

## HIGH USE BUILDINGS AND THE SELECTION OF CODE-COMPLIANT HARDWARE

by Brian Clarke, AHC, CDT, CSI

Given the unfortunate rise in security breaches, especially active shooter and other violent incidents, it is more important than ever for schools, hospitals, office buildings, and other facilities to keep occupants safe and control foot traffic while still being code-compliant. This can be accomplished with access control using electrified locks or electrified panic hardware along with many other configurations of electronic door hardware.

Even a simple buzzer used in conjunction with an electric strike can provide remote release of a locked door by administration. When specifying a high use building, such as a school or office building, it is important for architects and specifiers to keep in mind that any access control must allow free means of egress, fire protection and accessibility. An accessible means of egress, as defined by the International Building Code (IBC), is a "continued and unobstructed way of egress travel from any point in a building or facility that provides an accessible route to an area of refuge, a horizontal exit, or a public way."

There are three parts to a means of egress:

Exit access, exit and exit discharge. The exit access starts at any location from within the building and ends at the exit. An exit is typically a door leading to the outside or an enclosed exit stairway in a multi-storied building. Exit discharge is the path from the exit to a public way (a space permanently deeded and dedicated to public use).

The IBC requires at least two means of egress from all buildings and spaces within buildings. Spaces and buildings with 500 or more occupants are required to have at least three means of egress and for more than 1,000 occupants there need to be at least four means of egress.

The IBC is intended to be adopted in accordance with the laws and procedures of a governmental jurisdiction. When adopting a model code like the IBC, some jurisdictions amend the code to reflect local practices and laws.

When specifying door hardware for a high-use building, the level of security needed for that facility will help shape the type of product required. Building flow or traffic is a good starting point for facility directors and architects to determine which doors will be the main entry ways to and from the building.

The National Associations of State Fire Marshals has guidelines that address door security devices for classroom openings. These guides – included as part of the IBC, NFPA 101, NFPA 80, and ANSI/ICC A115.1 – mandate the following:

- Provide immediate egress by having locking devices located between 34" and 48" above the finished floor;
- Not require any special knowledge or effort, nor key or tool, nor require tight grasping, twisting, or pinching to operate, and accomplished with one operation;
- Be easily lockable in case of emergency from within the classroom with an authorized credential (key, card, code, fob, fingerprint, etc.) and without opening the door;

• Lockable and unlockable from outside the door with an authorized credential.

### Code Restrictions and Dangers of Barricade Devices

Unfortunately, there has been a rise in the recommendation of so called "barricade devices." These products, while securing a door opening from unwanted ingress, do not take into account the fire and building codes that have been put into place to maintain safety for occupants and first responders.

A few states have passed laws that allow these devices to be used as viable options, against the advice of their State Fire Marshalls, Building Code Officials and various other officials. A report by Ohio's building codes board, which was critical of the devices, states the devices are "unlisted, unlabeled, and untested." Lawmakers in Ohio approved the devices following testimony from manufacturers of the devices and parents of school children. Several door and hardware industry experts also testified against the use of such products, but to no avail in limiting the use of barricade devices.

The Builders Hardware Manufacturers Association (BHMA) has addressed the classroom locking issue by proposing a change to the 2018 edition of the IBC and clarifying codes that are already in place.



Hopefully the new language will help educate those that still believe barricade devices are the solution; however, these codes will only go into effect when adopted by a specific state or jurisdiction.

The 2018 edition of the IBC will address school security by including the following:

**1010.1.4.4 Locking arrangements in educational occupancies.** *In Group E and Group B education occupancies, egress doors from classrooms, offices and other occupied rooms shall be permitted to be provided with locking arrangements designed to keep intruders from entering the room where all the following conditions are met:*

1. *The door shall be capable of being unlocked from outside the room with a key or other approved means;*
2. *The door shall be openable from within the room in accordance with Section 1010.1.9;*
3. *Modifications shall not be made to listed panic hardware, fire door hardware, or door closers.*

**1010.1.4.4.1 Remote operation of locks.** *Remote operation of locks complying with Section 1010.1.4.4 shall be permitted. This code change will require all Group E classroom doors to be lockable from the inside of the classroom preventing entry to the classroom, without the need to open the door. This proposal does not prescribe specifically how the door is to be lockable from inside the classroom.*

In the aftermath of the Columbine tragedy in 1999, the classroom intruder function was developed allowing a lock to be secured from the interior of a classroom, while still allowing free egress from the inside and entry from the outside using a key.



The classroom intruder function is readily available by lock manufacturers today, at a similar cost as the traditional classroom function locksets.

Additional requirements state that the door is to be unlockable and readily openable inside the classroom without the use of a key or special knowledge or effort, as required in IBC Section 1010.1.9. Subsections of 1010.1.9 include requirements for hardware height and for hardware configuration. An additional requirement of this proposal is that the classroom door is to be unlockable and openable from outside the classroom by a key or other lock credential.

This proposal balances the challenges of providing protection of students and teachers in the schools and allowing free and immediate means of egress at all times without the use of keys, tools, or special knowledge.

Both NFPA 101 and the International Fire Code (IFC) have similar wording under development. These codes will not take effect immediately and the debate around the use of barricade devices will continue to be controversial long after these codes are implemented.

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