BCAC MOE list of changes to consider PC

IBC 10-4/IRC 3-1 - EERO
E108-D – not an errata like Jeff Inks said
E109-D committee confused this size with door allowances

IBC 10-7 –delayed egress locks
E58-D – agreed with idea, but should be all courtrooms, not just Group A-3

IBC 10-5 – social stairway
E106-D – Masha and Jake stood up in support. No BCAC representative there. Testimony all agreed and committee reason said they wanted what was in proposal. Use "type of assembly seating" instead of 'social stairway'

IBC 10-10 – vestibules from SEPCAC
E51 – D – vestibule pointer

IBC 10-1 – electrical rooms
E64-AM – electrical rooms, see reason
E15-AS – PC to add this to the list for panic hardware

Other MOE related –
E86 – AM – Greg's modification is a bust of a 2nd floor with exit access requirements rather than 'exit'.
E38 –AM – Egress courts pulled out of exit discharge with no general scoping paragraph.

IBC 10-9 - Occupied roofs
E18-AM – Dave Collins is going to put in public comment for AS.
E22-D – single exit occupied roof
E29-D/E30-AS – standby power on elevator for 4 story building with occupied roof

IBC 4-3/IBC 2-3 - Atriums
G1-D – definition
G2 -D– definition
G26 AS – atriums in malls
G30—AS- general
G31- AS move MOE to Chapter 10
G32 -AM– smoke control
G33 –AS- horizontal separation
G34 –AM- fire protective curtain assembly
G35 – AS exit stairway in atrium
E18-AM – miss on atriums travel distance, modification set this to be an exit access stairway from occupied roofs.
E19 – D – committee said travel distance should be down the stairway.
E20 – D – disapproved because did not atrium as exit
E96-D – most of testimony said should not be exit stairway in atrium

Teleconference 5-29-2018 from 10 to noon Eastern.

Attending:

Jim Smith
George O'Neil
Cesar Lujan
Greg Grew
Lane Montz
Dave Collins
Mike Nugent
Marc Nard
Glen Overcash
Sarah Rice
Patrick Granson
Jack Applegate
John Paul Cardin

See notes after each proposal for information.
Next meeting is Tuesday, June 5, 2108 from 10-noon Eastern.

Public Comments – E64, E15 Part 1, E108, E109, E106, E58, E22, E30, E51, E86, E38

Notes/Outstanding from 5-29-2018 teleconference –

- E106 – discussion - should 2nd handrail be permitted to be continuous?
- E51 – Dave and Sarah to write reason
- E64 – John Taecker to write reason
- E15 Part 1 - John Taecker to write reason and talk to Jeff Shapiro
- E86 – Work group proposed to put egress courts back into exit discharge. Send info to Greg Keith in case he wants to do AM for scoping sentence option.
- E22 – allow for occupied roof on single story building because same as basement. Work group said move with AS, but argued for roof over single story. Upon closer investigation, language of modification is actually more than that. Revisit at June 5 teleconference. Sarah to write reason.

Teleconference 6-5-2018 from 10 to 10:45 am Eastern.

Attending:

Jim Smith
George O'Neil
Cesar Lujan
Lane Montz
Dave Collins
Marc Nard
Sarah Rice
John Paul Cardin
Joe Cain
Mike Anthony
Hakim

See notes after each proposal for information.
Next meeting is Tuesday, June 11, 2108 from 10-noon Eastern.

Notes/Outstanding from 6-5-2018 teleconference –

- E22 – Allow for an occupied roof with a single exit on a single story building because travel is the same as a basement –which is currently permitted. Do not allow for occupied roofs above 3rd floor in Table 1006.3(1) and 2nd floor in Table 1006.3(2) – treat occupied roof the same as a story. Sarah to write reason.
- The work group wanted more time to look at the atrium provisions for exit and exit access stairways because the voting and reasons from the development committees was not consistent. Kim to schedule another meeting for June 11. Kim will try to generate code text for relevant sections in legislative format for next call.

IBC 10-4/IRC 3-1 - EEROs

Notes: 11 code changes for EEROs coordination with IRC. 9 of 11 successful.

E108-18

IBC: 1030.1.1, (IFC[BE] 1030.1.1)
Proponent: Ed Kullik, Chair, representing ICC Building Code Action Committee (bcac@iccsafe.org)

2018 International Building Code
Revise as follows:
1030.1.1 Operational constraints and opening control devices. *Emergency escape and rescue openings* shall be operational from inside the room without the use of keys or tools. Window-opening control devices ~~complying with ASTM F2090~~ ~~shall be permitted for use~~ on windows serving as a required *emergency escape and rescue opening* shall comply with ASTM F2090.

Reason:
This is one of a series of 11 proposals to coordinate the Emergency Escape and Rescue Openings (EERO) technical criteria in the IBC and IRC. Please see the proposal for the definition of Emergency Escape and Rescue Openings for additional information. Due to the code development schedule the proposals for IBC will be proposed in Group A and the proposals for IRC will be proposed in Group B.
IBC - Last sentence reworded as a requirement to be consistent with IRC
This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-action-committee-bcac.

Cost Impact
The code change proposal will not increase or decrease the cost of construction .
This is a coordination item for requirements for EEROs already permitted between the codes.

E108-18
Committee Action: **Disapproved**
Committee Reason: There is an errata to the IRC to Section R310.1.1. This will make the current language in the IRC and IBC match, so this revision is not necessary. (Vote 14-0)
Staff Analysis:
The code language in IRC 2018 is as follows:
R310.1.1 Operational constraints and opening control devices. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge. Window opening control devices on windows serving as a required emergency escape and rescue opening shall comply with ASTM F2090.

Public comment for E108-18

Revise proposal as follows:
1030.1.1 Operational constraints and opening control devices. *Emergency escape and rescue openings* shall be operational from inside the room without the use of keys or tools. Window-opening control devices on windows serving as a required *emergency escape and rescue opening* shall comply with ~~ASTM F2090~~ Section 1015.8.

Reason: Not all EEROs are required to have a window opening control device that complies with ASTM F2090. The proposed revision will coordinate with Sections 1015.8. (According to Jeff Inks, the Door and Window manufactures object to the editorial revision in IRC to remove "shall be permitted.")

Notes 5-29-2018: Move ahead

E109-18

IBC: 1030.2, 1030.2.1, 1030.3, (IFC[BE] 1030.2, 1030.2.1, 1030.3)

Proponent: Ed Kullik, Chair, representing ICC Building Code Action Committee (bcac@iccsafe.org)

2018 International Building Code
Add new text as follows:

1030.2 Emergency escape and rescue openings. . Emergency escape and rescue openings shall have minimum dimensions in accordance with Section 1030.2.1 through 1030.2.3.

Revise as follows:

~~**1030.2**~~**1030.2.1 Minimum size.** *Emergency escape and rescue openings* shall have a minimum net clear opening of 5.7 square feet (0.53 m2).
Exception: The minimum net clear opening for *grade-floor emergency escape and rescue openings* shall be 5 square feet (0.46 m2).

~~**1030.2.1**~~**1030.2.2 Minimum dimensions.** The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.

~~**1030.3**~~**1030.2.3** Maximum height from floor.
~~*Emergency*~~ *Where a window is provided as the emergency escape and rescue openings, such window* shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.

Reason:
This is one of a series of 11 proposals to coordinate the Emergency Escape and Rescue Openings (EERO) technical criteria in the IBC and IRC. Please see the proposal for the definition of Emergency Escape and Rescue Openings for additional information. Due to the code development

schedule the proposals for IBC will be proposed in Group A and the proposals for IRC will be proposed in Group B.

This proposal deals with Minimum size, dimensions and height.

IBC 310.3 – revise to coordinate language and organization with the IRC.

There will be a similar proposal to Group B for IRC:

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-action-committee-bcac.

Cost Impact

The code change proposal will not increase or decrease the cost of construction .

This is a coordination item for requirements for EEROs already permitted between the codes.

E109-18

Committee Action: **Disapproved**

Committee Reason: The change in the text to Section 1030.2.3 appears to be mandating a window. There is no sill height given for other openings. Emergency escape and rescue openings can be doors or other acceptable openings. (Vote 13-1)

Public comment for E109-18

Request AS:

Reason: One of the points of the 11 changes proposed for EEROs is that they can be doors or windows. This proposal is an important piece for coordination of the IRC and IBC.
To address the committee's concerns - The threshold on doors is addressed in Section 1010. Section 1030.2.3 does not mandate windows, but says if window option is chosen, then there is maximum height of the bottom edge so that people can crawl out.

A complete version on what this section would look like if all 11 proposals passed was in the reason statement of G5-18. This is the section related to door and window sizes.

1030.2 Emergency escape and rescue openings. Emergency escape and rescue opening shall have minimum dimensions in accordance with Section 1030.2.1 through 1030.2.3.

1030.2.1 Minimum size. *Emergency escape and rescue openings* shall have a minimum net clear opening of 5.7 square feet (0.53 m^2).
Exception: The minimum net clear opening for *grade-floor emergency escape and rescue openings* shall be 5 square feet (0.46 m^2).

1030.2.2 Minimum dimensions. The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.

1030.2.3 Maximum height from floor. Where a window is provided as the *Emergency escape and rescue openings,* such window shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.

1030.3 Emergency escape and rescue doors. Where a door is provided as the required emergency escape and rescue opening, it shall be a swinging door or a sliding door.

Notes 5-29-2018: Move ahead

IBC 10-7 – Delay egress locks

E58-18

IBC: 1010.1.9.8, 1010.1.10, (IFC[BE] 1010.1.9.8, 1010.1.10)

Proponent: Ed Kullik, Chair, representing ICC Building Code Action Committee (bcac@iccsafe.org)

2018 International Building Code
Revise as follows:

1010.1.9.8 Delayed egress. Delayed egress locking systems shall be permitted to be installed on doors serving the following occupancies in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an*approved automatic smoke* or *heat detection system* installed in accordance with Section 907.

1. Group B, F, I, M, R, S and U occupancies.
2. Group E classrooms with an *occupant load* of less than 50.

   ~~Exception:~~ ~~Delayed~~
3. In a courthouse, delayed egress locking systems shall be permitted to be installed on exit or *exit access* doors, other than the main exit or *exit access* door, serving a Group A-3 courtroom in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

1010.1.10 Panic and fire exit hardware. Swinging doors serving a Group H occupancy and swinging 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 other than *panic hardware*or *fire exit hardware*.

Exceptions:

1. A main exit of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.1.9.4, Item 2.
2. Doors provided with *panic hardware* or *fire exit hardware* and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.
3. Courtrooms shall be permitted to be locked in accordance with Section 1010.1.9.8, Item 3.

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

Reason:

This is only a format issue resulting from the multiple changes last cycle to the delayed egress locks - E66-15 AMPC1, E68-15 AM/AMPC1, E69-15 AS. The allowance for courtrooms, while logical, is out of place as an exception to Items 1 and 2 in Section 1010.1.9.8.

Correlation with Section 1010.1.9.8 in Section 1010.1.10 is needed because this is Group A where panic hardware is otherwise required.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-action-committee-bcac.

Cost Impact

The code change proposal will not increase or decrease the cost of construction .

This is a format revision with no change to technical criteria.

E58-18

Committee Action: **Disapproved**

Committee Reason: While it is appropriate to make the exception a third item, courtrooms are found in both office buildings (Group B) and courthouses (Group A-3). The proposal should be brought back with a public comment to address this issue. (Vote 13-1)

Public comment for E58-18

Revise as follows:

1010.1.9.8 Delayed egress. Delayed egress locking systems shall be permitted to be installed on doors serving the following occupancies in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved automatic smoke* or *heat detection system* installed in accordance with Section 907.

1. Group B, F, I, M, R, S and U occupancies.
2. Group E classrooms with an *occupant load* of less than 50.
3. In ~~a courthouse~~ Groups A-3 and B, delayed egress locking systems shall be permitted to be installed on exit or *exit access* doors, other than the main exit or *exit access* door, serving a ~~Group A-3~~ courtroom in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

Reason: Courtrooms can occur in government office buildings, such as traffic court. The same security concerns exist in all courtrooms, so it appropriate to include these facilities in the proposal.

Notes 5-29-2018: Go ahead

IBC 10-5 – social stairway

E106-18

IBC: 1029.16, 1029.16.1, (IFC[BE] 1029.16. 1029.16.1)

Proponent: Ed Kullik, Chair, representing ICC Building Code Action Committee (bcac@iccsafe.org)

2018 International Building Code

Revise as follows:

1029.16 Handrails. Ramped *aisles* having a slope exceeding one unit vertical in 15 units horizontal (6.7-percent slope) and stepped *aisles* shall be provided with *handrails* in compliance with Section 1014 located either at one or both sides of the *aisle* or within the *aisle* width**.** Where the stepped aisle have seating on one side and the aisle width is 74 inches (1880 mm) or greater, two handrails are required. Where two handrails are required, one of the handrails shall be within 30 inches horizontally of the end of the aisle accessways.

Exceptions:

1. *Handrails* are not required for ramped *aisles* with seating on both sides.
2. *Handrails* are not required where, at the side of the aisle, there is a *guard* with a top surface that complies with the graspability requirements of *handrails* in accordance with Section 1014.3.
3. *Handrail* extensions are not required at the top and bottom of stepped *aisles* and ramped *aisles* to permit crossovers within the *aisles*.

1029.16.1 Discontinuous handrails. Where there is seating on both sides of the aisle, the mid-aisle *handrails* shall be ~~discontinuous with~~ discontinuous. Where the stepped aisle is required to have two handrails, handrails not located on a guard or wall shall be discontinuous. The gaps or breaks at intervals shall not ~~exceeding~~ exceed five rows to facilitate access to seating and to permit crossing from one side of the *aisle* to the other. These gaps or breaks shall have a clear width of not less than 22 inches (559 mm) and not greater than 36 inches (914 mm), measured horizontally, and the mid-aisle *handrail* shall have rounded terminations or bends.

1029.16.2 Handrail termination. *Handrails* located on the side of stepped *aisles* shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent stepped *aisle flight*.

1029.16.3 Mid-aisle termination. Mid-aisle *handrails* shall not extend beyond the lowest riser and shall terminate within 18 inches (381 mm), measured horizontally, from the lowest riser. *Handrail* extensions are not required.

Exception: Mid-aisle *handrails* shall be permitted to extend beyond the lowest riser where the *handrail* extensions do not obstruct the width of the cross *aisle*.

Reason:

The social stairway is a new style being used in common areas of schools and multi-assembly buildings. It appears to fall somewhere between stairways and assembly seating. If this is considered a stairway next to platforms, the general requirement for handrails on both sides of the stairway prevents access to the platforms (Example 4). Considering this configuration as assembly seating would require one handrail with current text.

This proposal considers this arrangement as a type of assembly seating. The width would have to be determined using both the general circulation number from the upper/lower floor and the seating in accordance with Section 1029.6.1, which requires extra width if a handrail is not with 30”. By considering this assembly seating, accessible wheelchairs spaces would already be addressed. Drop offs along the top would have to meet guard provisions.

To address occupant safety, this proposal will require a mid-aisle handrail on wide stepped aisles in addition to the handrail on the wall. The reasoning for 74” was that we did not want either side of the handrails to create a width that was not readily useable (30” + 44” = 74”). The second handrail being within 30” of the edge of the platform allows flexibility in handrail placement, but still keeps the

handrail within reach of persons moving off the platforms. Where there is not a cross aisle, the handrail would still have to have handrail extensions at the top and bottom, as well as meet all the other handrail provisions in Section 1014 and 1029.6. This 2nd handrails would typically not show up in stadium seating where aisles are typically less wide than specified here.

As you can see in the examples provided: Example 1 has two handrails, but with one on the far side of the platform. Example 4 a 2ndhandrail blocks access to the platforms, so people either climb up the platforms, or go under the handrail. In example 2 and 3 a handrail is only provided on one side of the stairway, regardless of width. None of these configuration would address stairway safety and access to the platforms. Example 3 has an example handrail drawn in red of what these requirements would add.

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Figure 1

Figure 2

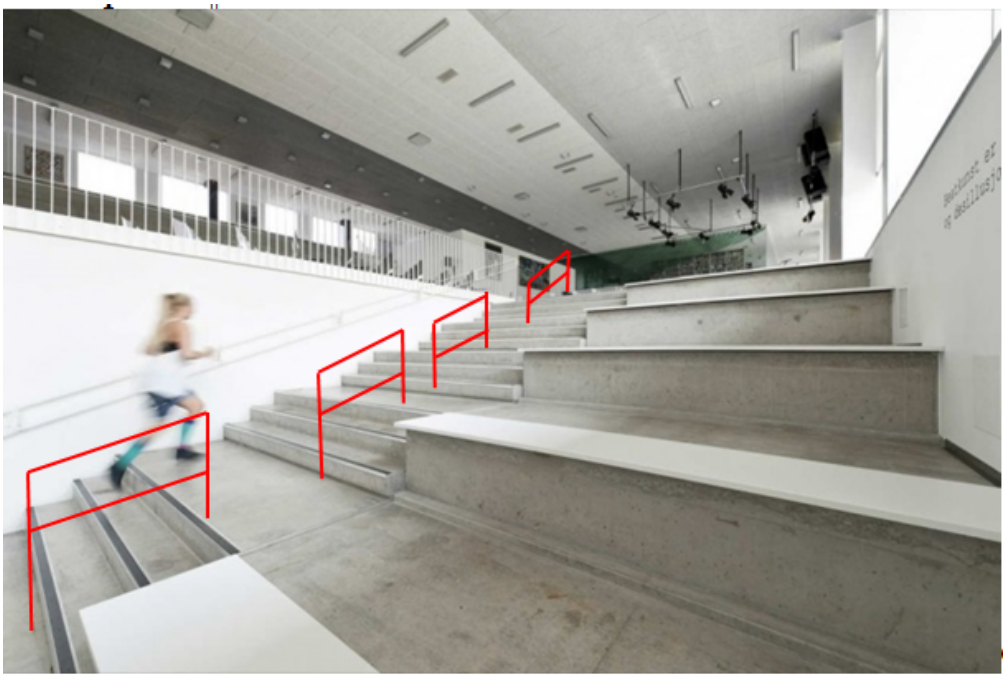


Figure 3

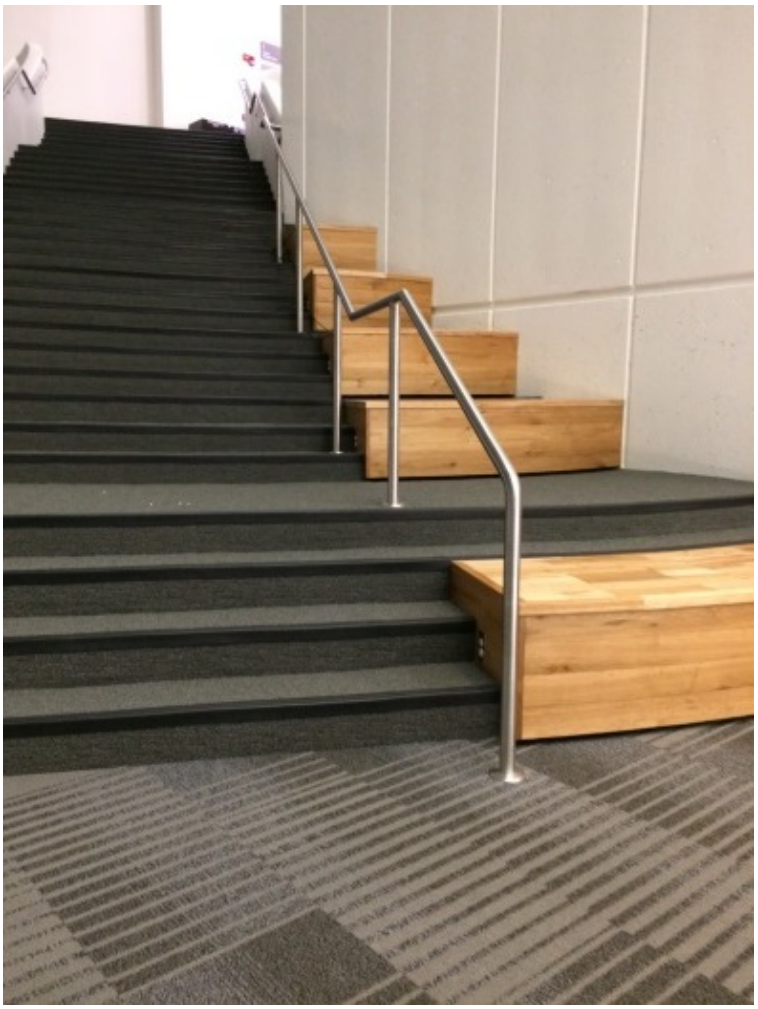


Figure 4

Cost Impact
The code change proposal will increase the cost of construction .

In some situations, this could require a 2nd handrail for occupant safe egress on the stairways.

E106-18
Committee Action: **Disapproved**

Committee Reason: This is used in a variety of school environments so addressing this issue is needed. The handrail adjacent to this stairway seating arrangement should be the same as required for stepped aisles. Where the 2nd handrail is located needs to be clarified. There was a question on what was meant by the “handrail not located on a guard”. Perhaps a definition of “stepped aisle” is needed. There were a couple of grammar errors that need to be fixed. (Vote 9-5)

Public comment for E106-18

Revise as follows:

1029.16 Handrails. Ramped *aisles* having a slope exceeding one unit vertical in 15 units horizontal (6.7-percent slope) and stepped *aisles* shall be provided with *handrails* in compliance with Section 1014 located either at one or both sides of the *aisle* or within the *aisle* width**.** Where the stepped aisle have seating on one side and the aisle width is 74 inches (1880 mm) or greater, two handrails are required. Where two handrails are required, one of the handrails shall be within 30 inches horizontally of the ~~end of the aisle accessways~~ side of the tiered floor.

Exceptions:

1. 1. *Handrails* are not required for ramped *aisles* with seating on both sides.
2. 2. *Handrails* are not required where, at the side of the aisle, there is a *guard* with a top surface that complies with the graspability requirements of *handrails* in accordance with Section 1014.3.
3. 3. *Handrail* extensions are not required at the top and bottom of stepped *aisles* and ramped *aisles* to permit crossovers within the *aisles*.

1029.16.1 Discontinuous handrails. Where there is seating on both sides of the aisle, the mid-aisle *handrails* shall be discontinuous. Where the stepped aisle is required to have two handrails, the mid-aisle handrails ~~not located on a guard or wall~~ shall be continuous or discontinuous. The gaps or breaks at intervals shall not exceed five rows to facilitate access to seating and to permit crossing from one side of the *aisle* to the other. These gaps or breaks shall have a clear width of not less than 22 inches (559 mm) and not greater than 36 inches (914 mm), measured horizontally, and the mid-aisle *handrail* shall have rounded terminations or bends.

1029.16.2 Handrail termination. *Handrails* located on the side of stepped *aisles* shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent stepped *aisle flight*.

1029.16.3 Mid-aisle termination. Mid-aisle *handrails* shall not extend beyond the lowest riser and shall terminate within 18 inches (381 mm), measured horizontally, from the lowest riser. *Handrail* extensions are not required.

Exception: Mid-aisle *handrails* shall be permitted to extend beyond the lowest riser where the *handrail* extensions do not obstruct the width of the cross *aisle*.

Reason: This new style of assembly seating is very common in schools and libraries. It is an important safety issue that needs to be addressed. It is hoped that these tweaks with clarify the requirements so this can be added to the code.

To address the committee's concerns:

The new text in Section 1029.16 and 1029.16.1 will allow for the mid aisle handrail to be the same as for stepped aisles. The 74" was chosen as the point where a 2nd handrail in the width of the stepped aisle would still allow for movement up and down on each side of the handrail.

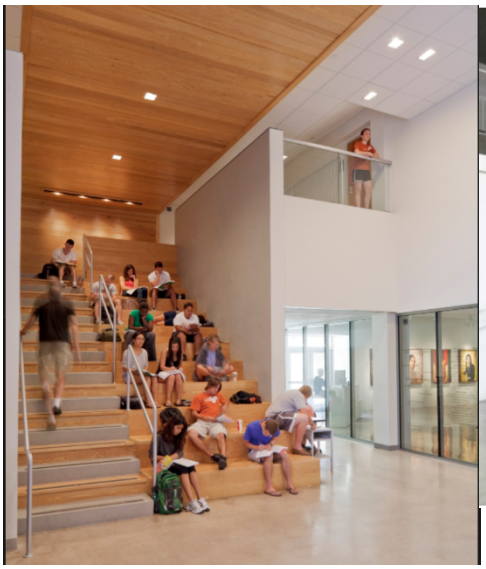
The "end of the aisle accessways" was chosen because the tiered platforms do not always contain seats to measure from. Since the seating areas at stepped aisles are tiered platforms (with or without seats), this may be clearer.

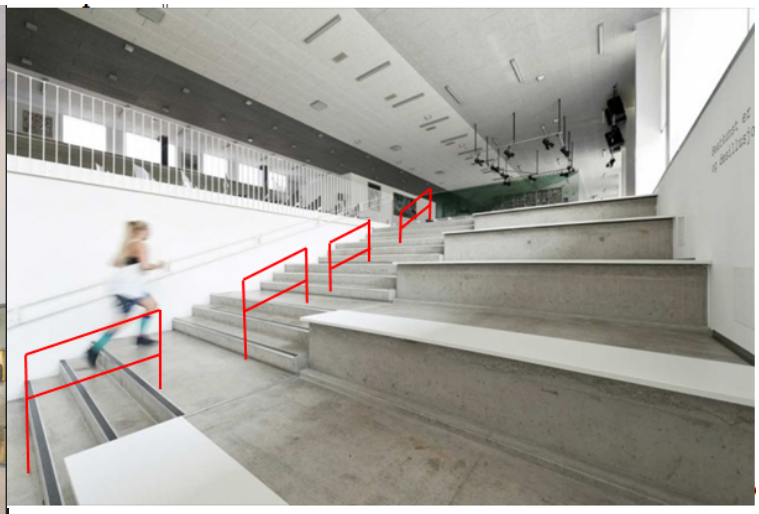
Handrails are permitted on the wall or as the top rail of a guard in Section 1029.16. Since the discontinuous handrail could be either at the edge of the seating platforms or in the stepped aisle, 'mid-aisle' handrail may not always be applicable, but if this current language is easier to understand – lets use it.

'Stepped aisles' is not defined for assembly seating, but is clearly understood in the context of Section 1029. 'Aisle' is a defined term.

The grammatical error mentioned by the committee of "exceeding" to "exceed" in Section 1029.16.1 was addressed as an editorial correction to the original proposal by ICC staff.

What we want to see:

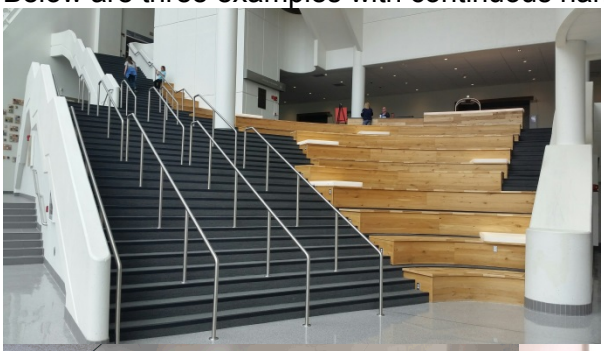


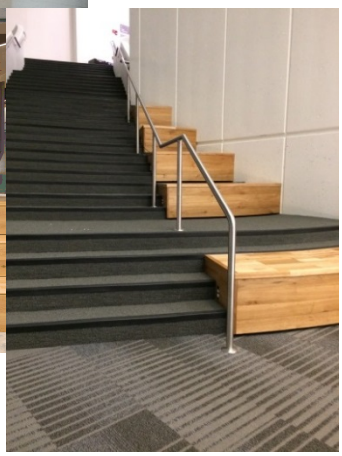


Notes 5-29-2018: Work group was happy with fixes to address committee wording issues. Discuss if continuous should be an option as well for mid-aisle handrail. This is not for a stairway where the handrail is to stop people from moving into an adjacent area. This is the 2nd handrail on a stepped aisle where people will be moving into adjacent seating. Is a continuous handrail next to the seating a hazard?

FYI – No testimony from BCAC. Supported by both Jake Pauls and Marsha Mazz in testimony.

Below are three examples with continuous handrails adjacent to seating.





IBC 10-10 – Vestibule pointer from SEPCAC

E51-18

IBC: 1010.1.9 (New), (IFC[BE] 1010.1.9 (New))
Proponent: Ed Kullik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

2018 International Building Code
Add new text as follows:

1010.1.9 Vestibules. Where required by a compliance path of the International Energy Conservation Code, building entrances shall be provided with vestibules.

Reason:
The IECC requires vestibules to be provided at building entrances in all climate zones other than 1 and 2. In the design of buildings this can be a significant feature of entrances. The requirement can be overlooked by designers if they focus on the IBC during initial design and then are perhaps surprised by the requirement when adding the IECC to their construction documents. This proposal provides a direct reference to the compliance paths in the IECC for vestibules.

The proposal puts the reference for vestibules in Chapter 10 after the section for door arrangements (Section 1010.1.8). Since Section 1010.1.8 addresses doors in a series, this is the most logical place for designers to understand that a vestibule may be required by the IECC.

The BCAC developed this proposal with the SEHPCAC. This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-action-committee-bcac.

Cost Impact
The code change proposal will not increase or decrease the cost of construction .

This requirement already exists in the IECC. Inclusions in the IBC doesn't result in any construction not already anticipated.

E51-18
Committee Action: **Disapproved**
Committee Reason: This pointer for vestibules is not needed in IBC in areas where the Energy codes are adopted because it is already covered in the Energy Code. The term 'vestibule' could be confused with stairway vestibules. (Vote: 12-2)

Public comment for E51-18

Notes 5-29-2018: AS

Dave and Sarah to come up with reason.

IBC 10-1 electrical rooms

E64-18

IBC: 1010.1.10, 1010.1.10.1 (New), (IFC[BE] 1010.1.10, 1010.1.10.1 (New))

Proponent: Ed Kullik, Chair, representing ICC Building Code Action Committee (bcac@iccsafe.org)

2018 International Building Code

Revise as follows:

1010.1.10 Panic and fire exit hardware. Swinging doors serving a Group H occupancy and swinging 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 other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main exit of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.1.9.4, Item 2.
2. Doors provided with *panic hardware* or *fire exit hardware* and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.

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

Add new text as follows:

1010.1.10.1 Rooms with electrical equipment. Exit or exit access doors serving transformer vaults, rooms designated for batteries or energy storage systems, or modular data centers shall be equipped with panic hardware or fire exit hardware. Where rooms contain electrical rooms with equipment rated 800 amperes or more that contain overcurrent devices, switching devices or control devices and where the exit or exit access door is less than 25 feet from the equipment working space, shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

Reason:

The current requirements in the International Building Code are not in alignment with the requirements in NFPA 70, the National Electrical Code. Section 110.26(C)(3) requires where there are exit or exit access doors serving a room with electrical equipment rated 800 amperes or more those doors shall be equipped with listed panic hardware. Equipment rated 1200 amperes or more is used to determine the number and locations of exits or exit access doorways, which is addressed in Section 1006.2.2. Also, NFPA 70 for transformer vaults (in Sections

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any

interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-action-committee-bcac.

Cost Impact
The code change proposal will not increase or decrease the cost of construction .
Chapter 27 of the IBC already requires electrical installations to comply with the provisions of NFPA 70. This proposal aligns the requirements in the IBC with NFPA 70.

E64-18
Committee Action: **Approved as Modified by 1**
Committee Modification:
1010.1.10.1 Rooms with electrical equipment. Exit or exit access doors serving transformer vaults, rooms designated for batteries or energy storage systems, or modular data centers shall be equipped with panic hardware or fire exit hardware. Where rooms contain electrical rooms with equipment rated 800 amperes or more that contain overcurrent devices, switching devices or control devices and where the exit or exit access door is less than 25 feet from the equipment working space, shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.
Committee Reason: By adding travel distance, the modification did add a missing part for coordination with the National Electrical Code. However, there is concern on if 'equipment work space' would be understood and how the distance should be measured.
This proposal would coordinate with the committee action on E17-18. The terms for what types of rooms are addressed is in the National Electrical Code, so which rooms should be understood. It was suggested that perhaps the NEC references in E17-18 should also be added into this section in a public comment. (Vote 10-3)

Public comment for E64-18

1010.1.10.1 Rooms with electrical equipment. Exit or exit access doors serving transformer vaults, rooms designated for batteries or energy storage systems, or modular data centers shall be equipped with panic hardware or fire exit hardware. Where rooms contain electrical rooms with equipment rated 800 amperes or more that contain overcurrent devices, switching devices or control devices and where the exit or exit access door is less than 25 feet from the equipment working space as required by NFPA 70, shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

Notes 5-29-2108: possible public comment to add explanation for "equipment working space"

John Taecker to develop reason statement

IBC 10-1 –
Relate to Panic Hardware in electrical rooms

E15-18 Part I
PART 1 - IBC: 1006.2.2.2; (IFC[BE] 1006.2.2)

PART 2 - IMC: 1105.10 [BE] (New)

Proponent: Jeffrey Shapiro, representing International Institute of Ammonia Refrigeration (jeff.shapiro@intlcodeconsultants.com)

THIS IS A TWO PART CODE CHANGE. PART I WILL BE HEARD BY THE MEANS OF EGRESS COMMITTEE. PART II WILL BE HEARD BY THE MECHANICAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER OF THESE COMMITTEES.

2018 International Building Code

Revise as follows:

1006.2.2.2 Refrigeration machinery rooms. Machinery rooms larger than 1,000 square feet (93 m^2) shall have not less than two *exits* or *exit access doorways*. Where two *exit access doorways* are required, one such doorway is permitted to be served by a fixed ladder or an alternating tread device. *Exit access doorways* shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. An increase in *exit access*travel distance is permitted in accordance with Section 1017.1.

Exit and *exit access doorways* shall swing in the direction of egress travel and shall be equipped with panic hardware, regardless of the *occupant load* served. Exit and *exit access doorways* shall be tight fitting and self-closing.

Reason:

It is appropriate for refrigeration machinery rooms to have panic hardware on means of egress doors to protect occupants because of the risk of a rapid release of hazardous or asphyxiant gases. The need for rapid escape from refrigeration machinery rooms is not unlike what is needed for Group H Occupancies, which are required by Section 1010.1.10 to have panic hardware on all swinging doors. Likewise, IIAR 2 includes this requirement for ammonia refrigeration machinery rooms.

It is also recommended that this section be duplicated in the IMC to ensure that the requirements are not overlooked by machinery room designers. The requirement in the IBC is not readily found as a refrigeration machinery room requirement since it is isolated in the means of egress chapter.

Cost Impact

The code change proposal will increase the cost of construction .

For machinery rooms that would not already have been provided with panic hardware on means of egress doors, the requirement to have panic hardware will constitute an increased cost.

E15-18 Part II

IMC: 1105.10 [BE] (New)

Proponent: Jeffrey Shapiro, representing International Institute of Ammonia Refrigeration (jeff.shapiro@intlcodeconsultants.com)

2018 International Mechanical Code

Add new text as follows:

1105.10 [BE] Means of egress. Machinery rooms larger than 1,000 square feet (93 m2) shall have not less than two exits or exit access doorways. Where two exit access doorways are required, one such doorway is permitted to be served by a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorway. An increase in exit access travel distance is permitted in accordance with Section 1017.1.

Exit and exit access doorways shall swing in the direction of egress travel and shall be equipped with panic hardware, regardless of the occupant load served. Exit and exit access doorways shall be tight fitting and self-closing.

E15-18 Part I

Committee Action: **Approved as Submitted**

Committee Reason: Adding panic hardware to refrigeration machinery rooms will improve safety for these rooms. There should be a public comment to add this to the list for panic hardware in Section 1010.1.10. (Vote: 14-0)

E15-18 Part II

Committee Action: **Approved as Submitted**

Committee Reason: Approval was based on the proponent's published reason statement. (Vote 11-0)

Public comment for E15-18 Part 1

1010.1.10 Panic and fire exit hardware. Swinging doors serving a Group H occupancy and swinging 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 other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main exit of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.1.9.4, Item 2.
2. Doors provided with *panic hardware* or *fire exit hardware* and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.
3. Courtrooms shall be permitted to be locked in accordance with Section 1010.1.9.8, Item 3.

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

Add new text as follows:

1010.1.10.1 Refrigeration machinery rooms. Swinging door in refrigeration machinery rooms, where required by Section 1006.2.2.2, shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Reason: Consistent with E64-18. Panic hardware for Electrical rooms was moved into a new subsection. The new requirement for panic hardware in refrigeration machinery rooms should be addressed the same and included in Section 1010.10.

Notes: 5-29-2108 Move ahead – John Taecker check wording/reason. Talk to Jeff Shapiro.

Other MOE related–

E86-18

IBC: 1017.3, (IFC[BE] 1017.3)

Proponent: John Terry, self, representing self (John.Terry@dca.nj.gov)

2018 International Building Code

Revise as follows:

1017.3 Measurement. *Exit access* travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit. Where more than one means of egress is required, exit access travel distance shall be measured to the nearest exit.

Exception: In open parking garages, *exit access* travel distance is permitted to be measured to the closest riser of an *exit access stairway* or the closest slope of an *exit access* ramp.

Reason:

The text of this section is too subtle where it is stated that travel distance is measured to "an" exit. The added language makes clear the intent of the requirement.

Cost Impact

The code change proposal will not increase or decrease the cost of construction .

The proposed change merely clarifies the intent of the current text and therefore has no impact on cost.

E86-18

Committee Action: **Approved as Modified by 1**

Committee Modification:

1017.3 Measurement. Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit. Where more than one ~~means of egress~~ exit is required, exit access travel distance shall be measured to the nearest exit.

Exception: In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.

Committee Reason: The modification is for consistency within the sentence and the rest of Chapter 10.
The code change will clarify that travel distance is to only one exit, not both. (Vote 14-0)

Public comment for E86-18

1017.3 Measurement. Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to ~~an~~ the nearest exit. ~~Where more than one exit is required, exit access travel distance shall be measured to the nearest exit.~~

Exception: In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.

Reason: The modification would be an issue for 2nd floors with open stairways or mezzanines – this is 'access to an exit' from that level. By combining the new sentence with the existing text, it clears this up in one sentence.

Notes 5-29-2018: Go ahead.

Other MOE related–organization
E38-18

IBC: 1010.1, 1020.1 (New), 1024.1, 1026.1, 1027.1,1028.4, 1028.4.1, 1028.4.2, 1029(New), (IFC[BE] 1010.1, 1020.1 (New), 1024.1, 1026.1, 1027.1,1028.4, 1028.4.1, 1028.4.2, 1029(New))

Proponent: Gregory Keith, representing The Boeing Company (grkeith@mac.com)

2018 International Building Code
Revise as follows:
1010.1 ~~Doors~~General. ~~*Means of egress* doors shall meet the requirements of this section.~~ Doors, gates and turnstiles serving a *means of egress* system shall meet the applicable requirements of this section and Section 1022.2. Doors provided for egress purposes in numbers greater than required by this code shall meet the requirements of this section.
Means of egress doors shall be readily distinguishable from the adjacent construction and finishes such that the doors are easily recognizable as doors. Mirrors or similar reflecting materials shall not be used on *means of egress* doors. *Means of egress* doors shall not be concealed by curtains, drapes, decorations or similar materials.
Add new text as follows:
1020.1 General. Corridors serving as an exit access component in a means of egress system shall comply with the requirements of this section.

Revise as follows:
1024.1 ~~Exit passageways.~~General. Exit passageways serving as an exit component in a *means of egress* system shall comply with the requirements of this section. An *exit passageway* shall not be used for any purpose other than as a *means of egress* and a*circulation path*.

1026.1 ~~Horizontal exits.~~General. Horizontal *exits* serving as an exit in a *means of egress* system shall comply with the requirements of this section. A *horizontal exit* shall not serve as the only exit from a portion of a building, and where two or more *exits* are required, not more than one-half of the total number of *exits* or total exit minimum width or required capacity shall be horizontal *exits*.

Exceptions:
1. Horizontal *exits* are permitted to comprise two-thirds of the required *exits* from any building or floor area for occupancies in Group I-2.
2. Horizontal *exits* are permitted to comprise 100 percent of the *exits* required for occupancies in Group I-3. Not less than 6 square feet (0.6 m2) of *accessible* space per occupant shall be provided on each side of the *horizontal exit* for the total number of people in adjoining compartments.

1027.1 ~~Exterior exit stairways and ramps~~ General. Exterior exit *stairways* and *ramps* serving as an ~~element of~~ exit component in a ~~required~~ *means of egress* system shall comply with the requirements of this section.

Add new text as follows:
1029 EGRESS COURTS

Revise as follows:
~~1028.4~~1029.1 ~~Egress courts.~~General. *Egress courts* serving as ~~a portion of the~~ an *exit discharge* component in the *means of egress*system shall comply with the requirements ~~of Sections 1028.4.1 and 1028.4.2.~~in this section.

~~1028.4.1~~1029.2 Width or capacity. The required capacity of *egress courts* shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm), except as specified herein. *Egress courts* serving Group R-3 and U occupancies shall be not less than 36 inches (914 mm) in width. The required capacity and width of *egress courts* shall be unobstructed to a height of 7 feet (2134 mm).
The width of the *egress court* shall be not less than the required capacity.

Exception: Encroachments complying with Section 1005.7.

~~1028.4.2~~1029.3 Construction and openings. Where an *egress court* serving a building or portion thereof is less than 10 feet (3048 mm) in width, the *egress court* walls shall have not less than 1-hour *fire-resistance-rated* construction for a distance of 10 feet (3048 mm) above the floor of the *egress court*. Openings within such walls shall be protected by opening protectives having a fire protection rating of not less than $^3/_4$ hour.

Exceptions:

1. *Egress courts* serving an *occupant load* of less than 10.
2. *Egress courts* serving Group R-3.

Reason:
This is a series of editorial revisions intended to formalize the charging language of several sections within Chapter 10. The International Building Code is a so-called model code. Once adopted by a given political subdivision it becomes law. Having proper enabling or charging provisions for various technical requirements is legally necessary.
Presently, Section 1020 for corridors contains no charging language. A general section has been created using the same format as is currently used in Section 1018 for aisles and Section 1019 for exit access stairways and ramps.
Section 1010.1 has been improved by adding the "General" section title to be consistent with other means of egress component sections. Additionally, the first and second sentences of Section 1010.1 are redundant. The first sentence has been deleted. The second sentence now clarifies that the section is applicable to gates and turnstiles consistent with the Section 1010 heading.
The titles of Sections 1024.1, 1026.1 and 1027.1 have been changed to "General" to be consistent with other means of egress component sections.
Lastly, egress courts are a means of egress component. In the Chapter 10 format, individual means of egress components have their own section. Currently, egress court provisions are located in Section 1028.4 within the exit discharge section. This proposal simply relocates the egress court technical provisions to a new Section 1029 so as to be consistent with other Chapter 10 provisions.
This proposal establishes the proper legal charging language for lacking sections. In doing so, it provides consistency within the various Chapter 10 means of egress component sections. Some practitioners are given to assigning an importance factor between different terms and formats. Approval of this proposal will clarify these important means of egress provisions.
Cost Impact
The code change proposal will not increase or decrease the cost of construction .
This proposal is essentially editorial.

E38-18

Committee Action: **Approved as Modified by 1**

Committee Modification:

Remove 1010.1 from the proposal.

Committee Reason:
The modification was to remove the change to Section 1010.1 from the proposal. The changes in E37-18 addressed this in a more comprehensive manner.
The revised language is consistent with the remainder of the sections in the code. There was concern about pulling Egress Courts out of the section for exit discharge without a general statement for this means of egress part as indicated in Sections 1003.1, 1014.1 and 1020.1.
(Vote: 10-4)

Public comment for E38-18

Request AM:

Revise as follows:

~~**1029 EGRESS COURTS**~~

1028.4 ~~**1029.1**~~ **Egress courts.**~~**General.**~~ *Egress courts* serving as ~~a portion of the~~ an *exit discharge* component in the *means of egress* system shall comply with the requirements ~~of Sections 1028.4.1 and 1028.4.2.~~ in this section.

1028.4.1 ~~**1029.2**~~ **Width or capacity.** The required capacity of *egress courts* shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm), except as specified herein. *Egress courts* serving Group R-3 and U occupancies shall be not less than 36 inches (914 mm) in width. The required capacity and width of *egress courts* shall be unobstructed to a height of 7 feet (2134 mm).
The width of the *egress court* shall be not less than the required capacity.

Exception: Encroachments complying with Section 1005.7.

1028.4.2 ~~**1029.3**~~ **Construction and openings.** Where an *egress court* serving a building or portion thereof is less than 10 feet (3048 mm) in width, the *egress court* walls shall have not less than 1-hour *fire-resistance-rated* construction for a distance of 10 feet (3048 mm) above the floor of the *egress court*. Openings within such walls shall be protected by opening protectives having a fire protection rating of not less than $^3/_4$ hour.

Exceptions:

1. *Egress courts* serving an *occupant load* of less than 10.
2. *Egress courts* serving Group R-3.

Reason: Splitting exit discharge into 2 sections is adding confusion for users. The scoping language for exit discharge in more than one section was not proposed – so this could be a conflict with the format of Chapter 10 in the existing language in Section 1003.1, 1016.1 and 1022.1.

Notes 5-29-2018: Kim to come up with public comment to put 1028 back together. Tell Greg Keith in case he wants other option below.

1028.1 General. The *exit discharge* shall comply with Sections 1028 and 1029 and the applicable requirements of Sections 1003 through 1015. *Exits* shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required exits.

Exceptions: (No change to exceptions)

Reason: If exit discharge is split into two sections, there needs to be charging language at the beginning similar to Section 1003.1, 1016.1 and 1022.1.

IBC 10-9 Occupied roofs

E22-18

IBC: SECTION TABLE 1006.3.2, TABLE 1006.3.3(1), TABLE 1006.3.3(2), (IFC[BE] TABLE 1006.3.2, TABLE 1006.3.3(1), TABLE 1006.3.3(2))

Proponent: Ed Kullik, Chair, representing ICC Building Code Action Committee (bcac@iccsafe.org)

2018 International Building Code

Revise as follows:

SECTION 1006 NUMBER OF EXITS AND EXIT ACCESS DOORWAYS

1006.3 Egress from stories or occupied roofs.
The *means of egress* system serving any *story* or occupied roof shall be provided with the number of separate and distinct *exits* or access to *exits* based on the aggregate *occupant load* served in accordance with this section. Where *stairways* serve more than one *story*, only the *occupant load* of each *story* considered individually shall be used in calculating the required number of *exits* or access to *exits* serving that *story*.

1006.3.2 Egress based on occupant load.
Each *story* and occupied roof shall have the minimum number of separate and distinct *exits*, or access to *exits*, as specified in Table 1006.3.2. A single *exit* or access to a single *exit* shall be permitted in accordance with Section 1006.3.3. The required number of *exits*, or *exit access stairways* or *ramps* providing access to *exits*, from any story or occupied roof shall be maintained until arrival at the *exit discharge* or a *public way*.

TABLE 1006.3.2
MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS PER STORY OR OCCUPIED ROOF

OCCUPIED LOAD PER STORY	MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS ~~FROM~~ PER STORY OR OCCUPIED ROOF
1-500	2
501-1,000	3
More than 1,000	4

1006.3.3 Single exits.
A single *exit* or access to a single *exit* shall be permitted from any *story* or occupied roof where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and common path of egress travel distance do not exceed the values in Table 1006.3.3(1) or 1006.3.3(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.

5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
   5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
   5.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

TABLE 1006.3.3(1)
STORIES AND OCCUPIED ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY AND OCCUPIED ROOF	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane	R-2[a, b]	4 dwelling units	125 feet
Occupied roof over the first, second or third story above grade plane	R-2 [a, b]	NA	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 3048 mm.
NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with *emergency escape and rescue openings* in accordance with Section 1030.
b. This table is used for R-2 occupancies consisting of *dwelling units.* For R-2 occupancies consisting of *sleeping units*, use Table 1006.3.3(2).

TABLE 1006.3.3(2)
STORIES AND OCCUPIED ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIED ROOF	OCCUPANCY	**MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIED ROOF**	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupied roofs over the first story above grade plane	A, B[b], E F[b], M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2[a, c]	10	75
	S[b, d]	29	75

Second story above grade plane and occupied roof over the second story above grade plane	B, F, M, S[d]	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.
NP = Not Permitted.

NA = Not Applicable.

a.Buildings classified as Group R-2 equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with *emergency escape and rescue openings* in accordance with Section 1030.
b.Group B, F and S occupancies in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or on the roof of such buildings shall have a maximum *exit access* travel distance of 100 feet.
c.This table is used for R-2 occupancies consisting of *sleeping units.* For R-2 occupancies consisting of *dwelling units*, use Table 1006.3.3(1).
d.The length of *exit access* travel distance in a Group S-2 *open parking garage* shall be not more than 100 feet.

Reason:

This is part of a series of 3 proposals dealing with occupied roofs. See BCAC proposals to the definition of penthouse and Section 1009.

The change to the title and heading in Table 1006.3.2 is for consistency with the text.
The proposed modifications to Section 1006 includes adding 'occupied roofs' to Table 1006.3.3(1) to clarify the conditions in which one exit or access to one exit is allowed for Group R-2 occupancies. The tables are modified to clarify that the occupied roofs are allowed 'over the allowable stories.'

Similarly this proposal adds 'occupied roofs' to Table 1006.3.3(2) to clarify the conditions in which one exit or access to one exit is allowed for the other occupancies. The table was also modified to clarify that the occupied roofs are allowed 'over the allowable stories.' A proposed modification to footnote b or the table clarifies that the allowable increase in exit access travel distance from 75 feet to 100 feet for properly sprinklered Group B, F and S occupancies also includes the roof area for these uses.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-action-committee-bcac.

Cost Impact

The code change proposal will not increase or decrease the cost of construction .

This proposal provides clarification to a subject that was not previously addressed. The changes to the single occupant tables could allow for one exit stairway from an occupied roof instead of two.

E22-18
Committee Action: **Disapproved**

Committee Reason:

Where an occupied roof can have a single exit is an issue that needs to be addressed, however, in Table 1006.3.3(1) and 1006.3.3(2) the proposal would allow a single exit roof over what was previously allowed as a single exit story. The roof should be treated as a story and limited as such for a single exit – match the current allowed height rather than exceed the current height limits. (Vote: 9-5)

Public comment for E22-18

Notes 5-29-2018: Work group said move with AS, but argued for roof over single story. Upon closer investigation, language of modification is actually more than that. Revisit at June 5 teleconference.

Revise as follows:

TABLE 1006.3.3(1)
STORIES AND OCCUPIED ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY AND OCCUPIED ROOF	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane	R-2[a, b]	4 dwelling units	125 feet
Occupied roof over the first~~,~~ or second ~~or third~~ story above grade plane	R-2 [a, b]	NA	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 3048 mm.
NP = Not Permitted.

NA = Not Applicable.

a.Buildings classified as Group R-2 equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with *emergency escape and rescue openings* in accordance with Section 1030.
b.This table is used for R-2 occupancies consisting of *dwelling units.* For R-2 occupancies consisting of *sleeping units*, use Table 1006.3.3(2).

TABLE 1006.3.3(2)
STORIES AND OCCUPIED ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIED ROOF	OCCUPANCY	**MAXIMUM OCCUPANT LOAD PER**	MAXIMUM COMMON PATH OF

		STORY AND OCCUPIED ROOF	EGRESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupied roofs over the first story above grade plane	A, B[b], E F[b], M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2[a, c]	10	75
	S[b, d]	29	75
Second story above grade plane ~~and occupied roof over the second story above grade plane~~	B, F, M, S[d]	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.
NP = Not Permitted.

NA = Not Applicable.

a.Buildings classified as Group R-2 equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with *emergency escape and rescue openings* in accordance with Section 1030.
b.Group B, F and S occupancies in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or on the occupied roof of such buildings shall have a maximum *exit access* travel distance of 100 feet.
c.This table is used for R-2 occupancies consisting of *sleeping units.* For R-2 occupancies consisting of *dwelling units*, use Table 1006.3.3(1).
d.The length of *exit access* travel distance in a Group S-2 *open parking garage* shall be not more than 100 feet.

Notes 5-29-2018: Reason from Sarah Rice.
Notes 6-5-2018: Agree with modification; Sarah to still write reason.

IBC 10-9 occupied roof

E29-18

IBC: 1009.2.1, (IFC[BE] 1009.2.1)

Proponent: Ed Kullik, Chair, representing ICC Building Code Action Committee (bcac@iccsafe.org)
2018 International Building Code
Revise as follows:

1009.2.1 Elevators required.
In buildings where a required *accessible* floor is four or more stories above or below a *level of exit discharge*, not less than one required *accessible means of egress* shall be an elevator complying with Section 1009.4. For purposes of determining where an elevator is required for

accessible means of egress, in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, an occupied roof shall not be considered a story.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *ramp* conforming to the provisions of Section 1012.

Reason:

This is part of a series of 3 proposals dealing with occupied roofs. See BCAC proposals to the definition of penthouse and Section 1006.

This is NOT for when an accessible route is required to an occupied roof. That is already addressed in Section 1104.4. This is ONLY for when an elevator would be required to serve as part of an accessible means of egress, and thus add a requirement for standby power. This allowance would only be applicable where there was an occupied roof on a 4 story building. If there is an occupied roof on any taller buildings, unless those buildings meet one of the other exceptions for ramps or horizontal exits, standby power would be required to all floors, including the occupied roof. The roof is required to be open to the outside, so there is not the accumulation for smoke that would be found on a typical interior floor – so that offers extra passive protection of occupants on the roof. Therefore, there did not seem to be any justification to require standby power for this limited situation. The stairways would still be required to comply with Section 1009 for accessible means of egress from the roof.

This proposal reinforces the concept that an occupied roof is not a story for the purpose of determining that an elevator is required as an accessible means of egress in properly sprinklered buildings.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-action-committee-bcac.

Cost Impact

The code change proposal will not increase or decrease the cost of construction .

This clarifies that standby power is not required for an elevator serving an occupied roof on a 4 story building. Without this clarification, if standby power was required, that would be a significant cost increase.

E29-18

Committee Action: **Disapproved**

Committee Reason:

An occupied roof is not a story, so this needs a different approach. A story is defined as a space between a floor and a ceiling. See E30-18. (Vote: 11-3)

Public comment for E29-18

Notes 5-29-2018: No public comment, but add option to E30.

IBC 10-9 Occupied roofs

E30-18

IBC: 1009.2.1, (IFC[BE] 1009.2.1)

Proponent: Micah Chappell, representing City of Seattle (micah.chappell@seattle.gov)

2018 International Building Code

Revise as follows:

1009.2.1 Elevators required.

In buildings where a required *accessible* floor or occupied roof is four or more stories above or below a *level of exit discharge*, not less than one required *accessible means of egress* shall be an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *ramp* conforming to the provisions of Section 1012.

Reason:

The code recognizes that there are practical limits to complete reliance on assisted evacuation of building occupants by fire personnel because of the limited availability of trained personnel or special devices. As a result, current ICC language requires an elevator be part of the accessible means of egress starting with the 4th story above the level of exit discharge (See 1009.2.1). Occupied roofs at the same level do not currently have this same requirement. The vertical travel distance encountered by a fire fighter performing an assisted rescue is the same whether the occupants are on an occupied roof on the 4th floor above the level of exit discharge or whether they are on the floor of the 4th story above the level of exit discharge within the building. As occupied roofs become more popular this becomes more of an issue for building departments around the country.

Occupied roofs at four or more stories above the level of exit discharge should be treated like occupied floors at the same level in the building. The occupant loads and hazards are similar between occupied roofs and occupied floors, the benefits to occupants and fire personnel from an elevator with emergency back-up power are similar, and a similar approach has been taken in other sections of the building code (see IBC Chapter 10 1006.3, 1006.3.2, and 1006.3.3). The 2018 IBC 1104.4 also requires at least one accessible route to each accessible story, mezzanine and occupied roof in multilevel buildings and facilities. If the requirements for an accessible route to the accessible level treat the occupied roof and accessible floor in the same manner, it is logical to conclude that the same level of protection for the accessible means of egress from an occupied roof should be required.

Cost Impact

The code change proposal will not increase or decrease the cost of construction .

This proposal clarifies the current intent of the accessible means of egress provisions of IBC 1009.2.1. The added language clarifies that an area of refuge and emergency power/legally

required standby power must be provided per IBC 1009.4 for an occupied roof that is four or more stories above the level of exit discharge.

No fiscal impact.

Public comment for E30-18

Request: AM

1009.2.1 Elevators required.
In buildings where a required *accessible* floor or occupied roof is four or more stories above or below a *level of exit discharge*, not less than one required *accessible means of egress* shall be an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *ramp* conforming to the provisions of Section 1012.
3. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required for occupied roof where the floors below are provided with a *horizontal exit* and located at or above the *levels of exit discharge*.

Reason: It is important to note that this is not the route to the roof for accessibility (Section 1104.4). This is standby power to the elevator for fire department assisted rescue. A building 5 stories or taller can use a horizontal exit so that the floors do not have to have standby power to the elevator. An occupied roof cannot provide a horizontal exit, but it is open to the outside air – which offers an equivalent or safer level of protection for occupants. The intent of the new exception 3 is that if someone has horizontal exits and a sprinkler system in the floors below the occupied roof, having an occupied roof would not then also trigger standby power. Requiring standby power is a significant cost impact on a building.

This will not change the original proposal, which will require standby power in a 4 story building with an occupied roof where the building does not have sprinklers and horizontal exits.

Notes 5-29-2018: Suggest modification.

IBC 4-3/IBC 2-3 - Atriums

Notes: The committee vote split over if an open stairway in an atrium is an exit access stairway, or the same stairway can be both an exit stairway and an exit access stairway. Measuring to the top of the stairway for travel distance was disproved (exit stairway). Adding 'exit stairway' to the atrium definition was disproved. What seemed to be generally accepted was an exit access stairway where the travel

distance was is 200 feet (currently in IBC Section 404.9.3). To be consistent with the disapproval of BCAC E19-18 proposal, the stairway should be exit access and travel distance should be 200 feet and more than one story. To make proposals consistent with this the following PC are needed

G1-18

IBC: SECTION 202, 202

Proponent: Stephen Thomas, Colorado Code Consulting, LLC, representing Colorado Chapter ICC (sthomas@coloradocode.net)

2018 International Building Code SECTION 202 DEFINITIONS

Revise as follows:

[BG] ATRIUM. An opening connecting two or more stories other than ~~enclosed stairways~~interior exit stairways or ramps, exit access stairways or ramps, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall. Stories, as used in this definition, do not include balconies within assembly groups or mezzanines that comply with Section 505.

Reason:

The terms "interior exit stairways or ramps" and "exit access stairway or ramps" referenced in Chapter 10 were added in the 2012 and 2015 IBC. However, they were not referenced in the Atrium definition. This change is only intended to clean up the language and provide consistency within the code. It may be considered to be editorial.

Cost Impact

The code change proposal will not increase or decrease the cost of construction .

The change is editorial in nature. Therefore, there is no cost implication.

G1-18

Committee Action: **Disapproved**

Committee Reason: While the testimony of the proponents was clear, the proposal results in confusion. It is better to leave the definition we have and not add confusion based on regulations and exemptions in Chapter 10. (Vote 9-5)

Public comment G1-18

Replace with the following:

[BG] ATRIUM. An opening connecting two or more stories other than enclosed exit stairways–or ramps, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall. Stories, as used in this definition, do not include balconies within assembly groups or mezzanines that comply with Section 505.

Reason: Assuming an atrium cannot include an exit stairway, it should be clarified that there can be an exit access stairway in the atrium.

-or-

[BG] ATRIUM. An opening connecting two or more stories ~~other than enclosed stairways, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment,~~ which is closed at the top and not defined as a mall. Stories, as used in this definition, do not include balconies within assembly groups or mezzanines ~~that comply with Section 505~~.

Reason: The requirements for the 'not' items in the list are addressed in the code and would not be confused with an atrium. There is not reason to have them here. The reference to Section 505 is not needed because it is in the definition of atrium. The sentence could be read to apply 505 to balconies and mezzanines.

Notes 6-5-2018: See G30 notes.

G2-18

IBC: SECTION 202, 202

Proponent: Gregory Keith, representing The Boeing Company (grkeith@mac.com)

2018 International Building Code SECTION 202 DEFINITIONS

Revise as follows:

[BG] ATRIUM. An opening connecting two or more stories ~~other than enclosed *stairways*, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall. *Stories*~~ other than those vertical openings listed at Sections 712.1.1 through 712.1.6 and Sections 712.1.8 through 712.1.14. Stories, as used in this definition, do not include balconies within assembly ~~groups~~ occupancies or mezzanines that comply with Section 505.

Reason:

The current definition of ATRIUM can be confusing. It describes in simple terms what an atrium is. In an apparent attempt to provide clarification it also provides a partial list of what an atrium is not. Included in the list were enclosed stairways. Enclosed stairways could include both interior exit stairways and enclosed exit access stairways. Appropriate reference to unenclosed exit access stairways is not made. In any event, the other vertical openings list is incomplete. The present incomplete "laundry list" has been replaced with specific reference to all other applicable vertical openings listed at Section 712.1.

Fundamentally, vertical openings serve one of three purposes: utility, means of egress or architectural. This distinction is made within the proposed definition.

Additionally, an editorial correction was made to the ultimate sentence by changing assembly groups to assembly occupancies.

Approval of this proposal will provide clarification as to what constitutes an atrium for the benefit of code users.

Cost Impact

The code change proposal will not increase or decrease the cost of construction .

This proposal is essentially editorial in nature.

G2-18

Committee Action: **Disapproved**

Committee Reason:

The existing definition is preferred to this proposal. Atriums are characterized by be a space closed at the top and this takes that key feature out of the definition. The listing of sections to say what an atrium is not is an unusual code structure. (Vote 14-0)

Notes 6-5-2018: See PC to G1.

G26-18

IBC: [F] 402.7.2

Proponent: Ed Kullik, representing ICC Building Code Action Committee (bcac@iccsafe.org)
THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE

2018 International Building Code SECTION 402 COVERED MALL AND OPEN MALL BUILDINGS

Revise as follows:

[F] 402.7 Emergency systems.
Covered and open mall buildings, *anchor buildings* and associated parking garages shall be provided with emergency systems complying with Sections 402.7.1 through 402.7.5.

[F] 402.7.2 Smoke control.
~~Where a *covered mall building* contains an *atrium*,~~ Atriums connecting three or more stories in covered mall buildings shall be provided with a smoke control system ~~shall be provided~~ in accordance with Section 909.~~404.5~~

~~**Exception:** A smoke control system is not required in *covered mall buildings* where an *atrium* connects only two stories.~~

Reason:
This proposal simply makes a more direct reference to the need for a smoke control system instead of sending the reader to Section 404.5 and through the exception. The technical requirements do not change. Smoke control is only required where an atrium connects 3 or more stories whether associated with a covered mall or other type of building.
This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-action-committee-bcac.
Cost Impact
The code change proposal will not increase or decrease the cost of construction .
This proposal simply makes the provisions more direct as to when smoke control would be required in a covered mall building.

G26-18
Committee Action: **Approved as Submitted**

Committee Reason: Approval is based upon the proponent's published reason. (Vote: 14-0)

Notes 6-5-2018: No PC. This is smoke control for atriums in malls only.

G30-18

IBC: 404.1

Proponent: Sarah Rice, The Preview Group, representing Myself (srice@preview-group.com)

2018 International Building Code

Revise as follows:

404.1 General.
In other than Group H occupancies, ~~and where permitted by Section 712.1.7~~ , the provisions of Sections 404.1 through 404.10 shall apply to buildings or structures containing vertical openings defined as "Atriums."

> **Exception:** Vertical openings that comply with Sections 712.1.1 through 712.1.3, and Sections. 712.1.9 through 712.1.14.

Reason:

Regardless of the number of changes that people make to Section 404 (Atriums) and Section 712 (Vertical Openings), and the countless words the IBC Commentary uses to help the code user, numerous people still do not fully comprehend that the provisions found in Section 404 are NOT the only way allowed to protect a 2-story large "hole" in a floor/ceiling assembly in a building that only has 2 stories, i.e., a hole intended to allow daylight to move to another story.

In the IBC the construction of a floor/ceiling assembly is regulated by Section 711 (Floor and Roof Assemblies). And though not defined, in the IBC any "hole" in a floor ceiling assembly is considered to be a "vertical opening." Sorry to give a mini-seminar but it seems like people don't know that Section 711 specifically tells the code user that regardless of whether or not a floor/ceiling assembly has a fire rating, the continuity rule says "Assemblies shall be continuous without vertical openings, except as permitted by this section and Section 712.

Section 712 (Vertical Openings) contains 16 means by which "holes" in floors can be addressed. For a large "hole" in a floor/ceiling assembly that is intended to allow daylight to move to another story, Section 712 really offers only 2 options:

712.1.7 – Atriums (Section 404)

712.1.9 – Two-story openings

Even a new code user knows that if a word or term is italicized then there is a definition of the term in Chapter 2. And in reading Section 712.1.7 they will see that the term "atrium" is italicized. So off to Chapter 2 they go where they find the following definition – "**ATRIUM.** An opening connecting two or more *stories* other than enclosed *stairways*, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall. *Stories*, as used in this definition, do not include balconies within assembly groups or *mezzanines* that comply with Section 505."
The "hole" outlined above meets the definition of "atrium" so hey, they are done – they know that it must be protected as outlined in Section 404. They NEVER got to the 2nd option in 712.1.9.
Several cycles ago, the 1st sentence in Section 404.1 was added to tell the code user that they only should have gotten to Section 404 through the use of Section 712..1, but based upon the number of questions I receive as a code consultant to architects, engineers, designers, owners, developers and even code official each year on this topic – this pointer has not worked.
Through the elimination of the pointer to Section 712.1.7 and the addition of the exception, this code change is intended to make it clear that not all 2-story vertical openings must comply with Section 404, but that the design option found in 712.1.9 IS ALWAYS another option.

Cost Impact

The code change proposal will increase the cost of construction .
If accepted the cost of construction may be decreased as not all of the provisions for an atrium will have to be included.

G30-18

Committee Action: **Approved as Submitted**

Committee Reason: The definition of atrium is broken because code users frequently try to impose Section 404 requirements on openings which aren't atriums. This change will provide clear guidance to designers to say that elements of the building complying with one of the listed sections from 712.1 are not subject to atrium provisions. (Vote: 14-0).

Public comment **G30**

Notes 6-5-2018: G30 and G31 both revised this section. If you put them together, it reads as follows:

404.1 General. The provisions of Sections 404.1 through 404.10 shall apply to buildings containing atriums. Atriums are not permitted in buildings or structures classified as Group H.

Exception: Vertical openings that comply with Sections 712.1.1 through 712.1.3, and Sections. 712.1.9 through 712.1.14.

If this was written in English instead of references.
Atriums shall comply with this section.
Exception: Vertical openings that are shaft enclosures, within individual dwelling units, escalator openings, two story openings, parking garage, mezzanines, exit access stairways/ramps, access doors or within housing units in jails are not required to comply with this section.

The 2018 language only referenced the section on atriums. The new references to 712 left out penetrations, joints, duct and transfer openings, atriums, masonry chimneys, skylights and openings otherwise permitted.

Suggestion:
404.1 General. The provisions of Sections 404.1 through 404.10 shall apply to buildings containing atriums. Atriums are not permitted in buildings or structures classified as Group H.

Exception: ~~Vertical openings that comply with Sections 712.1.1 through 712.1.3, and Sections. 712.1.9 through 712.1.14.~~

Reason: Section 712.1.7 sends you back to 404. A designer can choose any option in 712 for protection of an opening. This exception, with its limited references, is very confusing and should be deleted. Other options addressed in G32.

G31-18

IBC: 404.1, 404.9, 404.9.1, 404.9.2, 404.9.3, 404.10, 712.1.7, TABLE 1017.2, 1017.3.2 (New), 1017.3.2.1 (New), 1017.3.2.2 (New), 1017.3.2.3 (New), 1028.1, (IFC[BE] TABLE 1017.2, 1017.3.2 (New), 1017.3.2.1 (New), 1017.3.2.2 (New), 1017.3.2.3 (New), 1028.1)

Proponent: Ed Kullik, Chair, representing ICC Building Code Action Committee (bcac@iccsafe.org) THIS CODE CHANGE WILL BE HEARD BY THE MEANS OF EGRESS COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

2018 International Building Code

Revise as follows:
404.1 General.

~~In other than Group H occupancies, and where permitted by Section 712.1.7, the~~ The provisions of Sections 404.1 through 404.10 shall apply to buildings containing atriums. Atriums are not permitted in buildings or structures ~~containing vertical openings defined as "Atriums."~~classified as Group H.

404.9 Exit access travel distance.
Exit access travel distance for areas open to an *atrium* shall comply with the requirements of ~~this section.~~Section 1017.

Delete without substitution:
~~**404.9.1 Egress not through the atrium.**~~
~~Where required access to the *exits* is not through the *atrium*, *exit access* travel distance shall comply with Section 1017.~~

~~**404.9.2 Exit access travel distance at the level of exit discharge.**~~
~~Where the path of egress travel is through an *atrium* space, *exit access* travel distance at the *level of exit discharge* shall be determined in accordance with Section 1017.~~

~~**404.9.3 Exit access travel distance at other than the level of exit discharge.**~~
~~Where the path of egress travel is not at the *level of exit discharge* from the *atrium*, that portion of the total permitted *exit access* travel distance that occurs within the *atrium* shall be not greater than 200 feet (60 960 mm).~~

Revise as follows:
404.10 Interior exit stairways.
~~Not greater than 50 percent~~ Discharge of *interior exit stairways* ~~are permitted to egress~~ through an atrium ~~on the *level of exit discharge*~~ shall be in accordance with Section 1028.

712.1.7 Atriums.
~~In other than Group H occupancies, atriums complying with Section 404 shall be permitted.~~Atriums in buildings shall comply with Section 404.

TABLE 1017.2
EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLERSYSTEM (feet)	WITH SPRINKLER SYSTEM(feet)
A, E, F-1, M, R, S-1	200[e]	250[b]
I-1	Not Permitted	250[b]
B	200	300[c]
F-2, S-2, U	300	400[c]
H-1	Not Permitted	75[d]
H-2	Not Permitted	100[d]
H-3	Not Permitted	150[d]
H-4	Not Permitted	175[d]
H-5	Not Permitted	200[c]
I-2, I-3	Not Permitted	200[c]
I-4	150	200[c]

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to *exit access* travel distance requirements:
Section 402.8: For the distance limitation in malls.
~~Section 404.9:For the distance limitation through an atrium space.~~
Section 407.4: For the distance limitation in Group I-2.

Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
Section 411.3: For the distance limitation in special amusement buildings.
Section 412.6: For the distance limitations in aircraft manufacturing facilities.
Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.
Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.
Section 1006.3.3: For buildings with one exit.
Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.
Section 1029.7: For increased limitation in assembly seating.
Section 3103.4: For temporary structures.
Section 3104.9: For pedestrian walkways.

b. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where *automatic sprinkler systems* are permitted in accordance with Section 903.3.1.2.
c. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
d. Group H occupancies equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.5.1.
e. Group R-3 and R-4 buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.

1017.3 Measurement.
Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit.

Exception: In open parking garages, *exit access* travel distance is permitted to be measured to the closest riser of an *exit access stairway* or the closest slope of an *exit access* ramp.

1017.3.1 Exit access stairways and ramps.
Travel distance on *exit access stairways* or *ramps* shall be included in the *exit access*travel distance measurement. The measurement along *stairways* shall be made on a plane parallel and tangent to the *stair* tread*nosings* in the center of the *stair* and landings. The measurement along *ramps* shall be made on the walking surface in the center of the *ramp* and landings.

Add new text as follows:

1017.3.2 Atriums.
Exit access travel distance for areas open to an atrium shall comply with the requirements of this section.

1017.3.2.1 Egress not through the atrium.
Where required access to the exits is not through the atrium, exit access travel distance shall comply with Section 1017.2.

1017.3.2.2 Exit access travel distance at the level of exit discharge.
Where the path of egress travel is through an atrium space, exit access travel distance at the level of exit discharge shall be determined in accordance with Section 1017.2.

1017.3.2.3 Exit access travel distance at other than the level exit discharge.
Where the path of egress travel is not at the level of exit discharge from the atrium, that portion of the total permitted exit access travel distance that occurs within the atrium shall be not greater than 200 feet (60 960 mm).

Revise as follows:

1028.1 General.

Exits shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including atriums, on the level of discharge provided that all of the following conditions are met:
   1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior *exit* door and such *exit* is readily visible and identifiable from the point of termination of the enclosure.
   1.2. The entire area of the *level of exit discharge* is separated from areas below by construction conforming to the *fire-resistance rating* for the enclosure.
   1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system*. Portions of the *level of exit discharge* with access to the egress path shall be either equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps*.
   1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the *exit discharge* door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the *exit discharge* door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
   2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp enclosure*.
   2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708.

   Exception: The maximum transmitted temperature rise is not required.

   2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the building.

Reason:

The purpose of this proposal is to relocate portions of the Section 404 atrium requirements to other appropriate portions of the IBC. As defined in Chapter 2, an atrium is a particular type of a vertical opening in a building or structure, but not the only method permitted by Chapter 7 for dealing with a vertical opening. A proposal last cycle (G51-15) attempted to relocate the entire Section 404 provisions into Section 712. While the proposal was disapproved by a vote of 8-6, there was support expressed for considering a relocation of these provisions if clarifications to the existing text were provided and at least a minimum set of provisions be retained in Chapter 4 as a starting point for addressing requirements specific to certain building features. This proposal retains Section 404 but makes some targeted relocations. In all cases, pointers are left in Section 404 so the link is not totally lost and code users still have Section 404 as a guide to all of the considerations for atriums. Requirements relative to exit access travel distance and interior exit stair discharge are also moved to Section 1017 and Section 1028 respectively. While these provisions perhaps appear specific to atriums, they are not entirely self-contained and clearly need to be evaluated as part of the general travel distance and exit discharge requirements for the building. For exit access travel distance, the atrium-specific provisions are added under the exiting Section 1017.3 on measurement of exit access travel distance. For exit discharge, a

reference to atriums is added under Exception #1 of Section 1028.1. Finally, the charging language is clarified. A circular reference between Section 404 and Section 712.1 is removed. The existing language, especially in Section 404, also makes it vague as to whether an atrium is allowed in a Group H building or structure, versus another method of treating a vertical opening. The implication (especially in Section 712.1) is that such an atrium is not permitted. The charging language in both sections is revised accordingly. In addition, an exception is added permitting a vertical opening meeting the definition of an atrium to be constructed in accordance with any of the other methods for treating a vertical opening (e.g. a shaft enclosure per Section 712.1.1 or a generic two-story opening per Section 712.1.9).

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-action-committee-bcac.

Cost Impact

The code change proposal will not increase or decrease the cost of construction .

The code change proposal will not increase or decrease the cost of construction. This is an editorial reorganization to place requirements in a more appropriate location.

G31-18

Committee Action: **Approved as Submitted**

Committee Reason: Locating the requirements for means of egress in an atrium in Chapter 10 will make it easier for users to determine the egress requirements for a building as a whole. (Vote: 14-0)

Notes 6-5-2018: See G30 notes

G32-18

IBC: 404.5

Proponent: Sarah Rice, representing Myself (srice@preview-group.com)

2018 International Building Code

Revise as follows:

404.5 Smoke control.

A smoke control system shall be installed in accordance with Section 909.

~~**Exception**~~ **Exceptions:**

1. In other than Group I-2, and Group I-1, Condition 2, smoke control is not required for *atriums* that connect only two stories.
2. A smoke control system is not required for atriums connecting more than two stories when all of the following are met:
   2.1. Only the 2 lowest stories shall be permitted to be open to the atrium.
   2.2. All stories above the lowest 2 stories shall be separated from the atrium in accordance with Section 404.6.

Reason:

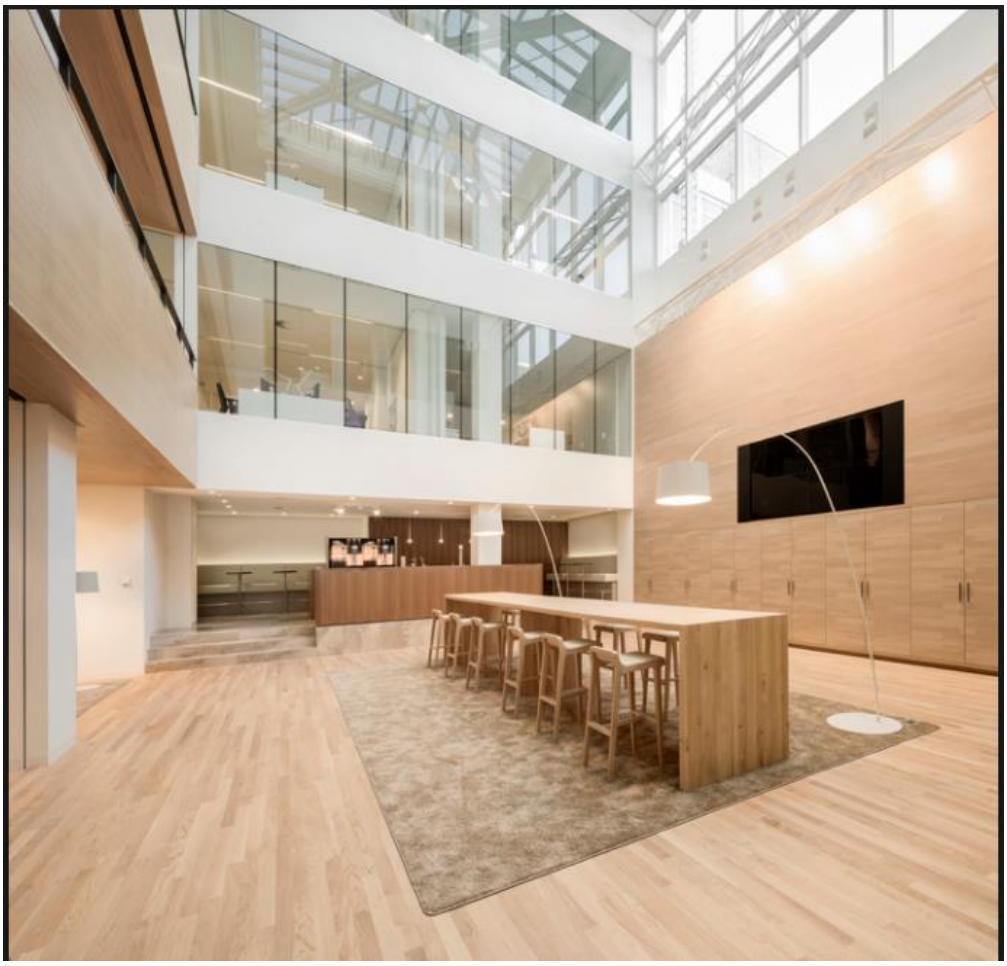
As stated in Section 909, the purpose of a smoke control systems is to provide a tenable environment for the evacuation or relocation of occupants. A smoke control system is NOT intended

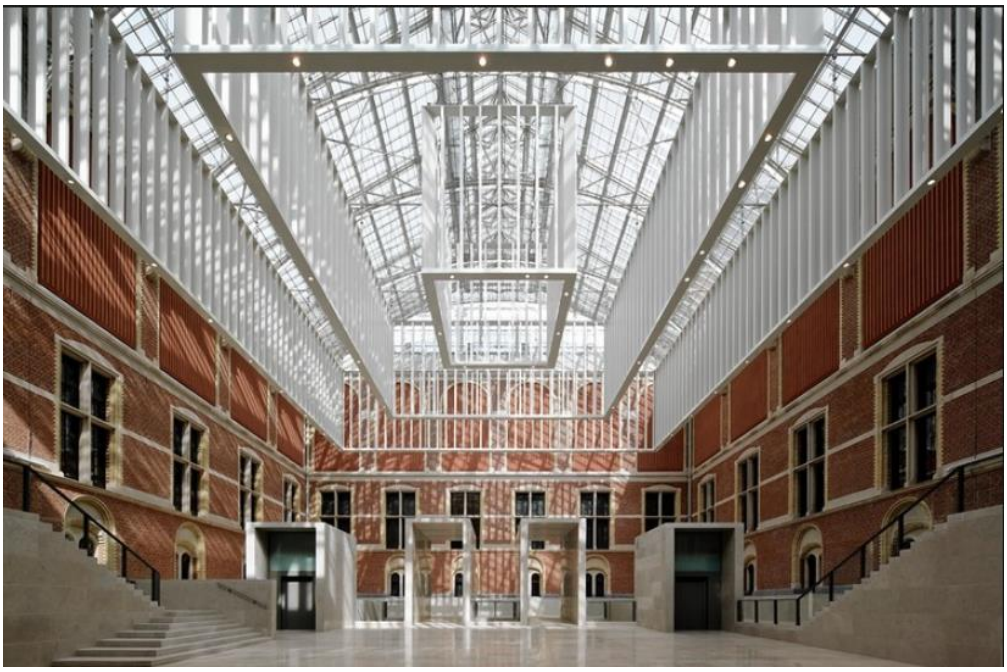
for the preservation of contents, the timely restoration of operations or for assistance in fire suppression or overhaul activities. Smoke control systems that are required and regulated by the IBC serve a different purpose than the smoke- and heat-venting provisions found in Section 910 and they are not considered exhaust systems under Chapter 5 of the International Mechanical Code.

In an atrium that connects more than 2 stories, the smoke control systems is intended to maintained the height of the lowest horizontal surface of the smoke layer interface to at least 6 feet above any walking surface that forms a portion of a required egress system within the smoke zone for a period of not less than either 20 minutes or 1.5 times the calculated egress time, whichever is less.

But what if the only walking surfaces in the atrium are on the 2 lowest stories of the atrium? What if all the walls above the 2 lowest stories are solid without operable openings? What purpose does the smoke control system then serve? We contend none. And if the smoke control system has no real value, then why install it? See Figures 1 - 3 for examples of these spaces.

This proposed change seeks to exempt atriums that connect more than 2 stories from having to have a smoke control system when 1) there are no walking surfaces in the atrium above the 2 lowest stories and 2) there are no operable windows or doors above the 2 lowest stories in the atrium and 3) the walls of the atrium on the upper levels are constructed per Section 404.6 - atrium enclosures..





Cost Impact

The code change proposal will decrease the cost of construction .

The cost savings of not providing smoke control system in a building with an atrium will decrease the cost of construction.

G32-18

Committee Action: **Approved as Modified**

Committee Modification:
Modify proposal as follows:
404.5 Smoke control.
A smoke control system shall be installed in accordance with Section 909.

Exceptions:
1. In other than Group I-2, and Group I-1, Condition 2, smoke control is not required for atriums that connect only two stories.
2. A smoke control system is not required for atriums connecting more than two stories when all of the following are met:
   2.1. Only the 2 lowest stories shall be permitted to be open to the atrium.
   2.2. All stories above the lowest 2 stories shall be separated from the atrium in accordance with ~~Section 404.6~~ the provision for a shaft in Section 713.4.

Committee Reason: Clarifies that the code allows a combination of an atrium with a shaft enclosure. The exception provides an alternative where a natural smoke sink is provided. The modification clarifies that the extension of the atrium needs to meet shaft construction requirements. The proposal doesn't redefine atrium, but replaces smoke control with a natural sink. The proponent may wish to consider via a public comment addressing a hatch or similar means to vent smoke at the top of the shaft. (Vote: 12-2)

Notes 6-5-2018: See notes on G30. Modification would not allow for glass wall separation as shown in picture – only rated shaft walls.

G33-18

IBC: 404.6
Proponent: Raymond Grill, representing Self (ray.grill@arup.com)

2018 International Building Code
Revise as follows:
404.6 Enclosure of atriums.
Atrium spaces shall be separated from adjacent spaces by a 1-hour *fire barrier* constructed in accordance with Section 707 or a *horizontal assembly* constructed in accordance with Section 711, or both.

Exceptions:
1. A *fire barrier* is not required where a glass wall forming a smoke partition is provided. The glass wall shall comply with all of the following:
   1.1. Automatic sprinklers are provided along both sides of the separation wall and doors, or on the room side only if there is not a walkway on the *atrium* side. The sprinklers shall be located between 4 inches and 12 inches (102 mm and 305 mm) away from the glass and at intervals along the glass not greater than 6 feet (1829 mm). The sprinkler system shall be designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction;

1.2. The glass wall shall be installed in a gasketed frame in a manner that the framing system deflects without breaking (loading) the glass before the sprinkler system operates; and
1.3. Where glass doors are provided in the glass wall, they shall be either *self-closing* or automatic-closing.

2. A *fire barrier* is not required where a glass-block wall assembly complying with Section 2110 and having a $^{3}/_{4}$-hour *fire protection rating* is provided.
3. A *fire barrier* is not required between the *atrium* and the adjoining spaces of up to three floors of the *atrium* provided that such spaces are accounted for in the design of the smoke control system.
4. A fire barrier is not required between the atrium and the adjoining spaces where the atrium is not required to be provided with a smoke control system.
5. A horizontal assembly is not required between the atrium and openings for escalators complying with Section 712.1.3.
6. A horizontal assembly is not required between the atrium and openings for exit access stairways and ramps complying with 1019.3.4.

Reason:
Floor openings for escalators and exit access stairways and ramps meeting the sections identified in the proposal are protected. The protection consists of draft curtains around the floor opening and additional sprinklers. The size of the floor opening is also limited. The provision of the draft curtain and sprinklers limit the potential of smoke spread through the opening and that communicate via these types of openings should not be considered to be part of the atrium.
Cost Impact
The code change proposal will decrease the cost of construction .
If levels that are connected via protected escalator or access stairway or ramp openings are considered part of the atrium, there are potentially significant costs associated with providing smoke control for those levels.

G33-18
Committee Action: **Approved as Submitted**
Committee Reason: The proposed revision helps clarify in the code where other treatments of 'holes in the building' can be associated with an atrium. Some believe these two measures make clear designs already allowed by the code. (Vote: 13-0)

Public comment **G33**

Notes 6-5-2018: There is no Section 1019.3.4 – This is Section 1019.3, Item 4. Literally this would allow a 4 story escalator/stairway with draft curtains above or below an atrium with only draft curtain protection for the escalator/stairway opening and it would not be considered part of the atrium smoke protection area. Suggest PC of D.

G34-18

IBC: 202, (New), 404.6, 716.4 (New), 716.4.1 (New), 716.4.2 (New), 716.4.3 (New), Chapter 35
Proponent: Tessa Quinones, The Hickman Group, representing Smoke Guard (admin@thehickmangroup.com)

THIS CODE CHANGE WILL BE HEARD BY THE IBC FIRE SAFETY COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE

2018 International Building Code

SECTION 202 DEFINITIONS

FIRE PROTECTIVE CURTAIN ASSEMBLY. An assembly consisting of a fabric curtain, bottom bar, guides, coil, operating, and closing system.

404.6 Enclosure of atriums.
Atrium spaces shall be separated from adjacent spaces by a 1-hour *fire barrier* constructed in accordance with Section 707 or a *horizontal assembly* constructed in accordance with Section 711, or both.
Exceptions:

1. A *fire barrier* is not required where a glass wall forming a smoke partition or a 20-minute fire protective curtain assembly is provided. The glass wall or fire protective curtain assembly shall comply with all of the following:
   1.1. Automatic sprinklers are provided along both sides of the separation wall, fire protective curtain assembly and doors, or on the room side only if there is not a walkway on the *atrium* side. The sprinklers shall be located between 4 inches and 12 inches (102 mm and 305 mm) away from the glass and at intervals along the glass or fire protective curtain assembly not greater than 6 feet (1829 mm). The sprinkler system shall be designed so that the entire surface of the glass or fire protective curtain assembly is wet upon activation of the sprinkler system without obstruction;
   1.2. The glass wall shall be installed in a gasketed frame in a manner that the framing system deflects without breaking (loading) the glass before the sprinkler system operates; and
   1.3. The fire protective curtain assembly shall be installed in accordance with Section 716.4 and shall be actuated in conjunction with the atrium smoke control system, and
   ~~1.3.~~1.4. Where glass doors are provided in the glass wall, they shall be either *self-closing* or automatic-closing.
2. A *fire barrier* is not required where a glass-block wall assembly complying with Section 2110 and having a $^{3}/_{4}$-hour *fire protection rating* is provided.
3. A *fire barrier* is not required between the *atrium* and the adjoining spaces of up to three floors of the *atrium* provided that such spaces are accounted for in the design of the smoke control system.
4. A fire barrier is not required between the atrium and the adjoining spaces where the atrium is not required to be provided with a smoke control system.

Add new text as follows:
716.4 Fire protective curtain assembly.
Approved fire protective curtain assemblies shall be constructed of any materials or assembly of component materials tested without hose stream in accordance with UL 10D, and shall comply with the Sections 716.4.1 through 716.4.3

716.4.1 Label.
Fire protective curtain assemblies used as opening protectives in fire rated walls and smoke partitions shall be labeled in accordance with Section 716.2.9.

716.4.2 Smoke and draft control.
Fire protective curtain assemblies used to protect openings where smoke and draft control assemblies are required shall comply with Section 716.2.1.4.

716.4.3 Installation.
Fire protective curtain assemblies shall be installed in accordance with NFPA 80.

Add new standard(s) follows:
UL
10D-14: Standard for Fire Tests of Fire Protective Curtain Assemblies

Reason:
During the last cycle, FS 102-15 was disapproved at least in part on the proposed use of fabric fire protective curtain assemblies as an opening protective having a one-hour fire protection rating and to replace one hour fire barriers. This proposal allows the use of a 20-minute fire protective curtain

assembly as an alternative to a non-rated glass wall when protected with sprinklers for the enclosure of an atrium. In addition, the proposal allows fire protective curtain assemblies as an opening protective as permitted by other sections of the IBC.
Both of these applications are consistent with the scope of UL 10D which reads:
These requirements cover the evaluation of fire protective curtain assemblies intended to provide supplemental passive fire protection as part of an engineered fire protection system. Fire protective curtain assemblies provide nonstructural separation only, and are not intended to be substituted for structural hourly rated partitions or opening protectives that have been tested for fire endurance and hose stream performance.
The proposed definition and uses are consistent with NFPA 80-2016 and UL 10D. Some products can also pass UL 1784 for an "S" label.
The proposed requirement that the assembly be "approved" in addition to "listed" allows the Code Official to specifically approve the proposed application.

Cost Impact
The code change proposal will not increase or decrease the cost of construction .
The use of the fire protective curtain assembly is an option and as such, atria enclosures can continue to be constructed as currently permitted.
Analysis: A review of the standard proposed for inclusion in the code, UL 10D-14, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 2, 2018.

G34-18
THIS PROPOSAL WAS HEARD BY THE IBC FIRE SAFETY CODE COMMITTEE
Committee Action: **Approved as Modified**

Committee Modification:
404.6 Enclosure of atriums.
Atrium spaces shall be separated from adjacent spaces by a 1-hour fire barrier constructed in accordance with Section 707 or a horizontal assembly constructed in accordance with Section 711, or both.
Exceptions:
1. A fire barrier is not required where a glass wall forming a smoke partition ~~or a 20-minute fire protective curtain assembly~~ is provided. The glass wall ~~or fire protective curtain assembly~~ shall comply with all of the following:
   1.1. Automatic sprinklers are provided along both sides of the separation wall, ~~fire protective curtain assembly~~ and doors, or on the room side only if there is not a walkway on the atrium side. The sprinklers shall be located between 4 inches and 12 inches (102 mm and 305 mm) away from the glass and at intervals along the glass ~~or fire protective curtain assembly~~ not greater than 6 feet (1829 mm). The sprinkler system shall be designed so that the entire surface of the glass ~~or fire protective curtain assembly~~ is wet upon activation of the sprinkler system without obstruction;
   1.2. The glass wall shall be installed in a gasketed frame in a manner that the framing system deflects without breaking (loading) the glass before the sprinkler system operates; and
   ~~1.3. The fire protective curtain assembly shall be installed in accordance with Section 716.4 and shall be actuated in conjunction with the atrium smoke control system, and~~
   ~~1.4.~~ 1.3 Where glass doors are provided in the glass wall, they shall be either self-closing or automatic-closing.
2. A fire barrier is not required where a glass-block wall assembly complying with Section 2110 and having a $^{3}/_{4}$-hour fire protection rating is provided.
3. A fire barrier is not required between the atrium and the adjoining spaces of up to three floors of the atrium provided that such spaces are accounted for in the design of the smoke control system.
4. A fire barrier is not required between the atrium and the adjoining spaces where the atrium is not required to be provided with a smoke control system.

Chapter 35- UL

10D-~~14~~ 17: Standard for Fire Tests of Fire Protective Curtain Assemblies

Committee Reason: The proposal is a simplified version (after the modification) of the original. The products have been used for years through the alternative methods process, they should be recognized in the code. (Vote: 8-6)

Notes 6-5-2018: The modification removed all the changes from 404.6 and left the fire curtain requirements in 716. It is not clear how you would get to the fire curtain as an option for atrium protection. 707 is rated walls, which lets you go to 716 for opening protection, but only for 25% of the wall.

G35-18

IBC: 404.10.1 (New)

Proponent: David Collins, representing The American Institute of Architects (dcollins@preview-group.com)
THIS CODE CHANGE WILL BE HEARD BY THE MEANS OF EGRESS COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

2018 International Building Code
Add new text as follows:

404.10.1 Exit stairs in an atrium.
Where an atrium contains an interior exit stairway all the following shall be met:

1. The exit stair shall have access from a minimum of two directions.
2. The distance between an exit stair in an atrium, and a minimum of one exit stair enclosed in accordance with Section 1023.2 shall comply with Section 1007.1.1.
3. Exit access travel distance within the atrium shall be measured to the nosing of the landing at the top of the stair on each level served.
4. At least one exit shall not be located in the same atrium.

Reason:
An exit stair is currently permitted to be in an atrium enclosure by IBC Sections 2023.1 and 1023.2, which allows enclosure per Section 404.6. These new provisions for the conditions for use of an atrium for an exit stair adds four specific criteria for their use as an exit.
Provision 1 - Accessed from two directions
This means that the exit stair in the atrium must have two paths of travel to allow the occupants to pass by the stair.
Provision 2 - Separation distance
To make it clear that the exit stair in the atrium must be separated from at least one other exit stair meeting IBC Section 1023.2 by the minimum separation distance prescribed in Section 1007.1.1.
Provision 3 - Travel distance
The travel distance with the atrium to the exit stair in the atrium is to be measured to the nosing at the level the stair is serving.
Provision 4 - At least one exit is not in the atrium.
Requires that at least one exit is not permitted to be in the same atrium. The current provisions of Section 404.10 prohibit more than 50% of exit stairs from egresing through the atrium at the level of exit discharge.
Cost Impact
The code change proposal will decrease the cost of construction .

This change will facilitate design decisions, reduce the number of required exit enclosures in buildings with an atrium and help with review and approval, reducing the cost of construction.

G35-18

Committee Action: **Approved as Submitted**

Committee Reason: This proposal was approved because current Section 1023.2 already allows for a stairway within an atrium to be considered an exit stairway. This language in Items 2 and 3 would clarify that the exit access travel distance and exit separation requirements is measured to the top of the stairway. While the language in Item 1 for two directions could be subject to interpretation, Items 1 and 4 do further limit where a stairway in an atrium can serve as an exit, so this would improve safety. (Vote: 8-7)

Public comment **G35**

Notes 6-5-2018: If the decision is to limit atriums to exit access stairways, then the PC has to be for D.

Issue with this text if this is an exit stairway –

404.10 ~~404.10.1~~ Exit stairways in an atrium. Where an atrium contains an interior exit stairway all the following shall be met:

1. The entrance to the exit stairway shall have access from a minimum of two directions.
2. The distance between the entrance to an exit stairway in an atrium, and the entrance to a minimum of one exit stairway enclosed in accordance with Section 1023.2 shall comply with the separation in Section 1007.1.1.
3. Exit access travel distance ~~within the atrium~~ shall be measured to the closest riser of the exit ~~nosing of the landing at the top of the~~ stairway ~~on each level served~~.
4. ~~At least one~~ Not more than 50% of the exit stairways shall ~~not~~ be located in the same atrium.

404.11 ~~404.10~~ **Interior exit stairways discharge.** Not greater than 50 percent of *interior exit stairways* are permitted to egress through an *atrium* on the *level of exit discharge* in accordance with Section 1028.

Reasons: This is not a subset of exit discharge through the lobby. Numbering is wrong. Should be between exit access and exit discharge sections.
Language is exit stairway, not exit stair.
Dispersion is to the entrance to the exit stairway, not the stairway itself or the enclosure.
Language for measurement needs to match exception in 1017.3.
On each level served is redundant.
Item 4 language is consistent with exit discharge allowances – current language would allow more than 50%.

E18-18

IBC: SECTION 1006.3, 1006.3.1, 1019.3 (IFC[BE] 1006.3, 1006.3.1, 1019.3)

Proponent: David Collins, representing The American Institute of Architects (dcollins@preview-group.com)

2018 International Building Code

SECTION 1006 NUMBER OF EXITS AND EXIT ACCESS DOORWAYS

1006.1 General.
The number of *exits* or *exit access doorways* required within the *means of egress* system shall comply with the provisions of Section 1006.2 for spaces, including *mezzanines*, and Section 1006.3 for *stories* or occupied roofs.
Revise as follows:

1006.3 Egress from stories or occupied roofs.
The *means of egress* system serving any *story* or occupied roof shall be provided with the number of separate and distinct *exits* or access to *exits* based on the aggregate *occupant load* served in accordance with this section. ~~Where *stairways* serve more than one *story*, only the *occupant load* of each *story* considered individually shall be used in calculating the required number of *exits* or access to *exits* serving that *story*.~~

Add new text as follows:
1006.3.1 Occupant load.
Where stairways serve more than one story, or more than one story and an occupied roof, only the occupant load of each story or occupied roof, considered individually, shall be used in when calculating the required number of exits or access to exits serving that story.

Revise as follows:
~~**1006.3.1**~~ **1006.3.2 ~~Adjacent story.~~ Path of egress travel.**.
The path of egress travel to an *exit* shall not pass through more than one adjacent *story*.
Exception: The path of egress travel to an *exit* shall be permitted to pass through more than one adjacent *story* in any of the following:
1. In Group R-1, R-2 or R-3 occupancies, exit access stairways and *ramps* connecting four stories or less serving and contained within an individual dwelling unit, sleeping unit or live/work unit.
2. Exit access stairways serving and contained within a Group R-3 congregate residence or a Group R-4 facility.
3. Exit access stairways and ramps within an atrium comply with the provisions of Section 404.
4. Exit access stairways and *ramps* in open parking garages that serve only the parking garage.
5. ~~4~~ Exit access stairways and *ramps* serving *open-air assembly seating* complying with the exit access travel distance requirements of Section 1029.7.
6. ~~5~~ Exit access stairways and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.
7. Exterior exit access stairways and ramps between occupied roofs.

~~**1006.3.2**~~**1006.3.3 Egress based on occupant load.**
Each *story* and occupied roof shall have the minimum number of separate and distinct *exits*, or access to *exits*, as specified in Table 1006.3.2. A single *exit* or access to a single *exit* shall be permitted in accordance with Section 1006.3.3. The required number of *exits*, or *exit access stairways* or *ramps* providing access to *exits*, from any story or occupied roof shall be maintained until arrival at the *exit discharge* or a *public way*.

1019.3 Occupancies other than Groups I-2 and I-3.
In other than Group I-2 and I-3 occupancies, floor openings containing *exit access stairways* or *ramps* that do not comply with one of the conditions *listed* in this section shall be enclosed with a shaft enclosure constructed in accordance with Section 713.
1. *Exit access stairways* and *ramps* that serve or atmospherically communicate between only two stories. Such interconnected stories shall not be open to other stories.
2. In Group R-1, R-2 or R-3 occupancies, *exit access stairways* and *ramps* connecting four stories or less serving and contained within an individual *dwelling unit* or *sleeping unit* or *live/work unit*.
3. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 facility are not required to be enclosed.

4. *Exit access stairways* and *ramps* in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the *stairway* or *ramp* and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories.
5. *Exit access stairways* and *ramps* within an *atrium* complying with the provisions of Section 404.
6. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
7. *Exit access stairways* and *ramps* serving *smoke-protected or open-air assembly seating* complying with the *exit access* travel distance requirements of Section 1029.7.
8. *Exit access stairways* and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.
9. Exterior exit access stairways or ramps between occupied roofs.

Reason:
The title of this section includes stories and occupied roof, but the section gives no guidance regarding the occupied roof. This change will clarify the application of the provisions to an occupied roof and another story. As has been the practice, the occupant load of each story or with this change, the occupant load of the roof (which isn't a story) will be used to determine the required occupant load for the stair serving it.
In addition, the two exceptions will recognize an exit access stairway located in an atrium and an exit access stairway serving an occupied roof to pass through more than one story. This change will make it clear that a stair in an atrium that is NOT part of the means of egress is always acceptable and not limited to the one adjacent story criteria.

Cost Impact
The code change proposal will decrease the cost of construction .
This change will simplify design decisions, review and approval of projects, reducing the cost of construction.

E18-18
Committee Action: **Approved as Modified**

Committee Modification:

1006.3.1 Occupant load. Where stairways serve more than one story, or more than one story and an occupied roof, only the occupant load of each story or occupied roof, considered individually, shall be used ~~in~~ when calculating the required number of exits or access to exits serving that story.

1006.3.2 Path of egress travel. The path of egress travel to an exit shall not pass through more than one adjacent story.

Exception: The path of egress travel to an exit shall be permitted to pass through more than one adjacent story in any of the following:
1. In Group R-1, R-2 or R-3 occupancies, exit access stairways and ramps connecting four stories or less serving and contained within an individual dwelling unit, sleeping unit or live/work unit.
2. Exit access stairways serving and contained within a Group R-3 congregate residence or a Group R-4 facility.
3. Exit access stairways and ramps within an atrium comply with the provisions of Section 404.
4. Exit access stairways and ramps in open parking garages that serve only the parking garage.
5. Exit access stairways and ramps serving open-air assembly seating complying with the exit access travel distance requirements of Section 1029.7.
6. Exit access stairways and ramps between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities.
7. ~~Exterior~~ Exit access stairways and ramps ~~between~~ serving occupied roofs.

1019.3 Occupancies other than Groups I-2 and I-3.
In other than Group I-2 and I-3 occupancies, floor openings containing *exit access stairways* or *ramps* that do not comply with one of the conditions *listed* in this section shall be enclosed with a shaft enclosure constructed in accordance with Section 713.

1. *Exit access stairways* and *ramps* that serve or atmospherically communicate between only two stories. Such interconnected stories shall not be open to other stories.
2. In Group R-1, R-2 or R-3 occupancies, *exit access stairways* and *ramps* connecting four stories or less serving and contained within an individual *dwelling unit* or *sleeping unit* or *live/work unit*.
3. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 facility are not required to be enclosed.
4. *Exit access stairways* and *ramps* in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the *stairway* or *ramp* and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories.
5. *Exit access stairways* and *ramps* within an *atrium* complying with the provisions of Section 404.
6. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
7. *Exit access stairways* and *ramps* serving *smoke-protected or open-air assembly seating* complying with the *exit access* travel distance requirements of Section 1029.7.
8. *Exit access stairways* and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.
9. ~~Exterior~~ Exit access stairways or ramps ~~between~~ serving occupied roofs.

Committee Reason: The modification to Section 1006.3.1 is an editorial correction for better English. The modification to Sections 1006.3.2 Exception 7 and 1019.3 Exception 9 will allow for the exit access stairways to move down from the occupied roof and into the building for means of egress from the roof. As a new exception, the exit access travel distance, not the number of stories, will be the limiting factor. Without the modification, Section 1006.3.2 Exception 7 would only be applicable if there were multiple roofs and it would limit the application to exterior exit access stairways.
This proposal separates out occupied roofs into a new Section 1006.3.1 which will clarify how egress is addressed for occupied roofs. There was no discussion on the new Exception 3 for Section 1006.3.2. (Vote: 9-5)

Notes 6-5-2018: This proposal added exit access travel distance within atriums to be multiple stories. Dave to propose public comment to remove modification.

E19-18

IBC: 404.9.3, 1006.3.1, 1017.3,1023.2, (IFC[BE] 1006.3.1, 1017.3, 1023.2))
Proponent: Ed Kullik, Chair, representing ICC Building Code Action Committee (bcac@iccsafe.org)

2018 International Building Code

404.9 Exit access travel distance.
Exit access travel distance for areas open to an *atrium* shall comply with the requirements of this section.

404.9.1 Egress not through the atrium.
Where required access to the *exits* is not through the *atrium*, *exit access* travel distance shall comply with Section 1017.

404.9.2 Exit access travel distance at the level of exit discharge.

Where the path of egress travel is through an *atrium* space, *exit access* travel distance at the *level of exit discharge* shall be determined in accordance with Section 1017.
Revise as follows:

404.9.3 Exit access travel distance at other than the level of exit discharge.
Where the path of egress travel is not at the *level of exit discharge* from the *atrium*, that portion of the total permitted *exit access* travel distance that occurs within the *atrium* shall be not greater than 200 feet (60 960 mm). Exit access travel distance shall be measured in accordance with Sections 1006.3.1 and 1017.3.

404.10 Interior exit stairways.
Not greater than 50 percent of *interior exit stairways* are permitted to egress through an atrium on the *level of exit discharge* in accordance with Section 1028.

CHAPTER 10 MEANS OF EGRESS

1006.3 Egress from stories or occupied roofs.
The *means of egress* system serving any *story* or occupied roof shall be provided with the number of separate and distinct *exits* or access to *exits* based on the aggregate *occupant load* served in accordance with this section. Where *stairways* serve more than one *story*, only the *occupant load* of each *story* considered individually shall be used in calculating the required number of *exits* or access to *exits* serving that *story*.

1006.3.1 Adjacent story.
The path of egress travel to an *exit* shall not pass through more than one adjacent *story*.

Exception: The path of egress travel to an *exit* shall be permitted to pass through more than one adjacent *story* in any of the following:

1. In Group R-1, R-2 or R-3 occupancies, exit access stairways and *ramps* connecting four stories or less serving and contained within an individual dwelling unit, sleeping unit or live/work unit.
2. Exit access stairways serving and contained within a Group R-3 congregate residence or a Group R-4 facility.
3. Exit access stairways and ramps within an atrium complying with the provisions of Section 404.
4. Exit access stairways and *ramps* in open parking garages that serve only the parking garage.
5. ~~4~~ Exit access stairways and *ramps* serving *open-air assembly seating* complying with the exit access travel distance requirements of Section 1029.7.
6. ~~5~~ Exit access stairways and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.

1017.3 Measurement.
Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit.

Exception~~s~~:

1. Within atriums, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.
2. In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.

1017.3.1 Exit access stairways and ramps.
Travel distance on *exit access stairways* or *ramps* shall be included in the *exit access* travel distance measurement. The measurement along *stairways* shall be made on a plane parallel and tangent to the *stair* tread *nosings* in the center of the *stair* and landings. The measurement along *ramps* shall be made on the walking surface in the center of the *ramp* and landings.

1023.2 Construction.
Enclosures for interior exit *stairways* and *ramps* shall be constructed as *fire barriers* in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. *Interior exit*

stairway and *ramp* enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the interior exit *stairways* or *ramps* shall include any *basements*, but not any *mezzanines*. *Interior exit stairways* and *ramps* shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.

Exceptions:

~~1.~~ *Interior exit stairways* and *ramps* in Group I-3 occupancies in accordance with the provisions of Section 408.3.8.

~~2. *Interior exit stairways* within an *atrium* enclosed in accordance with Section 404.6.~~

Reason:

The membership approved E139-12 (AS) which added the allowance for a stairway within an atrium to be considered an exit stairway into Section 1023.2. There is confusion where an atrium is called an exit stairway – how to measure travel distance, what could be in the atrium, if you could travel through an atrium to get to an exit stairway. Section 1019.3 states that open stairways in atriums is an 'exit access stairway', so the same stairway is currently called two different things in the code.

The intent of this proposal is to call the open stairway in the atrium an exit access stairway to be consistent with the terminology in Section 1019.3, Item 3.

The revision to Section 404.8.3 is a pointer for where exit access travel distance within an atrium includes travel down an exit access stairway. The revision to Sections 1006.3.1 and 1017.3 are to measure exit access travel distance in a manner that would be consistent with the using the open stairway as a required means of egress off a story consistent with if this stairway was an exit off the floor. The smoke protection provisions for atrium in Section 404 would have to be in place to be able to use this allowance as a required means of egress.

The BCAC also has a proposal to reformat the atrium requirements. If both changes pass, there will be no conflicts. The references to the location of requirements can be correlated.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-action-committee-bcac.

Cost Impact

The code change proposal will not increase or decrease the cost of construction .

This proposal is effectively codifying the intent to allow the use of open stairways within an atrium "as if" they are in an exit enclosure due to the enhanced safety that exists within an atrium that complies with all the requirements of IBC Section 404, without applying all the other limitations that exist for an exit enclosure elsewhere in the code.

E19-18

Committee Action: **Disapproved**

Committee Reason: An open stairway in an atrium should not be an exit stairway. It should only be permitted as an exit access stairway. Travel distance should be down the stairway to an exit to the outside. Atriums are not as safe as an exit because there is fuel load in the atrium. If a stairway in an atrium is an exit it should have additional restrictions. (Vote: 10-4)

Public comment **E19**

Notes 6-5-2018: PC to modify as follows.

1017.3 Measurement.

Exit access travel distance shall be measured from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit.

Exceptions:

1. ~~Within atriums, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.~~
2. In open parking garages, exit access travel distance is permitted to be measured to the closest riser of an exit access stairway or the closest slope of an exit access ramp.

Reason: Stairway is exit access stairway. Travel distance is down the stairway for 200 feet to and exit.

E20-18

IBC: 1006.3.1, (IFC[BE] 1006.3.1)

Proponent: Ed Kullik, Chair, representing ICC Building Code Action Committee (bcac@iccsafe.org)

2018 International Building Code

1006.3 Egress from stories or occupied roofs.

The *means of egress* system serving any *story* or occupied roof shall be provided with the number of separate and distinct *exits* or access to *exits* based on the aggregate *occupant load* served in accordance with this section. Where *stairways* serve more than one *story*, only the *occupant load* of each *story* considered individually shall be used in calculating the required number of *exits* or access to *exits* serving that *story*.

Delete without substitution:

~~**1006.3.1 Adjacent story.**~~

~~The path of egress travel to an *exit* shall not pass through more than one adjacent *story*.~~

~~**Exception:** The path of egress travel to an *exit* shall be permitted to pass through more than one adjacent *story* in any of the following:~~

1. ~~In Group R-1, R-2 or R-3 occupancies, exit access stairways and *ramps* connecting four stories or less serving and contained within an individual dwelling unit, sleeping unit or live/work unit.~~
2. ~~Exit access stairways serving and contained within a Group R-3 congregate residence or a Group R-4 facility.~~
3. ~~Exit access stairways and *ramps* in open parking garages that serve only the parking garage.~~
4. ~~Exit access stairways and *ramps* serving *open-air assembly seating* complying with the exit access travel distance requirements of Section 1029.7.~~
5. ~~Exit access stairways and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.~~

Reason:

The current list of exceptions allows for exit access stairways within 5 of the 8 options to use travel distance without a story limitation (individual dwelling units(#2), Group R-3 and R-4 congregate residences(#3), open parking garages(#6), open air seating(#7) and balconies(#8)). The 3 options currently limited to one story are the 2 story configuration (#1), water curtains around stairways opening (#4) and atriums (#5). These exceptions were added to the code by E27-15.

Travel distance, rather than stories should be the controlling factor. There would be no impact on two story configurations. Deletion of the requirement would allow for exit access travel distance to be measured down the open exit access stairway, regardless of the number of stories. This would now include open exit access stairways that use water curtains around stairways opening (#4) and atriums with smoke protection (#5). With the removal of the limitation for one story, none of the exceptions are needed.

This would be consistent with the BCAC proposal to revise measurement for travel distance along open exit access stairways in atriums.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned

International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as w ell as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/codedevelopment-process/building-code-action-committee-bcac.

Cost Impact

The code change proposal will decrease the cost of construction .

This will reduce the cost in those situations where an enclosure would have been required for the stairway in buildings with more than two stories.

E20-18

Committee Action: **Disapproved**

Committee Reason: The exceptions that permit the travel on exit access stairways to go more than one story were carefully considered. This should not be extended to stairways with draft curtains or atriums. This is too great of an opportunity for smoke migration within high rise buildings. (Vote: 14-0)

Notes: No public comment. Atriums added in E18 and E19

E96-18

IBC: 1023.2, (IFC[BE] 1023.2)

Proponent: Gregory Keith, representing The Boeing Company (grkeith@mac.com); Douglas Evans, representing DHE FPE LLC (dhefpe@gmail.com)

2018 International Building Code

Revise as follows:

1023.2 Construction.

Enclosures for interior exit *stairways* and *ramps* shall be constructed as *fire barriers* in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. *Interior exit stairway* and *ramp* enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the interior exit *stairways* or *ramps* shall include any *basements*, but not any *mezzanines*. *Interior exit stairways* and *ramps* shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.

~~Exceptions~~ Exception:

1. *Interior exit stairways* and *ramps* in Group I-3 occupancies in accordance with the provisions of Section 408.3.8.
2. ~~*Interior exit stairways* within an *atrium* enclosed in accordance with Section 404.6.~~

Reason:

Exception 2 to interior exit stairway enclosure construction within an atrium space was introduced in the 2015 Edition of the IBC. The proponent's published reason statement contended that the inherent one-hour atrium enclosure protection and required smoke control was equivalent to a one-hour interior exit stairway enclosure. Although equivalency to a one-hour enclosure can be debated, exit stairways serving four or more stories are required to be of 2-hour fire resistance-rated construction. The atrium enclosure protection is also exempted on three levels (404.6 Exception 3), which allows these stairs open to those levels.

This provision is also philosophically flawed on many levels. Interior exit stairway enclosures are to be used for no purpose other than as a means of egress. Opening and penetration protection requirements are intended to limit exposure of the enclosure.

The plural in Exception 2 (stairways) allows all required exits to be through the atrium. The current exception allows occupants unlimited egress travel distance down unenclosed stairways even if the stairs are within the smoke plume. Furthermore, compliance with Section 909 is typically reliant on fans, dampers, secondary power supplies and the ever changing fuel loading on the atrium floor. In high-rise buildings, such stairways are required to be within smokeproof enclosures.

Allowing unlimited travel distance on an unenclosed stairway is technically and philosophically inconsistent with the exit access travel distance limitations stated at Section 404.9. Those provisions allow for a maximum of 200 feet of travel at other than the level of exit discharge. The *IBC Code and Commentary, Volume I* states, "Since smoke is being drawn into the atrium, the time allotted to reach an exit through the atrium is limited." It would seem logical that that same thinking would apply to an unenclosed interior exit stairway.
Additionally, Section 905.4 requires a standpipe hose connection for each story in every required interior exit stairway since these enclosures provide a protected space for fire department operations. Obviously, there is no passive standpipe hose connection protection in an unenclosed interior exit stairway.

Traditionally, exit access stairways within atrium spaces have been allowed to be unenclosed (Section 1019.3, Condition 5). However, exit access travel distance limitations in Section 1017.2 apply. In fact, Table 1017.2 Footnote a, references Section 404.9 travel distance limitations through an atrium space. This minimally creates confusion, if not a contradiction.

This proposal restores the original ICC Code Technology Committee philosophy that interior exit stairways always be enclosed with no exceptions. Removal of the current exception ensures a protected path of means of egress travel for building occupants between the exit access and exit discharge portions of the means of egress system.

Cost Impact
The code change proposal will increase the cost of construction .
Approval of this proposal will increase the cost of construction only in buildings having an atrium where an unenclosed interior exit stairway is desired. If the building otherwise has the required number of exits, such a stairway would be regarded as an exit access stairway and there would be no cost impact.

E96-18
Committee Action: **Disapproved**
Committee Reason: This is currently permitted. Additional protection items for exit stairways within an atrium was added by G35-18. There is no history of problems with exit stairways within atriums, so there is no reason to eliminate the option.
A portion of the committee felt that smoke protected atriums do not offer the same level of protection as an exit enclosure. If both exit stairways are within atriums this could be a serious issue. There was also a concern that there is no limit on the travel distance on an exit stairway in an atrium. (Vote 8-7)

Public comment E96
Notes 6-5-2018: Asking for AS would be consistent with E19, but not needed if E19 passes.