Marshals (NASFM; firemarshals.org) has published a white paper entitled *Classroom Door Security and Locking Hardware* to address its security concerns for several products being employed that unfortunately expose our students and faculty to unintended safety consequences. The document offers a School Security Suggested Classroom Door Checklist. This list identifies the critical parameters that need to be satisfied when designing a door system intended to increase security in the classroom. The Door Security and Safety Foundation endorses this document, as it is validated by specific codes and standards references.

DSSF CEO Jerry Heppes, CAE, states, “We are all very concerned and devastated by the active shooting tragedies and believe that we must ensure that our schools are safe havens for our youth. The best way to accomplish this goal is to work within the

¹ “Barricade Device? Think Twice!” Lori Greene, AHC/CDC, FDAI, FDHI, CCPR. *Doors & Hardware*, May 2015.

building code process to help avoid unintended consequences with life safety. According to testimony presented to the Sandy Hook Advisory Commission, there is not one documented incident of an active shooter breaching a locked classroom door by defeating the lock. Maintaining a balance of life safety and security is possible today using proven products that meet the NFPA 101 *Life Safety Code*. New devices being introduced may provide some level of additional security but can seriously compromise certain other aspects of life safety; that is why we have codes and standards. Unfortunately, these devices do not meet codes and may negatively affect life safety in the case of other emergencies such as a fire, which statistically is more than three times more likely to happen than an active shooter situation.² What are we trying to correct if there is not one documented incident of a classroom lock being defeated?"

Based on the statistics cited by the National Center for Education Statistics (NCES), to allow these products to be employed when they do not meet the codes is to put the public at greater harm.

- *"In 2012, students ages 12–18 were victims of about 1,364,900 nonfatal victimizations at school, including 615,600 thefts and 749,200 violent victimizations, 89,000 of which were serious violent victimizations."*
- *"During the 2009–10 school year, 85 percent of public schools recorded that one or more of these incidents of violence, theft, or other crimes had taken place, amounting to an estimated 1.9 million crimes."*
- *"During the 2011–12 school year, 9 percent of school teachers reported being threatened with injury by a student from their school. The percentage of teachers reporting that they had been physically attacked by a student from their school in 2011–12 (5 percent) was higher than in any previous survey year (ranging from 3 to 4 percent)."*

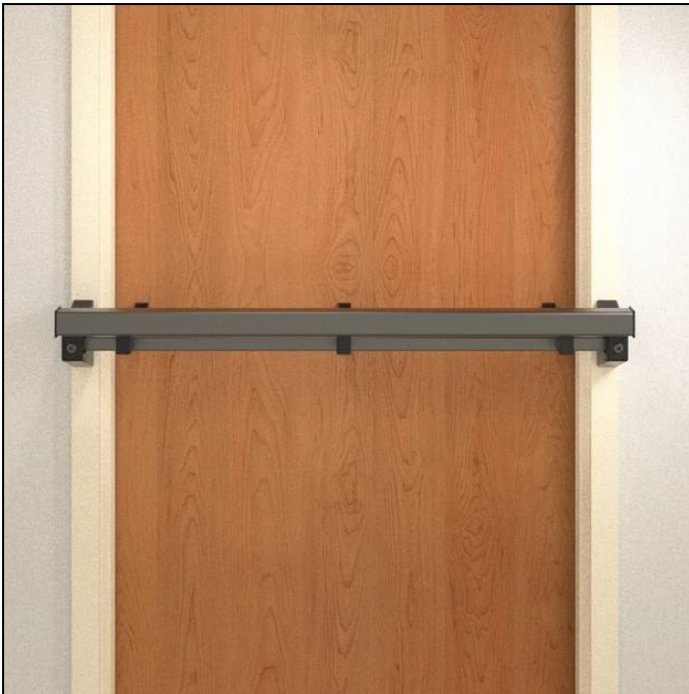
The ALICE Training Institute recently published a document that includes some guidance with regard to a barricade versus a door locking device. Item 1 on that list reads (in part): *"Door Locking Devices are subject to approval. According to the fire code, 'Security devices affecting means of egress shall be subject to approval of the fire code official.' Ensure that any application of a door locking device is not in violation of the fire code. A door locking device accepted by one fire marshal may be rejected by another jurisdiction."* The Door Security and Safety Foundation believes that no door locking device that also compromises life safety should be approved by any jurisdiction.

² "Finding Reasonable Solutions to the Problem of School Safety." April Dalton. *Doors & Hardware*, March 2015.

Barricade devices installed in addition to existing latching hardware are not compliant with the *International Building Code, International Fire Code, NFPA 101—The Life Safety Code, ADA Standards for Accessible Design* and other national accessibility standards, or with the classroom security guidelines of the National Association of State Fire Marshals (NASFM).

These model codes, standards, and guidelines help to ensure free egress, fire protection, and accessibility for all building occupants. Therefore, before using a barricade device on any door within a school or other public building, confirm that the local code requirements and/or the Authority Having Jurisdiction allow the use of these devices.

Measures should be taken to prevent unauthorized use of barricade devices as many of these products will prevent staff and emergency responders from entering the room to assist occupants.



NFPA 80—Standard for Fire Doors and Other Opening Protectives requires fire doors to close and latch automatically in order to deter the spread of smoke and flames and protect the egress routes for emergency evacuation. This standard also requires hardware installed on a fire door assembly to be tested and certified for that purpose. Devices which prevent a door from latching may not be used on a fire door unless allowed by a local code modification or approved by the Authority Having Jurisdiction.



The National Association of STATE FIRE MARSHALS

Classroom Door Security & Locking Hardware

The ability to protect students and teachers while in the classroom is a high priority in all educational institutions. Many schools and school districts have taken measures to address this pressing concern of safety of occupants in classrooms in the event of a threatening situation. Some of the proposed or implemented solutions specifically affecting classroom doors, while well intended, may compromise aspects of life safety while attempting to address security.

In addition to the demand to protect students and teachers from outside-the-classroom threats, building codes or fire codes may require classroom doors to function as fire-rated doors or smoke and draft control doors. Fire-rated doors and smoke and draft control doors are required to be self-latching when closed to ensure the doors perform their intended protective function in the event of a fire.

Building codes, fire codes, and life safety requirements include the ability to readily unlatch the door from inside the classroom with one motion without the use of a key, a tool, or special knowledge, or effort to facilitate immediate egress from the classroom.

Classroom doors are required to meet Federal accessibility laws and building and fire code requirements which include the ability to operate door hardware with no tight grasping, tight pinching, or twisting of the wrist; door operating hardware must be located between 34" and 48" above the floor. Federal accessibility laws and building codes require the bottom 10" of the push side of the door to be a smooth surface.

When considering the selection of hardware which allows classroom doors to be lockable from inside the classroom, consideration should be given to the risks and potential consequences of utilizing a device which blocks the classroom door from the inside. For example, devices which prevent classroom doors from being unlocked and openable from outside the classroom may place the inhabitants of the room in peril. In addition to the requirement that classroom doors must be unlatchable in a single motion from inside the classroom (discussed above), these doors should always be unlockable and openable from outside the classroom by authorized persons.

The "School Security – Suggested Classroom Door Checklist" identifies many parameters which should be satisfied when selecting and installing hardware on classroom doors intended to increase security in the classroom.

The "School Security - Suggested Classroom Door Checklist" is included in Appendix A of this package.

Information Sheet

Security and Barricade Devices on Classroom Doors

Requirements for egress door operation

The Minnesota State Fire Code and Minnesota State Building Code both require egress doors to be immediately operable without use of a key, without special knowledge or effort, and to release with a single operation. **The use of door security and barricade devices that do not comply with these basic requirements are prohibited.**

- **Minn. State Fire Code 1008.1.8 Door operations.** Except as specifically permitted by this section egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort.
- **Minn. State Fire Code 1008.1.8.1 Hardware.** Except as permitted by Section 1008.1.8.3, door handles, pulls, latches, locks and other operating devices on doors shall only require a single operation to release the door from the egress side.

Since it is not illegal to manufacture, sell or possess door security devices, a code violation only occurs once the device has been employed on a required egress door. From a practical standpoint, enforcement is difficult since these devices are typically employed only during lockdown emergencies. However there is a concern that school staff may decide to routinely use these devices in order to provide an extra level of security for their classroom.

Rationale against the use of door security and barricade devices

Time and performance limitations

Door security and barricade devices typically must first be removed from their storage location and then additional time is necessary for installation. Some devices require several steps for installation, and may prove difficult under stressful conditions. Although a certain percentage of people are able to effectively perform complex tasks under emergency conditions, this is not the case for everyone. Time is also a critical factor during a lockdown emergency, and the time necessary to employ a security or barricade device may not be available.

Impeded egress

Many door security devices, once employed, do not allow for quick and unimpeded egress. There may be circumstances during a lockdown emergency where it will be necessary to quickly exit the classroom or building, including:



- Fire set by an assailant
- Explosive device detonated by an assailant
- Gas leak initiated by an assailant
- Hazardous/toxic material introduced by an assailant
- An assailant entering or firing a weapon through an exterior window

Additionally, if a teacher or staff member were to become incapacitated for any reason, the children (especially the younger ones) may be incapable of removing the security device. This not only would prevent the occupants from exiting the room, but would also prevent timely access by emergency personnel.

Unintended consequences – a barrier to emergency personnel

Another major concern is the potential for a door security device to be used by a student, staff member or intruder for the purpose of committing an assault or other serious crimes. Most door security and barricade devices would prevent school staff, law enforcement and other emergency responders from entering the classroom, creating an unintended safety hazard and liability risk for the district. Conversely, a code-compliant classroom security lockset allows staff or emergency personnel the ability to quickly unlock a classroom door from the outside by use of a key.

Code-compliant solutions

Classroom security concerns during a lockdown emergency are well understood, and fortunately this problem is easily addressed via the use of code-compliant egress/security hardware. Proper door hardware eliminates the need for security and barricade devices while maintaining free egress. Commonly known as a *classroom security lockset*, this type of hardware allows exit doors to be quickly and securely locked from the classroom side, and may even include a deadbolt feature for added security. Activation of the locking hardware is quick and simple by operation of a thumb-turn device or key from the classroom side (these locks are available in either configuration). Such hardware fully complies with both the state fire and building codes because normal operation of the handle on the classroom side automatically releases the latch and deadbolt, allowing for free egress.

Summary

Although at first glance the use of door security and barricade devices may appear to offer a practical solution to lockdown security, their use creates additional and unacceptable hazards – hazards that have successfully been addressed by fire and building code language born of past tragedies. Current codes allow fire-safety, life-safety, and security to be accomplished in balance without one negatively affecting the other.



THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW
 NY 12234

Office of Facilities Planning, Room 1060 Education Building Annex
 Tel. (518) 474-3906
 Fax (518) 486-5918
 Website: <http://www.p12.nysed.gov/facplan/>

Fire Safety and Proper Classroom Door Locks

It has come to our attention that some schools are considering manual door blocking/jamming locks and restraints in addition to standard door locks to impede intruders in school buildings. **These types of devices are NOT allowed in NYS Schools.**

Please note the following two NYS Codes:

- **NYS Fire Code - 1008.1.8 Door Operation:** Except as specifically permitted by this section egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort.
- **NYS Education Department Manual of Planning Standards Code - S105-1 Door Hardware for Classrooms and Other Spaces of Pupil Occupancy:**
 Hardware on doors from spaces of pupil occupancy shall be a type which will always permit the door to be opened from the inside without direct manipulation of any type locking device.

We recommend mechanical (key operated) classroom intruder locks which expands the classroom function lock by incorporating double lock cylinder control, enabling a teacher to lock the lock and secure the door from within the classroom. ***This feature always allows egress while leaving the outside lever locked.***

For more information contact Thomas Robert, Fire Safety Coordinator, at 518-474-3906 or trobert@mail.nysed.gov .

Carl T Thurnau, Director
 Office of Facilities Planning

CALIFORNIA BUILDING CODE

2013

**California Code of Regulations
Title 24, Part 2, Volume 1 of 2**

Based on the 2012 International Building Code®

California Building Standards Commission



Effective Date: January 1, 2014

center line of the door opening, not less than 1 foot and not more than 5 feet from the door opening, and is connected to the fire alarm system.

3. A remote master switch capable of unlocking the elevator lobby doors shall be provided in the fire command center for use by the fire department.
4. Locks for the elevator lobby shall be U.L. and California State Fire Marshal listed fail-safe type locking mechanisms. The locking device shall automatically release on activation of any fire alarm device on the floor of alarm (waterflow, smoke detector, manual pull stations, etc.). All locking devices shall unlock, but not unlatch, upon activation.
5. A two-way voice communication system, utilizing dedicated lines, shall be provided from each locked elevator lobby to the 24-hour staffed location on site, annunciated as to location. Operating instructions shall be posted above each two-way communication device.

Exception: When approved by the fire chief, two-way voice communication system to an off-site facility may be permitted where means to remotely unlock the access controlled doors from the off-site facility are provided.

6. An approved momentary mushroom-shaped palm button connected to the doors and installed adjacent to each locked elevator lobby door shall be provided to release the door locks when operated by an individual in the elevator lobby. The locks shall be reset manually at the door. Mount palm button so that the center line is 48 inches above the finished floor.

Provide a sign stating:

"IN CASE OF EMERGENCY,
PUSH PALM BUTTON,
DOOR WILL UNLOCK AND
SECURITY ALARM WILL
SOUND."

The sign lettering shall be 3/4-inch high letters by 1/8-inch width stroke on a contrasting background.

7. Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.

1008.1.10 Panic and fire exit hardware. Doors serving a Group H occupancy and doors serving rooms or spaces with an occupant load of 50 or more in a Group A occupancy, assembly area not classified as an assembly occupancy, E, I-2 or I-2.1 occupancies shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware. For Group L occupancies see Section 443.6.3.

Exception: A main exit of a Group A occupancy in compliance with Section 1008.1.9.3, Item 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain over-

current devices, switching devices or control devices with exit or exit access doors shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

1008.1.10.1 Installation. Where panic or fire exit hardware is installed, it shall comply with the following:

1. Panic hardware shall be listed in accordance with UL 305;
2. Fire exit hardware shall be listed in accordance with UL 10C and UL 305;
3. The actuating portion of the releasing device shall extend at least one-half of the door leaf width; and
4. The maximum unlatching force shall not exceed 15 pounds (67 N).

1008.1.10.2 Balanced doors. If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

1008.1.11 Group E lockable doors from the inside. New buildings that are included in public school kindergarten through 12th grade state funded projects and receiving state funding pursuant to Leroy F. Green, School Facilities Act of 1998, California Education Code Sections 17070.10 through 17079, and that are submitted to the Division of the State Architect for plan review after July 1, 2011 in accordance with Education Code 17075.50, shall include locks that allow doors to classrooms and any room with an occupancy of five or more persons to be locked from the inside. The locks shall conform to the specification and requirements found in Section 1008.1.9

Exceptions:

1. Doors that are locked from the outside at all times such as, but not limited to, janitor's closet, electrical room, storage room, boiler room, elevator equipment room and pupil restroom.
2. Reconstruction projects that utilize original plans in accordance with California Administrative Code, Section 4-314.
3. Existing relocatable buildings that are relocated within same site in accordance with California Administrative Code, Section 4-314.

1008.2 Gates. Gates serving the means of egress system shall comply with the requirements of this section. Gates used as a component in a means of egress shall conform to the applicable requirements for doors.

Exception: Horizontal sliding or swinging gates exceeding the 4-foot (1219 mm) maximum leaf width limitation are permitted in fences and walls surrounding a stadium.

1008.2.1 Stadiums. Panic hardware is not required on gates surrounding stadiums where such gates are under constant immediate supervision while the public is present, and where safe dispersal areas based on 3 square feet (0.28 m²) per occupant are located between the fence and

State Requirements for Educational Facilities

2014



Florida Department of Education
Office of Educational Facilities

- (f) **Wood Floors.** Wood floors, where provided, shall be free of loose or broken boards, holes, uneven projections, protruding nails, splinters and other tripping hazards.
- (7) **Insulation and Moisture Protection.** Insulation and moisture protection (including relocatables) shall meet the following minimum casualty safety and sanitation requirements for roofing, fireproofing, firestopping, etc., as applicable:
- (a) **Thermal Insulation.** Thermal insulation, where provided, shall be visible for inspection in such spaces as attics, crawl spaces, duct work, mechanical rooms, etc.; protected from the weather and held securely in place.
- (b) **Vapor Barriers.** Vapor barriers, where provided, shall be visible for inspection in such spaces as attics, crawl spaces, mechanical spaces, insulated ducts, chilled water lines, etc.; located on the exterior side of thermal insulation; protected from the weather and held securely in place.
- (c) **Roofing.** Roofing systems, including flashing, gutters, downspouts, roof drains, membrane, roof penetrations, etc., where provided, shall be watertight, held securely in place, free of debris and maintained in good condition.
1. Positive drainage shall be provided for all portions of the finished roof surface to the edge of the roof or to roof drains.
 2. Roofs shall be maintained so that water does not pond.
 3. Accessories such as flashing, gravel stops, drip edging, expansion joints, gutters, downspouts, scuppers and roof drains, where provided, shall be maintained in a good condition.
 4. Structural members, including decks, beams, fascia, etc., shall be in good repair and structurally sound.
- (8) **Doors and Windows.** Doors and windows (including those for relocatables) shall meet the following minimum casualty safety and sanitation requirements, etc., as applicable:
- (a) **Doors and Windows.** Doors and windows shall be maintained in an operable, safe and secure condition at all times and be free of splinters, sharp projections, broken glass, broken hardware, etc. Glass in doors and windows shall meet applicable glazing requirements found in section 5(8)(d).
- (b) **Doors.** Doors shall be positioned so that there is clear floor space on the pull side of the door adjacent to the latch and so that the floor on both the interior and exterior sides of a door is substantially level.
1. Doors opening into interior corridors shall be either:
 - a. Recessed and hinged to swing 90 degrees; or
 - b. Not recessed and hinged to swing 180 degrees.
 2. Storefront Doors. Glazing in storefront doors shall contain a built-in horizontal safety guard located between 24 and 36 inches above finished floor.
- (c) **Hardware.**
1. Locksets. All doors shall be equipped with locksets that are not lockable from inside the space.
 - **Exception:** Individual toilet rooms may be locked from the inside, and may be equipped with privacy locks that are readily opened from the inside and that may be opened from the outside without a special tool.
 - **Exception:** The classroom security function, which allows the outside lever to be locked with a key from either the inside or outside while keeping the inside lever unlocked for unrestricted egress, may be used.

May 12, 2015

Senator Gayle Manning
Chairman, Transportation, Commerce and Labor Committee
Senate Building
1 Capitol Square, 1st Floor
Columbus, OH 43215



Dear Chairman Manning,

SIA represents more than 550 manufacturers and integrators of security and life safety products used by thousands of schools across the country to keep students, faculty and school visitors safe.

On behalf of the Security Industry Association (SIA) I am writing to express our concerns with S.B. 125, which requires the Ohio Board of Building Standards to adopt rules exempting certain "barricade devices" from state fire code requirements when used to lock school doors in emergency situations.

We are concerned that the revision to the code is entirely too broad and permits the use of devices that do not meet proper code requirements for free egress, specifically in that occupants would not be able to exit without obstruction. Additionally, willful misuse of the devices could prevent both escape and intervention from the outside. In the event that an emergency situation was taking place inside of the locked room, first responders would not be able to enter.

It is completely unnecessary to provide such an exception from longstanding fire safety practices, because lockdown capability can be readily achieved through currently available solutions for schools that are code compliant.

We recommend that should the Committee direct the Ohio Board of Building Standards to revise requirements with respect to school doors, all existing guidelines and life safety codes as well as commercially available products and services should be given thorough review prior to formulating the requirements.

We know you share our interest in ensuring the safety and security of students and school personnel at all times. Please let us know if SIA or its members can provide further assistance to you and the legislature as you consider these important issues.

Sincerely,

A handwritten signature in black ink that reads "Don Erickson". The signature is fluid and cursive.

Don Erickson
CEO
Security Industry Association

CC: Sen. Tom Patton, Vice Chair, Transportation, Commerce and Science Committee, Rep. Capri S. Cafaro, Ranking Member, Transportation, Commerce and Science Committee.

We need to do this right.

Lieutenant Joseph A. Hendry Jr. , CLEE

As I'm reading the open source material on the German plane crash, I keep returning to one thought: Someone developed a fail safe way to keep people out of the cockpit, without adequately thinking about what would happen if the threat was already in the cockpit.

When I shared this observation with Lori Greene, she asked if I would write a guest blog post for iDigHardware.com on an issue that she has been discussing for several months – [secondary locking devices for doors](#). I have studied the codes and the reasons why we have the fire and life safety codes. Most of the current code requirements came from lessons learned with loss of lives. We have built much of our infrastructure to mitigate casualties during a fire. **Because the codes and training have been so successful since 1947, I believe that many people fail to understand why we practice fire response and enforce the codes.** One only needs to do some minimal research to see the huge number of deaths from fire pre-1947.

Active shooter and terrorism are not new threats. What has become evident since Sandy Hook is the sudden awareness that lockdown training is inadequate, our infrastructure is easily breached and we have given the bad guys a twenty-year head start in planning. National recommendations from the federal government changed in June of 2013 on how to respond to these events. The same recommendations had been pioneered by the ALICE Training Institute in 2002 – if evacuation was not possible, the secondary response should be to barricade the location using environmental items and be prepared to use counter measures should the lockdown location be breached.

All of the tactics were developed to be non-linear and non-location-specific. The tactics applied whether you were in a school, church, mall, industrial plant or office setting. Even though evacuation became the primary response and upgrades to locations were needed in order to facilitate the response, some companies began to use the barricading recommendations to market products designed to act as secondary locking devices for doors. **Many of the products are marketed as being endorsed by the ALICE Training Institute or the Department of Homeland Security / Department of Education (Run, Hide, Fight). No such endorsement of these products has ever been given, nor are they compliant with the recommendations of these organizations.**

As law enforcement and educators assessed their doors, they quickly became aware that their entire facility was not appropriate for lockdown utilization because the doors, locks, and walls were easily compromised. What should have been a national wake up call to improve infrastructure in educational buildings turned into a vendor-driven arms race, pitting fire and safety codes against an unregulated product. Suddenly, fire inspectors were being portrayed as being “against safety” when they prohibited these devices.

In some jurisdictions, police were pitted against fire personnel. This becomes even harder to fathom given that code-compliant locks and doors already existed that would solve the problem. If the door is the problem, you need a better door! Companies began popping up all over the country, many of them selling a single product built around whatever door their home school district might have purchased.

Some fire inspectors and code enforcement officers have been accused of just trying to “defend their turf,” as one vendor told me while trying to convince me to endorse their product. What these officials are doing is looking past the initial feel good of the devices and actually viewing them in the prism they view critical response; if it requires more than one motion and you have to remember it (the device), then it does you no good because fine motor skills become non-existent in a crisis.

While I’m certain that many of these products were developed to keep people safer, it is unlikely that they have been independently tested for effectiveness, utilization by occupants under stress, or studied for flaws to see if they can be used against the very people they are supposed to protect. In fact, several of the locking devices are marketed as hanging next to the door ready for use, as shown in the online installation videos.

Given the fact that most threats in education are already in the facility because they are students, easy access to a secondary locking device gives them the means to secure the classroom and terrorize the occupants. We are re-creating the Nickel Mines incident all over again, but making it easier for the bad guys to barricade. Of the more than 20 secondary locking devices I have seen or been told about, only two have the ability for law enforcement to ingress the room. We are providing the instruments of our own destruction without foresight.

The real solution is one involving fire, police, building inspectors, design experts, and architects. We need to design a building blending all the concerns and change code requirements to require better doors, better locks, better walls, better glass and better evacuation routes without making it look like a prison. We need to train in a realistic way with all building occupants, taking into account age and skills.

We are not going to “gadget” our way out of this problem. It requires planning and infrastructure change. Getting legislators to understand the gaps in school safety and put up money to improve infrastructure is critical. We can adapt existing buildings and improve them in ways that do not require occupants to use fine motor skills in the initial steps of critical response (dropping a pin into a hole is a fine motor skill under stress, in just the same way finding and putting a key into a lock is a fine motor skill under stress). New code requirements, folding fire and safety concerns into the building code itself is the long-term solution for new structures.

Because the threat is already in cockpit...and we need to do this right.

[Lieutenant Joseph A. Hendry Jr., CLEE, is a 25-year veteran of the Kent State University Police Department, national instructor for the ALICE Training Institute, and father of 3. The views expressed here are solely those of the author in his private capacity.](#)



Photo Credit: ©iStock.com | JuergenBosse

Barricade Device? *Think Twice!*

By Lori Greene, AHC/CDC, FDAI, FDHI, CCPR

There is a question currently under debate in several jurisdictions across the country: *Should barricade devices be used to secure classroom doors during an active shooter incident?* These devices have emerged in the last few years in response to fears that inadequate security may leave classrooms vulnerable. The devices are typically designed to be installed on classroom doors during a lockdown, in addition to the existing hardware. While barricading the door with a device of this type may seem to address the immediate need for security, one should consider the safety concerns associated with this practice.

Conventional locksets meet the code requirements for free egress, allowing occupants to exit without obstruction; fire protection, compartmentalizing the building to deter the spread of smoke and flames; and accessibility, ensuring access for all, including people with disabilities. These locksets will effectively secure classrooms against active shooters. In fact, testimony presented to the Sandy Hook Advisory Commission indicated that an active shooter has never breached a locked classroom door by defeating the lock.

By definition, the word *barricade* means “to block (something) so that people or things cannot enter or leave”



Door Security & Safety Foundation Releases Public Position on Classroom Security

The mission of the Door Security & Safety Foundation (DSSF) is to promote safe and secure openings that enhance life safety. DSSF is dedicated to serving the public by advocating for safe openings through awareness, education, and research. In alignment with this mission, DSSF has released a statement on the use of barricade devices in classrooms that may threaten public safety.

For more information on the Foundation's position, see the InTouch column on page. 4. To read the full statement, go to www.doorsecuritysafety.org.



Exit doors in a school, chained to provide security. This locking method does not meet IBC, IFC, or NFPA 101 requirements for egress.

Photo: Wayne Ficklin, Architect

(Merriam-Webster.com). Most codes require doors in a means of egress to provide free egress at all times, which allows building occupants to evacuate quickly if necessary. Some proponents of barricade devices suggest that because the device is intended for use only when an active shooter is in the building, securing the door takes priority over allowing safe evacuation.

Those on the other side of the debate believe that because there is no guarantee that the device will only be installed under these limited circumstances, the devices could be misused, preventing authorized access by staff and emergency responders, as well as delaying or preventing egress. Some advocates of these locking methods have stated that if the product is not permanently attached to the door, it is not under the jurisdiction of the code official and is not subject to the same requirements that door locks and security hardware must comply with.

Following this premise, panic hardware secured with padlocks and chains would not be under the code officials' jurisdiction either. In reality, code officials address these unsafe temporary locking methods frequently, as most codes do not differentiate between a device used temporarily and one that is permanently installed. Fire doors blocked open with wood wedges or other creative (but temporary) hold-open devices create an obvious fire protection problem, and again, the code official is responsible for enforcing the code requirements even though the offending devices are not permanently attached.

Comparisons have been drawn between the use of furniture as a barricade and the installation of a barricade device. Barricading a location with furniture and other environmental items is a secondary response for incidents of an active shooter or terrorism and is recommended if evacuation as a primary response is not possible. Such barricading is recommended by many organizations, including the ALICE Training Institute, the U.S. Department of Homeland Security, the

Department of Education, the Federal Emergency Management Agency (FEMA), the Department of Justice, and the Federal Bureau of Investigation (FBI). However, none of these recommendations involve the installation of secondary door locking devices. Barricading uses gross motor skills, is applicable in any location, and does not require a door or special door locking device.

ALICE recently published a document that includes some guidance with regard to a barricade versus a door locking device. Item 1 on that list reads (in part): "Door Locking Devices are subject to Approval. According to the fire code, 'Security devices affecting means of egress shall be subject to approval of the fire code official.' Ensure that any application of a door locking device is not in violation of the fire code. A door locking device accepted by one fire marshal may be rejected by another jurisdiction."

Code Considerations

Given the increased focus on school security, the discussion about using a barricade device or alternative method to secure a classroom door has likely taken place with code officials in every state. A set of guidelines published by the National Association of State Fire Marshals (NASFM) includes a Suggested Classroom Door Checklist, which identifies many parameters that should be satisfied when selecting and installing hardware intended to increase classroom security:

- ▶ The door should be lockable from inside the classroom without requiring the door to be opened.
- ▶ Egress from the classroom through the classroom door should be without the use of a key, a tool, special knowledge, or effort.
- ▶ For egress, unlatching the classroom door from inside the classroom should be accomplished with one operation.
- ▶ The classroom door should be lockable and unlockable from outside the classroom.

- ▶ Door operating hardware shall be operable without tight grasping, tight pinching, or twisting of the wrist.
- ▶ Door hardware operable parts should be located between 34 and 48 inches above the floor.
- ▶ The bottom 10 inches of the “push” side of the door surface should be smooth.
- ▶ If the school building does not have an automatic fire sprinkler system, the classroom door and door hardware may be required to be fire-rated, and the door should be self-closing and self-latching.
- ▶ If the door is required to be fire-rated, the door should not be modified in a way that invalidates the required fire rating of the door and/or door hardware.

The NASFM guidelines also note that although the word *should* is used in the checklist, these requirements may be mandatory depending on

applicable codes, laws and regulations. The *International Building Code* (IBC), *International Fire Code* (IFC), and NFPA 101, *Life Safety Code*, have been adopted in most states, and these three publications include the egress, fire and accessibility requirements in NASFM’s checklist. These model codes are revised on a three-year cycle to take into account changing environments and new technologies, using a consensus process with careful consideration by technical committees and ample time for public comment.

States and local jurisdictions may modify these codes, so it’s important to be aware of the local code requirements, including the jurisdiction’s position on barricade devices. The NASFM checklist parameters for (1) classroom doors to be lockable from inside the classroom without opening the door and (2) classroom doors to be lockable and unlockable from outside the classroom are not currently included in the three model

codes previously referenced, but code change proposals have been submitted by the Builders Hardware Manufacturer’s Association (BHMA) that will add these requirements if the proposals are approved. The prescriptive requirements included in the model codes ensure that requirements for free egress, fire protection and accessibility are met, in addition to providing adequate security.

Local Jurisdictions

Many code officials have responded to questions about school security by reiterating that egress doors (including classroom doors) must meet the requirements of the adopted codes. The model codes may be modified locally, which could make the local requirements less stringent (for example, allowing one additional operation to unlatch the door) or more stringent.

Some states, such as Florida and California, have already adopted requirements or guidelines for classroom

It is important to look at the frequency of lockdowns in schools across the country. If a lockdown plan includes the use of barricade devices on the classroom doors, the devices could be installed for extended periods of time, whether the danger is inside the building or somewhere in the vicinity. A search of the national news found the following lockdown incidents reported for one day—March 19, 2015—each involving one or more schools:

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| ▶ BALTIMORE, MARYLAND
loaded gun in school | ▶ CHARLOTTE, NORTH CAROLINA
search for robbery suspects |
| ▶ NORWICH, CONNECTICUT
false report of gun in school | ▶ DOWAGIAC, INDIANA
bank robbery in the area |
| ▶ NEW STANTON, PENNSYLVANIA
man shot at home | ▶ ELKHART, INDIANA
report of gunshots nearby |
| ▶ CUMMING, GEORGIA
teen trespassing on campus | ▶ ATLANTIC CITY, NEW JERSEY
fight inside of school |
| ▶ GREENVILLE, NORTH CAROLINA
man with gun reported by children | ▶ ST. PAUL, MINNESOTA
police activity in the area |
| ▶ CAMERON PARK, CALIFORNIA
mountain lion sighted | ▶ UNION SPRINGS, ALABAMA
child taken from bus by relatives |
| ▶ KIMBALL, MINNESOTA
armed person possibly in area | ▶ PORT ANGELES, WASHINGTON
search for escaped prisoner |
| ▶ CORAOPOLIS, PENNSYLVANIA
domestic dispute-related threat | ▶ BOWIE, TEXAS
stolen car chase and foot chase |



Photo Credit: ©iStock.com | bc173

doors to be lockable from the inside, with classroom security locks being the preferred lock function. For these states, the local guidelines are more stringent than the current model codes.

In some jurisdictions, there is political pressure to relax the code requirements in favor of approving the use of barricade devices, even when code officials oppose the change. Lawmakers in Ohio have filed bills “To amend section 3737.84 and to enact section 3781.106 of the Revised Code to require the Board of Building Standards to adopt rules for the use of a barricade device on a school door in an emergency situation and to prohibit the State Fire Code from prohibiting the use of the device in such a situation.” In Arkansas, the state fire marshal voiced strong objections to a Senate bill that would amend the fire code requirements and allow the use of barricade devices in schools, noting potential issues with emergency egress and removal of the device. The Arkansas Senate voted unanimously to approve the fire code change, despite the fire marshal’s objections.

Other states have independently issued directives or adopted code changes that vary from state to state. For example, Colorado has adopted a code change that allows temporary security measures only until Jan. 1, 2018. The State Fire Marshal in Kansas issued a memo allowing temporary security devices to be used, Louisiana allows a deadbolt that requires one additional operation to unlatch the door, and New Jersey permits some types of devices but not others. These policies lack consistency from one state to the next. A more efficient and effective approach would be to incorporate school security requirements into the model codes used across the country, using the expertise and experience of code officials and others who are knowledgeable about all aspects of the issue.

Other Potential Consequences

In addition to the code considerations, another concern is that barricade devices can be used by anyone who has access to them, including someone



With a classroom security lockset, a staff member with a key can lock the outside lever without opening the classroom door. The inside lever always allows free egress. An indicator on the lock gives a visual indication of the door status.

Photo: Schlage

who wants to barricade him- or herself and others in a room to commit harm or take hostages. Addressing this possibility by storing the device in a locked drawer or in a location known only to the teacher could result in a delay in installing the device at a critical time, and a substitute teacher may not have the means or knowledge to secure the door.

Although every school shooting is tragic and we must do all we can to prevent them, these events are rare; nonfatal victimizations at school are thousands of times more likely to occur, and unauthorized lockdown of a classroom could help to create a haven for someone attempting to commit a crime. According to the National Center for Education Statistics (NCES):

- ▶ “In 2012, students ages 12–18 were victims of about 1,364,900 nonfatal victimizations at school, including 615,600 thefts and 749,200 violent victimizations, 89,000 of which were serious violent victimizations.”
- ▶ “During the 2009–10 school year, 85 percent of public schools recorded that one or more of these incidents of violence, theft, or other crimes had taken place, amounting to an estimated 1.9 million crimes.”
- ▶ “During the 2011–12 school year, 9 percent of school teachers reported being threatened with injury by a

student from their school. The percentage of teachers reporting that they had been physically attacked by a student from their school in 2011–12 (5 percent) was higher than in any previous survey year (ranging from 3 to 4 percent).”

In addition to the negative impact on egress, most barricade devices prevent access from the outside, so even a staff member or emergency responder with a key would not be able to enter. While there is debate on whether or not barricade devices should be allowed for use, schools should also consider their liability in using such devices.



In addition to the negative impact on egress, most barricade devices prevent access from the outside, so even a staff member or emergency responder with a key would not be able to enter. While there is debate on whether or not barricade devices should be allowed for use, schools should also consider their liability in using such devices. What if a barricade device was used by an unauthorized person to secure a classroom and commit an assault or other crime, leaving staff and/or law enforcement unable to access the room because of the device?

Don't Take My Word For It

There are many publications that address recommended locking methods for classroom doors, the need for code compliance, and support for incorporating school security requirements into the model codes. None of the following include recommendations for installing secondary locking devices:

- ▶ The final report of the Sandy Hook Advisory Commission includes

many recommendations for school safety, including Recommendation #1, that classroom doors should be lockable from inside the classroom. The report states: "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." There are other factors to consider, such as impact-resistance of glass adjacent to door hardware, distribution of keys to all staff including substitute teachers, methods of securing exterior doors, protocols for visitors, as well as procedures, communication, training and drills. Barricading of doors is not mentioned in the Commission's report.

- ▶ FEMA-428, *Buildings and Infrastructure Protection Series Primer to Design Safe School Projects in Case of Terrorist Attacks and School Shootings* (2012), states that all locks on egress doors in schools must comply with the requirements

of NFPA 101, *Life Safety Code*. The FEMA publication also discusses the importance of lockable classroom doors: "While the interior locks on classroom doors saved many lives at Columbine High School, they were not available in classrooms in Norris Hall at the Virginia Tech campus. Although attempts were made to barricade the doors with furniture or live bodies, they were not successful, and the death toll was much greater."

- ▶ The *International Fire Code Commentary* is a companion publication to the IFC and includes a section addressing lockdown requirements. The 2012 IFC *Commentary* for Section 404.3.3, Lockdown Plans, reads (in part): "Note that the code does not require a lockdown plan; however, if a lockdown plan is developed, it must be strictly supervised in order to maintain occupant safety at an acceptable level. Many facilities are adopting procedures that can significantly affect fire and

life safety, such as using the fire alarm system to signal a security emergency, locking doors with devices that prevent egress in violation of the provisions of Chapter 10 of the code, and chaining exit discharge doors from the inside to prevent occupants from leaving the building. It is important that plans for security threats do not include procedures that result in violations of life safety and actually increase the hazard to the occupants.”

- ▶ The Occupational Safety and Health Administration (OSHA) regulation 1926.34 prohibits devices that impede egress: “No lock or fastening to prevent free escape from the inside of any building shall be installed except in mental, penal, or corrective institutions where supervisory personnel is continually on duty and effective provisions are made to remove occupants in case of fire or other emergency.” In some states, OSHA regulations do not cover state and local government employees (including school staff), but many states adopt the OSHA regulations as part of their workplace safety requirements. In those states, the OSHA requirements for free egress may apply to schools.
- ▶ Some proponents of barricade devices have suggested that it is safe to relax the code requirements addressing fire protection because fatal school fires are no longer common. The National Fire Protection Association (NFPA) reports that, “U.S. fire departments responded to an estimated average of 5,690 structure fires in educational properties in 2007-2011, annually. These fires caused annual averages of 85 civilian fire injuries and \$92 million in direct property damage. An average of one death occurred in day-care properties” (*NFPA Structure Fires in Educational Properties Fact Sheet*). Any one of these fires could have been tragic, as fatalities in school fires were not uncommon before the codes were put in place and enforced. Although it has been

more than 55 years since 95 lives were lost in the fire at Our Lady of the Angels School in Chicago, it seems likely that the strength of current codes and enforcement have played a role in the improved safety of our schools.

- ▶ In the March/April 2015 issue of *NFPA Journal*, Ron Coté notes that

guidelines do not exist currently that would “allow a classroom door to be locked against opening from the corridor side while still ensuring the door can be opened by any classroom occupant, or that emergency responders can access the classroom in time to prevent an occupant from causing harm to those within the room.” In December of 2014, NFPA

The desire to react quickly and within budgetary restrictions sometimes leads to choices that may solve one problem but inadvertently create others. The requirements for free egress, fire protection and accessibility must be considered in conjunction with the need for security.



One option for classroom doors is an electrified lock that can be locked by pushing a button on a fob worn by the teacher.

Photo: Schlage

held a two-day school security workshop, which was attended by more than 60 stakeholders. The purpose of the workshop was to look at issues affecting schools as they balance security with fire and life safety and to propose solutions to those problems. Upcoming meetings of several NFPA technical committees are expected to include discussion of provisions for blending school security with fire safety, which could lead to changes in the 2018 edition of NFPA 101.

Conclusion

The instinctive reaction to the fear surrounding school shootings is to do everything possible to protect students and teachers from being in the line of fire. The desire to react quickly and within budgetary restrictions sometimes leads to choices that may solve one problem but inadvertently create others. The requirements for free egress, fire protection and accessibility must be considered in conjunction with the need for security. Unauthorized lockdown and emergency responder access are important considerations,

although they are not currently addressed by the model codes.

Changes made to codes or laws at a national level would establish more consistent requirements than addressing this issue individually. When a jurisdiction chooses to modify the model codes, requirements should be prescriptive, and an all-hazards approach should be taken, considering not just active shooters and terrorism but also fire, severe weather, natural disasters and other types of emergencies.

The reasoning behind proposed changes is often based on the misconception that barricading the door is the only way to protect students and teachers in the classroom. There are code-compliant locks readily available from many lock manufacturers that provide the needed security without compromising safety in favor of lower cost. While locks address one aspect of classroom security requirements, there are other factors to consider, such as the door, frame, glass, key distribution, communication and lockdown procedures.

Many school security experts recommend classroom security locks, which can be locked from within the classroom using a key (mechanical locks) or electronic fob (electrified locks). Other lock functions can also be used, depending on existing conditions, the needs of the facility and the budget. All lock functions that typically would be installed on a classroom door allow free egress as well as authorized access by staff and emergency responders, and they will provide the necessary balance between the security of teachers and students within the classroom and safety for a range of hazards that may occur.



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A Call to Arms for All Locksmiths

A dangerous change to the Arkansas fire code should unite all locksmiths — not just institutional ones.

By John Truempy, ICML, CRL, CMIL, IFDI

RECENTLY, I BECAME AWARE OF A CHANGE TO THE ARKANSAS FIRE CODE by an industry friend, Edward Marchakitus, that I believe is dangerous.

Ed sent me a message asking if I'd heard about a proposed fire code change in Arkansas. I hadn't been aware of it, but I found the information Ed was talking about on Lori Greene's blog (www.idighardware.com. Search "Arkansas Times"), which is one of the best sources on the Internet for code news and information. Her blog led me to a news story in an Arkansas newspaper

about a politician who was involved with the development of a product designed to protect schools against active shooters. It's one of the many barrier-type locking devices being proposed these days to "improve" classroom security cheaply. The problem with this type of contraption is that it's not your typical lock or exit device; users may not be familiar enough with the device in an emergency, causing it to be a fire hazard. Most of these devices are not permitted by the local fire marshal or authority having jurisdiction (AHJ).

The newspaper reported that the politician, who has a vested interest in one of these products, set out to have the fire code changed to allow these devices and increase sales to schools.

Now, a politician working the system for his own gain is nothing new; in fact it's become cliché, but that's not what outraged me. The change to the code is not only to allow these devices, but also to make it illegal for any fire marshal or code enforcement officer to not allow their use — and not only in schools, but also in other structures classified as an assembly occupancy.

The bill passed unanimously, even against the recommendation of the state's own fire marshal.

I can understand politicians would have a hard time voting against anything that's supposed to help protect children in an active shooter situation. On the other hand, I'm not happy with the rationale that suggests that because school fires are on the decline but active shooters are on the rise, this type of locking system can be used. Yes, school fires — and deaths from fires in schools — may well be decreasing but that's only because of decades of excellent fire code implemen-

tation and associated code enforcement.

The school resource officer and co-inventor of the product in question said, “The chance of having an active shooter and a fire at the same time is something I’ve never heard of.” My response to this ill-informed gentleman would be this: Have you ever heard of Columbine High School? That tragedy involved a firebomb to divert firefighters, propane tanks converted to bombs placed in the cafeteria, 99 explosive devices and bombs rigged in cars. The most killed in a school massacre was 44, with another 58 injured during the Bath School Disaster in Michigan in 1927. The killer in this incident was not an active shooter; he used bombs to cause his carnage.

Lori Greene also brought up another very important fact for her upcoming article for *Doors & Hardware* magazine: On just one day — March 19, 2015 — 16 school districts (including some involving more than one school) went into lockdown, which is a time when these barrier devices may have been used. This is not just a problem for people in Arkansas. The Ohio state senate also is considering a similar bill (Ohio SB125). It can also be expected that the companies that make and sell these barrier products will keep looking for ways to get around informed fire code officials and keep making attempts to change the local fire code.

A Numbers Perspective

The death of a child or young adult in any educational environment is always tragic, and strenuous, passionate debates about how to protect students and staff always follow in their wake. But it’s important to try to put the issues into perspective:

- The worst active shooter event in an educational environment was the Virginia Tech shooting, where 33 people were killed (Note: the shooter barricaded the fire doors himself to slow

“I just don’t think society should be trading one kind of tragedy for the threat of another by taking regressive steps in our life safety regulations.”

the police response and entrap people).

- The worst K-12 active shooter event was the Sandy Hook Elementary School shooting, where 27 were killed. Unfortunately, fire has proven much more deadly, more often.
- Consolidated School New London, TX — 294 deaths
- Lakeview School Collinwood, OH — 175 deaths
- Our Lady of the Angels School Chicago, IL — 95 deaths
- The Cleveland School Kershaw County, SC — 77 deaths

I am not trying to imply that any kind of death is “better.” As you all know, school security has been a top priority my entire time as president of AIL. I just don’t think society should be trading one kind of tragedy for the threat of another by taking regressive steps in our life safety regulations.

Now for the call to arms.

Call to Arms

If you live in either Arkansas or Ohio, please reach out to your local representative and inform him or her of this situation. As president of AIL, I will be sending letters to the governors and key political

leaders of both states. But, as a voter, your contact will have much more impact.

Locksmiths are experts in these matters, and we must make it our mission to inform our institutions that we have proper and code compliant hardware to meet the need for life safety and the need for security in response to an active shooter situation.

My commercial brothers and sisters, you too should be spreading the word.

Tell the schools in your service area. Tell your friends. Tell every teacher and school employee you know. I hope to have an AIL-endorsed guidance document prepared for our members soon so that you can intelligently engage in any discussion regarding classroom security issues with politicians and employers alike.

As locksmiths, we are the experts. We can have an impact. Even if the companies that make and sell these barrier products manage to change the fire code through a few uninformed politicians in some locations, through our sharing of information, educational facilities will have the option to not choose this dangerous route. ☺



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a few years as a commercial locksmith and worked for the State of New Jersey at Trenton State Psychiatric Hospital. As the first president of ALOA Institutional Locksmiths (AIL), the ALOA SPAI division, he has over 15 years of association management experience. He has written many books focusing on both practical and esoteric applications for master key systems, including *Advanced Master Keying Skills* and *Master Key System Specification, Application & Management*. He also teaches both fundamental and advanced locksmith subjects.



Buyer Beware

By Paul Timm
November 1st, 2014

With every active shooter incident, individuals become increasingly desperate to address vulnerabilities. The combination of desperation and well-intentioned product development can sometimes produce buyer's remorse. Items such as clear backpacks, bullet-resistant desk calendars and instructional videos that teach young students how to combat attackers may not be the best school security solutions. In fact, the formula of collaboration and consensus tends to produce the best solutions.

In the wake of the Sandy Hook tragedy, school administrators have been bombarded with after-market devices designed to secure classroom doors. These devices attempt to address a facility design vulnerability. The vast majority of classroom doors open into hallways and have locking mechanisms that can be locked from the outside. As a result, teachers must step into the hallway and around the classroom door in order to secure it. Inventors of after-market devices seek to eliminate this potential exposure to hallway violence.

Despite the promise of greater safety and security, there are a number of reasons to be wary of these products.

The primary issue with these after-market products is the fact that many of them are not compliant with National Fire Protection Association (NFPA) egress codes and the Americans with Disabilities Act (ADA). Some present more safety and liability risks than they solve. The desire to keep intruders out of the classroom must be balanced with the absolute need for egress.

Products which can potentially inhibit egress (or delay the ingress of emergency responders) are not viable alternatives to sound practices, such as keeping classroom doors closed and secured at all times, or an investment in better door hardware, such as locking mechanisms that can be activated from the inside. This point is made even more poignant in light of the fact that incidents, such as fires or criminal acts, are more likely to occur than an active shooter incident. Schools may be tempted to spend a lesser amount of money to show school boards and communities that they are taking actions to address security concerns, but should exercise caution in adopting quick-fix solutions that may just introduce new risks.

Collaboration means bringing in a group of experts to determine the best course of action to simultaneously reduce security risks without violating safety concerns. This group should include the local fire marshal, door hardware manufacturers/experts, and insurance companies. Ultimately, every school is unique in the risks it faces and must be treated that way. Convening a group of professionals to talk about how to improve security without compromising safety is the correct course of action. This approach will not always lead to the least expensive solution, especially in the short term, but is a

necessary step to ensure that schools are balancing competing concerns of safety and security, both of which should be a priority.

First, it is useful to know what kinds of after-market products are available, how they work, and what kinds of risks they may present. Options range from low-cost devices, such as magnets, to more expensive products that block or restrain access from the hallway.

Magnets get placed over door frame strike plates to prevent door locks from latching. The classroom door is always locked, but not latched. As a result, day-to-day operations are not affected because students and staff can freely come and go. In a violence emergency, a teacher does not have to use a key to lock the door, that individual must only remove the magnet so that the door latches.

Unfortunately, a teacher can forget to remove the magnet. On a typical day, if the teacher vacates the classroom, the room is now vulnerable to theft or unauthorized activities. Additionally, a student or intruder can remove the magnet and prevent authorized individuals from entering, especially because teachers that utilize door magnets tend not to carry keys. In an actual incident, the room is readily accessible from the hallway. If the door is closed, the teacher must open the door to remove the magnet.

From a code standpoint, magnets prevent the automatic latching of fire-rated doors as required by the International Fire Code (703.2). Schools that have installed sprinkler systems may not have fire-rated classroom doors. It is common, however, to find schools that have both fire-rated rooms and those that are not required to be rated. From a consistency standpoint, magnets should not be utilized in those cases.

The next level of after-market devices involves products that block and/or restrain access from the hallway. Options include metal pieces that slide over the door closer arm, contraptions that drop bolts into the threshold, and widgets that hook onto door frames or handles. Of course, there are dozens of such products, but most fall into these categories.

Financial considerations and ingenuity are responsible for the advent of these products. After-market product suppliers market the financial disparity between a \$50.00 door restraint device and a \$250.00 lock. If the average school has 50 classroom doors, the multiplier presents a convincing argument. Some vendors even market the hope that insurance providers will offer premium discounts to those that purchase such devices. As mentioned, include your insurance provider in a collaborative effort to determine the best course of action.

Most of these restraining devices violate fire codes that require only one motion to egress a classroom. In other words, removing the device AND turning the handle requires two motions.

Another stumbling block to the use of these after-market devices involves the concept of “special knowledge” in egress. This revolves around the training, however brief, that it might take to become accustomed to these security products. NFPA Life Safety Code 101 specifies that all persons within the building must be able to exit all doors in their path to the outside without “the use of a key, a tool, or special knowledge or effort for operation from the egress side” (NFPA 101, 7.2.1.5.2). Unfortunately, many of these products violate that rule.

Additional problems arise, even if teachers are thoroughly trained on the new products. After all, those that have been trained may not be those who actually have to deploy or remove them during an emergency. A substitute, student, parent, or visitor might have to take on that responsibility.

Further, some of these products will encounter ADA violations if they cannot be deployed or removed by those with disabilities. For the ADA, “a means of egress” constitutes an unobstructed route that cannot be subject to locking from the side that people will be leaving from. Many of these products clearly violate this requirement. In addition, potential deployment and removal issues can further endanger those with disabilities.

The best mechanical recommendation for schools is known as the “classroom security lock” or the “intruder lock.” This solution involves replacing existing exterior locks with mechanisms that can be secured by a key from the inside. Ideally, the teacher should keep that key on an identification badge lanyard that hangs around the neck.

Electronic innovations grant teachers the opportunity to secure classrooms doors with the push of a button.

Schools that cannot afford to replace locks can adopt a practice that requires classroom doors to be closed and locked throughout class periods. This practice affords constant security at all times without the need to manually lock the door in an emergency. It also eliminates the need to enter the hallway to lock the door and, of course, completely complies with egress and ADA codes. This does, however, present a challenge of a different magnitude: inconvenience. If students are constantly moving in and out of the classroom during the school day, it could create interruptions in the class as the teacher or designee would need to let students into the room. The advantages of this practice are clear despite the inconvenience of opening the door when students occasionally report to the classroom.

Local law enforcement officials account for the stakeholder group most likely to endorse after-market products. But door hardware manufacturers would never endorse, let alone produce, these devices simply because they tend to violate NFPA and ADA codes. Products that are not attached to doors must be located and correctly deployed. Products that are attached to doors void door hardware warranties. Perpetrators can use these kinds of devices to keep authorized individuals out of the classroom.

While the installation of classroom security locks is probably the best universal solution to address the active shooter threat, every school is unique in the safety and security challenges it faces. For those pursuing alternative solutions, it is important to consider that some schools have installed after-market devices only to find out that code violations require their removal. Buyer beware! Be sure to involve fire marshals, door hardware manufacturers and insurance providers before investing in aftermarket products. Remember, the formula of collaboration and consensus tends to produce the best solutions.

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Appendix A



School Security – Suggested Classroom Door Checklist

- The door should be lockable from inside the classroom without requiring the door to be opened¹
- Egress from the classroom through the classroom door should be without the use of a key, a tool, special knowledge, or effort²
- For egress, unlatching the classroom door from inside the classroom should be accomplished with one operation³
- The classroom door should be lockable and unlockable from outside the classroom⁴
- Door operating hardware shall be operable without tight grasping, tight pinching, or twisting of the wrist⁵
- Door hardware operable parts should be located between 34 and 48 inches above the floor⁶
- The bottom 10 inches of the “push” side of the door surface should be smooth⁷
- If the school building does not have an automatic fire sprinkler system, the classroom door and door hardware may be required to be fire-rated and the door should be self-closing and self-latching⁸
- If the door is required to be fire-rated, the door should not be modified in any way that invalidates the required fire-rating of the door and / or door hardware⁹

In the Suggested Classroom Door Checklist, “should” is used throughout. However, based upon building codes, life safety codes, fire codes, and federal, state, and / or local laws and regulations that are applicable to a particular school, these requirements may be MANDATORY.

Always check, and comply with, all applicable building and fire codes, life safety codes, and laws, regulations and other requirements.

¹ To help protect teachers and students in the classroom, the classroom door should be lockable from in the classroom without requiring the door to be opened.

² Building codes, life safety codes, and fire codes require doors in the means of egress to be openable without the use of a key, a tool, special knowledge, or effort to ensure all occupants have the ability to evacuate the building quickly and easily in an emergency situation

³ Building codes and fire codes require doors in the means of egress to be unlatched with only one operation. Door hardware which requires more than one operation to unlock / unlatch the door is not allowed.

⁴ To allow securing the classroom during times the classroom is not occupied; and to allow access to the classroom at all times by authorized personnel.

⁵ Building codes, fire codes, and Federal accessibility laws require door hardware to be operable without tight grasping, pinching, or twisting of wrist to ensure all occupants have the ability to operate and open the door.

⁶ Building codes, fire codes, and Federal accessibility laws require the operable components of door hardware, such as lockset lever handles, to be located within a relatively small range of height (34” to 48” above the floor). Door hardware which requires reaching above 48” to operate or requires reaching below 34” to operate is not allowed.

⁷ Building codes and Federal accessibility laws require the bottom 10” of the push side of the door to be a smooth surface.

⁸ If the school building is not protected by a fire sprinkler system installed and maintained in accordance with building and fire code requirements, most building codes and fire codes require classroom doors which open to an interior corridor to be fire-rated. Doors required to be fire-rated are also required to be self-closing and self-latching to ensure the fire-rated door is closed and latched in the event of a fire. Classroom doors that open directly to the outside are usually not be required to be fire-rated. Classroom doors in a school building protected by a code-compliant fire sprinkler system may not be required to be fire-rated, and may not be required to be self-closing and self-latching.

⁹ To ensure the fire rating of a door is maintained, modifications or alterations to doors required to be fire-rated are required to be done under the supervision of the door manufacturer or by a company specifically authorized by the door manufacturer.

References for Suggested Classroom Door Checklist

1st Item in Checklist

- Assumes increasing the security of classroom doors by adding hardware that is lockable from the inside is under consideration; and assumes if this is not the situation, then this document is irrelevant.
- Is consistent with Recommendation No. 1 of the “Final Report of the Sandy Hook Advisory Commission”, March 6, 2015, available here: http://www.shac.ct.gov/SHAC_Final_Report_3-6-2015.pdf and copied below.

RECOMMENDATION NO. 1: The SSIC Report includes a standard requiring classroom and other safe-haven areas to have doors that can be locked from the inside. The Commission cannot emphasize enough the importance of this recommendation. *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.*

Accordingly, the Commission reiterates its recommendation that all classrooms in K-12 schools should be equipped with locked doors that can be locked from the inside by the classroom teacher *or substitute*.

- The “SSIC report” (School Safety Infrastructure Council report) is available here: <http://das.ct.gov/images/5510/Security%20Report%20June27.pdf>

2nd Item in Checklist

- The requirements of these International Building Code (IBC) and International Fire Code (IFC) codes are pasted below.
 - 2006 IBC Section 1008.1.8
 - 2006 IFC Section 1008.1.8
 - 2009 IBC Section 1008.1.9
 - 2009 IFC Section 1008.1.9
 - 2012 IBC Section 1008.1.9
 - 2012 IFC Section 1008.1.9
 - 2015 IBC Section 1010.1.9
 - 2015 IFC Section 1010.1.9

Door operations. Except as specifically permitted by this section egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort.

- Requirements of Section 7.2.1.5.3 of 2012 NFPA 101 Life Safety Code, and Section 7.2.1.5.3 of 2015 NFPA 101 Life Safety Code:

7.2.1.5.3 Locks, if provided, shall not require the use of a key, a tool, or special knowledge or effort for operation from the egress side.

3rd Item in Checklist

- The requirements of these International Building Code (IBC) and International Fire Code (IFC) codes are pasted below.
 - 2006 IBC Section 1008.1.8.5
 - 2006 IFC Section 1008.1.8.5
 - 2009 IBC Section 1008.1.9.5
 - 2009 IFC Section 1008.1.9.5
 - 2012 IBC Section 1008.1.9.5
 - 2012 IFC Section 1008.1.9.5
 - 2015 IBC Section 1010.1.9.5
 - 2015 IFC Section 1010.1.9.5

Unlatching. The unlatching of any door or leaf shall not require more than one operation.

- Requirements of Section 7.2.1.5.10 of 2012 NFPA 101 Life Safety Code, and Section 7.2.1.5.10 of 2015 NFPA 101 Life Safety Code:

7.2.1.5.10* A latch or other fastening device on a door leaf shall be provided with a releasing device that has an obvious method of operation and that is readily operated under all lighting conditions.

7.2.1.5.10.2 The releasing mechanism shall open the door leaf with not more than one releasing operation

4th Item in Checklist

- Criteria 6.15 of the SSIC standards provided in the draft “Final Report of the Sandy Hook Advisory Commission” require classroom doors to “allow for quick release in the event of an emergency”:

6.15. Classroom door locks shall be easy to lock and allow for quick release in the event of an emergency.

5th Item in Checklist

- The requirements of these International Building Code (IBC) and International Fire Code (IFC) codes are pasted below.
 - 2006 IBC Section 1008.1.8.1
 - 2009 IBC Section 1008.1.9.1
 - 2012 IBC Section 1008.1.9.1
 - 2015 IBC Section 1010.1.9.1

Hardware. Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11 shall not require tight grasping, tight pinching or twisting of the wrist to operate.

- 2006 IFC Section 1008.1.8.1
- 2009 IFC Section 1008.1.9.1
- 2012 IFC Section 1008.1.9.1
- 2015 IFC Section 1010.1.9.1

Hardware. Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11 of the *International Building Code* shall not require tight grasping, tight pinching or twisting of the wrist to operate.

- The U.S. Department of Justice 2010 ADA Standards for Accessible Design are applicable to classroom doors.

404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and other *operable parts* on doors and gates shall comply with 309.4.

309.4 Operation. *Operable parts* shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.

6th Item in Checklist

- The requirements of these International Building Code (IBC) and International Fire Code (IFC) codes are pasted below.
 - 2006 IBC Section 1008.1.8.2
 - 2006 IFC Section 1008.1.8.2
 - 2009 IBC Section 1008.1.9.2
 - 2009 IFC Section 1008.1.9.2
 - 2012 IBC Section 1008.1.9.2
 - 2012 IFC Section 1008.1.9.2
 - 2015 IBC Section 1010.1.9.2
 - 2015 IFC Section 1010.1.9.2

Hardware height. Door handles, pulls, latches, locks and other operating devices shall be installed 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finished floor.

- Requirements of Section 7.2.1.5.10.1 of 2012 NFPA 101 Life Safety Code, and Section 7.2.1.5.10.1 of 2015 NFPA 101 Life Safety Code:

7.2.1.5.10.1 The releasing mechanism for any latch shall be located as follows:

- (1) Not less than 34 in. (865 mm) above the finished floor for other than existing installations
- (2) Not more than 48 in. (1220 mm) above the finished floor.

- The U.S. Department of Justice 2010 ADA Standards for Accessible Design are applicable to classroom doors.

404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and other *operable parts* on doors and gates shall comply with 309.4. *Operable parts* of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground.

7th Item in Checklist

- The requirements of these International Building Code (IBC) codes are pasted below.
 - 2006 IBC Section 1008.1.8.5
 - 2009 IBC Section 1008.1.9.5
 - 2012 IBC Section 1008.1.9.5
 - 2015 IBC Section 1010.1.9.5

1101.2 Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A117.1.

The 2006 and 2009 editions of the IBC reference the 2003 ICC A117.1; the 2012 and 2015 editions of the IBC reference the 2009 ICC A117.1. Both these editions of ICC A117.1 require:

404.2.9 Door Surface. Door surfaces within 10 inches (255 mm) of the floor, measured vertically, shall be a smooth surface on the push side extending the full width of the door.

- The U.S. Department of Justice 2010 ADA Standards for Accessible Design are applicable to classroom doors.

404.2.10 Door and Gate Surfaces. Swinging door and gate surfaces within 10 inches (255 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate.

8th and 9th Items in Checklist

- The 2006 IBC in Chapter 10 requires corridors in Occupancy Group E to have a fire resistance rating of 1 hour (if the occupant load served by the corridor is greater than 30) if the building does not have an approved fire sprinkler system. This section of the 2006 IBC requires these corridor walls to comply with the requirements for fire partitions of Section 708.
 - 2006 IBC Section 708 requires openings in corridors to be protected by opening protectives complying with IBC Section 715.
 - 2006 IBC Section 715 requires fire doors to be self-closing, and to have an active latch which will secure the door when closed.
 - 2006 IBC Section 715 requires minimum 20 minute rated fire doors in corridor walls serving as fire partitions. Section 715 requires these fire rated doors to comply with NFPA 252 or UL 10C, and requires fire door assemblies to be labeled by an approved agency. The labels are required to comply with NFPA 80.
 - Summarizing: If the classroom doors to the corridor are required to be fire rated, then the classroom doors – assembled of only labeled components such as frame, door panel, and door hardware with minimum 20 minute fire rating – are required to be self-closing and self-latching, and are to be modified only when following the procedures and requirements of the door manufacturer and / or hardware manufacturer to ensure the required fire rating is maintained.
- The 2006 IFC in Section 703 requires the required fire-resistance rating to be maintained.
- Subsequent editions of the IBC and IFC retain these requirements but the specific sections are revised.