

DECODED:

New Occupant Load Requirements for Panic Hardware

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From the well-known blog idighardware.com, Lori Greene brings some much-needed clarity to codes.

I started studying code requirements related to hardware in the mid-'90s, and I decided to conduct a little "survey" to see if my fellow hardware consultants could benefit from having a resource for code information. The survey question was, "When is panic hardware required by code?" and I got quite a few different answers! Although the answer does vary slightly depending on which code and which edition is being referenced, the answer shouldn't be all that variable. Since then, I've probably answered that question hundreds of times, which has led me to the conclusion that the hardware industry could use more information about codes.

In the 2000 and 2003 editions of the International Building Code (IBC), panic hardware was required on egress doors serving Educational and Assembly Occupancies with an occupant load of 100 people or more (as well as certain High Hazard occupancies). The 2006 and 2009 editions of the IBC require panic hardware on these occupancy types with an occupant load of 50 people or more (and all High Hazard occupancies). Since the occupant load is determined by the area of a room divided by a required number of square feet per person (the factor varies by occupancy type), this means that panic hardware is required for much smaller rooms when referencing the newer editions of the IBC.

For example, imagine a multi-purpose room in a school project that has an area of 600 square feet. The room will sometimes be used for presentations in which the students will sit on the floor, so I would consider it Assembly space with a potential for concentrated use. The IBC uses a factor of 7 square feet per person for concentrated assembly space without fixed seating (Table 1004.1.1 in the 2009 edition). 600 square feet divided by 7 square feet per occupant = 86 occupants. The doors to this room would not have required panic hardware per the 2000 and 2003 editions of the IBC, but they do require panic hardware per the 2006 and 2009 editions.

Other requirements for panic hardware include:

- The actuating portion of the panic device must be at least half the width of the door.
- The maximum unlatching force shall not exceed 15 pounds.
- Panic hardware used on balanced doors must be touchpad type, and the touchpad must not extend more than half the width of the door measured from the latch side.
- Doors serving electrical rooms with equipment rated 1,200 amperes or more and over 6 feet wide that contain overcurrent devices, switching devices or control devices require panic hardware per the IBC. There

are additional locations for panic hardware required by the National Electric Code.

- There is an exception for certain Assembly occupancies where key-operated locks may be used. Consult the IBC for more information.

Here are the applicable excerpts from the 2009 International Building Code:

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 or E occupancy shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.*

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 overcurrent 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.

Note: NFPA 101 – The Life Safety Code has not changed the threshold for occupant load in regard to panic hardware as of the 2009 edition, so the 100-occupant figure still applies to projects where NFPA 101 is being enforced. The requirements for High Hazard occupancies also differ between NFPA 101 and the IBC, so consult the pertinent code for more information. 

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