



Looking Ahead to the **2027 I-CODES**

This article takes a deep dive into interlocks in a means of egress and mandatory locks in educational facilities.

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The model codes that are used as the basis for most U.S. state building codes and fire codes are published by the International Code Council (ICC) and the National Fire Protection Association (NFPA). The codes commonly referred to for requirements related to door openings are the International Building Code (IBC), the International Fire Code (IFC) and NFPA 101 - Life Safety Code.

These codes are revised on a three-year schedule through a code development cycle that includes proposal submissions, several rounds of technical committee hearings and public comments, resulting in the approval of the new model codes. States and local jurisdictions may then adopt these codes, often modifying them to address specific local requirements.

Many states have already adopted the 2021 editions of the model codes, and the 2024 editions are now available for adoption. The development cycle for the 2027 model codes is underway, and the Builders Hardware Manufacturers Association (BHMA) Codes, Government and Industry Affairs Committee (CGIA) has submitted several dozen proposals for consideration. The committee also monitors proposals from other organizations and individuals to determine their impact on the door and hardware industry.

Several important changes and clarifications have already been approved for inclusion in the next editions of the I-Codes and are expected to become part of the IBC and IFC. While changes do not apply until the code is adopted in a particular jurisdiction, they are often used as a basis for modification requests submitted to the Authority Having Jurisdiction (AHJ).

Many changes are clarifications to help with consistent interpretations and enforcement. These clarifications may be helpful even before the new codes are officially published.

This article will cover just two of the many changes to the 2027 I-Codes that will impact doors and hardware once finalized. For complete information on the ICC code development process, refer to [ICCsafe.org](https://www.iccsafe.org).

Mandatory Locks in Educational Facilities (Proposal E57-24)

During the 2018 code development cycle, the topic of safely locking classroom doors in educational facilities was discussed at length. While some proponents of classroom barricade devices suggested that the code requirements for egress should be compromised to prioritize security, others opposed that view.

Historically, locksets have provided the necessary level of security during school shootings while also meeting code requirements for egress, fire protection and accessibility.

The 2018 I-Codes introduced a section titled “Locking arrangements in educational occupancies,” addressing



Group E and Group B educational occupancies, including schools, colleges and universities. This section allows locks on doors serving classrooms, offices and other occupied rooms, provided they meet specific criteria, including the ability to be unlocked from the outside with a key or other approved means. This allows school staff and emergency responders to quickly enter the room to render aid.

The new section emphasized that these doors must be openable from within the room in accordance with the requirements of Section 1010.1.9. Among other requirements, this section mandates that doors used for egress must open with one releasing motion. They must not require a key, special knowledge or effort and must operate without tight grasping, pinching or twisting of the wrist.

The requirements of this section of the I-Codes did not change much from the 2018, 2021 and 2024 editions. Doors in schools and other educational facilities are permitted to be locked if they provide authorized access, allow free egress and comply with accessibility standards.

Unfortunately, several school shootings have demonstrated the need for additional code changes. Starting with the 2027 edition of the IBC, doors in schools, day care centers, colleges and universities will be required to be lockable, rather than merely permitted to be lockable. The requirements apply to classrooms, offices and other occupied rooms in the applicable use groups. Additionally, the 2027 IBC will specify that doors shall be capable of being locked from inside the room.

The new code will also include locking requirements for exterior entry doors in these facilities. Exterior doors must be lockable from the egress side of the door without requiring the door to be opened to lock or unlock the outside trim. This section will also require at least one door on each building face to be able to be unlocked from the outside with a key or other approved means.

These modifications to the 2027 IBC aim to ensure that doors in schools can be locked without opening them while allowing emergency responders to enter. This will enhance security and safety protocols for students and staff, facilitating lockdowns and reducing emergency response time.

Interlocks in a Means of Egress (Proposal E61-24)

An interlock (also known as a control vestibule, airlock or mantrap) is a vestibule with two or more doors in series, where only one door can be opened at any given time. This application is commonly used to limit air transfer or for security. For example, in a data center, a control vestibule may slow the passage of technicians to verify their identity. The technician opens one door to enter the vestibule, which causes the other door(s) to lock until the first door closes. The technician can then open another door to exit the vestibule. Interlocks are also frequently

used in laboratory clean rooms and infection control areas in health care facilities.

Electrified hardware is used to facilitate the coordination of doors in a control vestibule. The most common setup uses electromagnetic locks on each door controlled by door position switches. When one switch signals an open door, the mag-lock on the other door remains locked until the switch signals that the open door has closed. Other types of fail-safe electrified locks can also be used.

Current model codes do not include prescriptive requirements for interlocks in occupancies other than detention or correctional facilities. Each proposed control vestibule must be submitted to the AHJ for approval. This can lead to inconsistent operation from one project to the next regarding safety overrides and emergency release methods. Because an interlock can inhibit egress, it is crucial to address the required operation of these doors during emergencies.

A change addressing control vestibules has been approved for the 2027 edition of the I-Codes, and a proposal is in the works for the 2027 edition of NFPA 101 – Life Safety Code. Until these editions are adopted in a jurisdiction, it will be up to the AHJ to decide how to evaluate a proposed control vestibule. However, the approved section provides some guidance for these applications and can be used as the basis for a code modification request prior to adoption of the new code.

For the 2027 I-Codes, proposal E61-24 addresses the following requirements:

- **Definition:** The I-Codes will define a control vestibule as “a space with doors in series that are interlocked such that when one door is open other doors are restricted from opening.”
- **Use group or occupancy classification and occupant load:** The 2027 I-Codes will permit control vestibules in the means of egress for security, environmental control or clinical needs in:
 - » Groups F (factory industrial), H-3, H-4, H-5 (high hazard), I-1, I-2 (institutional) and S (storage) where the occupant load of the room or space served by the control vestibule is less than 50.
 - » Groups B (business) and M (mercantile) where the occupant load of the room or space served by the control vestibule is 10 or less.
- **Fire suppression/detection systems:** The new section will require the building to either be equipped throughout with an automatic sprinkler system, or for the room or space served by the control vestibule to have an approved automatic smoke detection system. Activation of these systems must deactivate



A new section has been approved for the 2027 I-Codes that will address interlocks, also known as control vestibules.

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the interlock function of the control vestibule doors to facilitate immediate egress through the vestibule. This requirement also applies to areas that have an emergency alarm system for hazardous materials.

- **Door operation:** Doors in control vestibules must swing in the direction of egress travel (except for power-operated doors in accordance with Section 1010.3.2) and must be equipped with self-closing devices.
- **Power failure:** As with other special locking arrangements, loss of power must result in the deactivation of the interlock function of the doors in the control vestibule, allowing free egress. Fail-safe locks will operate as required by code, as they unlock upon loss of power.
- **Egress-side override:** If one door in a control vestibule fails to close, it will prevent the operation of the other doors. To address this potential barrier to egress, an override switch is required on the egress side of each door. Operation of the switch must result in direction interruption of power to the electrified locks — independent of the other electronics — and the locks must remain unlocked for at least 30 seconds. An audible alarm could be incorporated to deter use of the override switch in non-emergency conditions, although this is not crucial for life safety and is not required by the code. The code addresses the required location of these override switches.
- **Signage:** Signage is required with instructions on the use of the interlock override switches to ensure that building occupants understand how the control vestibule operates under emergency conditions.
- **Number of control vestibules:** To minimize the effect on egress, the I-Codes will state that the egress path from any point in the building shall not pass through more than one control vestibule.

- **UL listings:** The model codes require some types of electrified hardware to be listed to UL 294 (Standard for Access Control System Units) or to UL 1034 (Standard for Safety for Burglary-Resistant Electric Locking Mechanisms). These listings are typically required when the hardware could affect egress, and electrified locks used in a control vestibule must be listed to one of these standards.

These considerations are not yet included in the model codes but should be addressed when designing a control vestibule that will be submitted to the AHJ for approval. In some jurisdictions, there may be local code modifications related to this application; it's also possible that a jurisdiction could prohibit control vestibules. Including the new requirements in the 2027 model codes will help to ensure a more consistent approach to these special locking arrangements.

There are many additional changes and clarifications in various stages of the 2027 code development cycle that will affect doors and hardware.

To give just a few examples, modifications in progress address delayed egress locks, double egress pairs, a second releasing motion for doors serving individual bedrooms in dormitory suites as well as individual restrooms. The omission of door closers on fire doors serving assisted living units is still up for discussion, as is the degree of opening for testing the closing and latching of fire doors.

Watch for future Decoded articles addressing these and other changes, and refer to the code publications for complete information. +

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