Q&A from Webinar 6 – 2021 Model Code Update
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August 26, 2021

1) When will the 2021 model codes be available?

The 2021 IBC and 2021 NFPA 101 are available now, as well as the 2021 NFPA 101 Handbook. The 2021 IBC Commentary will be available soon.

More info: https://www.nfpa.org/101, https://shop.iccsafe.org/2021-international-building-coder.html

2) Does the Allegion Code Reference Guide cover past codes or only the 2021 editions?

The Code Reference Guide has recently been updated to include the 2021 code changes, but also includes information from past codes and standards. The guide can be downloaded from iDigHardware, or you can request hard copies using the link below.

More info: https://idighardware.com/guide/

3) You mentioned that the typical access control system is not a special locking arrangement. Is there any documentation to support that?

There will be more documentation soon. BHMA is attempting to add a section to the model codes addressing the type of access control system that controls access but does not affect egress, so AHJs will have a specific section to refer to rather than trying to apply one of the special locking arrangements sections. The code change proposal for the 2024 IBC and the resulting discussion among the ICC technical committee members has been posted on iDigHardware (see below). The 2021 IBC Commentary should include more information to support this interpretation, but it has not been published yet. There is an ICC staff opinion regarding UL 294 specifically, which was helpful in clarifying a recent misinterpretation by an AHJ:

Situation: On the egress side of a door in the means of egress, there is panic hardware that mechanically retracts the latch of the panic hardware – typical panic hardware functionality. On the ingress side of this door, there's an access control system with a card reader and / or keypad, and when the correct credential is presented (magnetic card swipe or code entered), the access control system electrically retracts the latch of the panic hardware. The panic hardware is such that regardless of the status of the access control system – electricity on or off, or during access events or not – an occupant on the egress side of the door can push the actuating bar of the panic hardware to mechanically retract the latch while pushing the door open.

Question: In the situation described, which components of this access control system are required to be listed to UL294?

ICC Staff Answer (referencing 2018 IBC): There is electrified hardware on this door (the panic hardware with a latch that is retracted electrically or mechanically). With that in mind, reviewing the electrical locking systems permitted in the 2018 IBC in sections 1010.1.9.7 through 1010.1.9.10, we can observe that none of these "shall be permitted" electrical locking systems should be applied to this situation.

Here's why: The door in this situation is obviously not a controlled egress door or delayed egress door (Sections 1010.1.9.7 and 1010.1.9.8, respectively). This door does not have a sensor on the egress side of the door unlocking an electrical locking system (Section 1010.1.9.9). And, operation of the door hardware on the egress side of the door does not activate a switch to cause an electrical lock to unlock (Section 1010.1.9.10). These four sections of the IBC are the (only) door locking systems in the IBC which include requirements to be listed to UL 294, and none of these four code sections are applicable to this situation. Thus, there are no components of this access control system required to be listed to UL 294 per the 2018 IBC.

Additionally, it should be inferred that electrical door hardware to which none of the "shall be permitted" electrical locking arrangements apply would need to comply, on the egress side of the door, with the requirements for single motion egress, hardware operational forces, and be readily operable without a key, special knowledge, or effort.

Code opinions issued by ICC staff are based on ICC-published codes and do not include local, state or federal codes, policies or amendments. This opinion is based on the information which you have provided. We have made no independent effort to verify the accuracy of this information nor have we conducted a review beyond the scope of your question. This opinion does not imply approval of an equivalency, specific product, specific design, or specific installation and cannot be published in any form implying such approval by the International Code Council. As this opinion is only advisory, the final decision is the responsibility of the designated authority charged with the administration and enforcement of this code.

More info: https://idighardware.com/2021/08/ibc-e49-21-normal-locking-arrangements/

4) Does TIA 1436 which changed NFPA 101 2018 allow two releasing motions on all classroom doors?

No. This is something to be very careful about if a school district wants to add hardware that will require a second releasing motion for egress. The change allowing a second releasing motion applies only to existing schools in jurisdictions where the 2018 edition or 2021 edition of NFPA 101 has been adopted (or where allowed by a local code modification). The IBC and IFC do not allow a second releasing motion for egress from classrooms, so where these codes are adopted without a modification to the applicable section, only one releasing motion is allowed. There are additional criteria in NFPA 101 that must be met, so in jurisdictions that have adopted NFPA 101-2018 or 2021, any hardware added to existing classroom doors must comply with all of the criteria. Note: The second releasing motion is not intended to be allowed on doors equipped with panic hardware.

More info: https://idighardware.com/2019/10/decoded-two-releasing-operations-for-egress-december-2019/

5) Regarding the accessible public entrances that will now require automatic operators – where can I find the list of use groups and occupant loads?

This change is found in the 2021 edition of the IBC, in Section 1105.1.1. The requirements affect accessible public entrances in the use groups/occupant loads shown in Table 1105.1.1.

TABLE 1105.1.1
PUBLIC ENTRANCE WITH POWER-OPERATED DOOR[a]

OCCUPANCY	BUILDING OCCUPANT LOAD GREATER THAN
A-1, A-2, A-3, A-4	300
B, M, R-1	500

a. In mixed-use facilities where the total sum of the building occupant load is greater than those listed, the most restrictive building occupant load shall apply.

Refer to the link below for detailed descriptions of these use groups.

More info: https://idighardware.com/2021/04/code-update-automatic-operators-on-public-entrances/, https://idighardware.com/2021/04/qq-use-groups-requiring-auto-operators/

6) I have a lot of hospitals asking about changing their delayed egress locks to controlled egress locks. Is that acceptable?

Remember that controlled egress locks are only allowed in health care facilities – on doors serving units where patients require containment for their safety or security. In some cases, existing delayed egress locks can be changed to controlled egress functionality. The model codes include extensive requirements that apply to controlled egress systems, and it's important to refer to the adopted code for specifics. Webinar 5 on the webinars page of iDigHardware is an in-depth review of the requirements for both types of systems. There is also a short video that addresses delayed egress and controlled egress.

More info: https://idighardware.com/webinars/#webinar_5, https://idighardware.com/2016/08/controlled-egress-vs-delayed-egress-video/

7) What section of the IBC is referring to doors required to comply with the code requirements even if the doors are "extra" doors that are not required for egress?

The IBC states: *Doors in the means of egress shall comply with the requirements of Sections 1010.1.1 through 1010.3.4. Exterior exit doors shall also comply with the requirements of Section 1022.2. Gates in the means of egress shall comply with the requirements of Sections*

1010.4 and 1010.4.1. Turnstiles in the means of egress shall comply with the requirements of Sections 1010.5 through 1010.5.4. Doors, gates and turnstiles provided for egress purposes in numbers greater than required by this code shall comply with the requirements of this section.

The IBC Commentary further clarifies the intent: *A door that is intended to be used for egress purposes, even though that door may not be required by the code, is also required to meet the requirements of this section. An example may be an assembly occupancy where four doors would be required to meet the required capacity of the occupant load. But assume the designer elects to provide six doors for aesthetic reasons or occupant convenience. All six doors must comply with the requirements of this section.*

More info: https://idighardware.com/2020/03/decoded-doors-provided-for-egress-purposes/

8) Regarding the requirement for privacy sets with indicators on some single restrooms, wouldn't the deadbolt be a second releasing motion? Are family toilet rooms the same as unisex toilet rooms?

Restroom doors are typically required to unlatch with one releasing motion, so specifying an indicator deadbolt in addition to a privacy set would not be code-compliant in most jurisdictions. The options are to use a privacy set with an integral indicator, or an indicator deadbolt with push/pull hardware. There is also a deadbolt modification available that has an indicator but no bolt – this product does not require a second releasing motion for egress. Not all unisex toilet rooms are family toilet rooms. In the 2021 IBC, Section 1110.2.1 addresses family and assisted-use toilets in depth.

More info: https://idighardware.com/2021/03/wwyd-single-user-restrooms/, https://idighardware.com/2019/08/indicator-deadbolt-2/

9) The Massachusetts accessibility standards require the accessible route to be at least 80 inches high, so the exceptions for hardware projecting into this clear opening height would be in conflict with the Massachusetts requirements.

You're right, Massachusetts 521 CMR does not include an exception for projecting hardware, so local AHJs in Massachusetts may not allow the hardware to project down to the location 78 inches AFF. This is why it's so important to always know what the adopted codes require, as they may be different from the model codes and national accessibility standards.

More info: https://idighardware.com/2019/12/decoded-projections-into-the-clear-opening-height-of-doors-january-2020/

10) Is it correct to say that panic hardware would not be required by the IBC in any locations in a residential (Group R) occupancy, including vertical exit enclosures?

Panic hardware is required by the IBC for doors that lock or latch, in the following locations:

- Group A (assembly) with an occupant load of 50 people or more
- Group E (educational) with an occupant load of 50 people or more
- Group H (high hazard) with any occupant load

Exit enclosure doors in Group R would only require panic hardware/fire exit hardware if there was a Group A (or E) space within the building. For example, if an apartment building contained an event space that residents could use for parties, and the space had an occupant load of 50 people or more, panic hardware would be required for any doors equipped with a lock or latch in the means of egress between the party room and the public way. Of course, panic hardware may be used where it is not required by code, for ease of use, durability, security, etc.

More info: https://idighardware.com/2019/03/qq-panic-hardware-on-residential-occupancies/, https://idighardware.com/2015/08/where-is-panic-hardware-required-by-code-video/

11) If the code says that doors in the means of egress need to swing in the direction of egress, does that mean that an office door must swing out?

Typically, doors are required to swing in the direction of egress when they are serving an occupant load of 50 people ore more. There are some exceptions where doors serving a lower occupant load must also swing in the direction of egress, like doors serving high hazard occupancies and some types of electrical and mechanical rooms. NFPA 101 requires doors leading to an exit enclosure to swing in the direction of egress travel, except when the door serves an individual living unit that opens directly into the exit enclosure.

An individual office door would not normally be required to swing in the direction of egress because the door would not be serving an occupant load of 50 people or more.

More info: https://idighardware.com/2012/10/door-swing-and-encroachment/

12) Which code section addresses securing doors that are serving exterior spaces?

In the 2021 IBC, this information is found in Section 1010.2.4 Locks and Latches - #8.

More info: https://idighardware.com/2020/06/decoded-egress-from-exterior-spaces/

13) For the new section addressing egress from exterior spaces, does the indicator on the key-operated lock need to show "locked" on the interior or exterior side of the door? And would the LED light of a card reader qualify as indication of locked status?

Based on the requirements for key-operated locks on the main entrance of a building (which has some similarities to the new section), I think the indicator should show on the exterior side where occupants can see whether the door is locked or unlocked. But this question is not specifically addressed in this code section. The LED light question is not addressed in the code section either, but I don't think most AHJs would consider it a key-operated device that is readily distinguishable as locked.

More info: https://idighardware.com/2020/06/decoded-egress-from-exterior-spaces/

14) For an enclosed courtyard (assembly occupancy with a load of 50+) where the doors are going to be secured per the new IBC section, is the key-operated lock installed in addition to the panic hardware?

This is not specifically addressed in the new section. With key-operated locks on the main exit of a building, the Commentary clarifies that the key-operated lock is installed instead of the panic hardware. However, if the doors need to latch because of wind or another reason, that latch or lock would have to be panic hardware in this example. Until the code is clarified, this is something that needs to be addressed with the AHJ.

More info: https://idighardware.com/2021/06/qq-panic-hardware-exception/

15) On Herculite doors, do the PA100 tubular push bars qualify as acceptable panic bars?

The key to whether or not a product qualifies as panic hardware is whether it is listed to UL 305 – Standard for Panic Hardware. I believe the PA100 is listed to this standard, although there are stationary push bars that look similar but are not listed panic hardware.

More info: https://idighardware.com/2017/04/decoded-panic-hardware-refresher-may-2017/, https://idighardware.com/2017/07/sensor-bars-for-egress/

16) What type of thumbturns are ADA-compliant, as far as their size and shape?

The accessibility standards are not specific about the size and shape of a thumbturn, but the hardware must be operable without tight grasping, pinching, or twisting of the wrist. This usually requires an elongated thumbturn that pivots from the end instead of the center.

More info: https://idighardware.com/2010/08/accessible-thumbturns/

17) I have used lever type exit hardware that simultaneously turns a deadbolt. I suppose that would qualify as a one motion/operation?

Yes, if you turn a lever and it retracts the latchbolt and deadbolt, that would be considered one motion for egress.

More info: https://idighardware.com/2020/12/bhma-a156-41-standard-for-door-hardware-single-motion-to-egress/

18) If a card reader is used as an actuator for an automatic operator, is a safety sensor required?

An access control reader is considered a “knowing act”, so a low-energy operator that is actuated by a card reader would not have to comply with A156.10 and therefore would not require safety sensors.

More info: https://idighardware.com/2013/08/decoded-actuators-for-low-energy-operators/

19) On a door with an electromagnetic lock, is a wave-to-open switch acceptable, or is another release device required?

The model codes do not allow an auxiliary push button or wave sensor next to the door to be the only means of releasing an electromagnetic lock. These switches would be used in conjunction with a sensor that detects an approaching occupant and unlocks the mag-lock.

More info: https://idighardware.com/2021/06/qq-auxiliary-push-button/