

**Proponent:** David W. Cooper, Stairway Manufacturers' Association

**Revise as follows:**

**1012.3 Handrail graspability.** All required handrails shall be of one of the following types or provide equivalent graspability.

Type I. Handrails with a circular cross-section shall have an outside diameter of at least 1.25 inches (32 mm) and not greater than 2 inches (51 mm) or shall provide equivalent graspability. If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6.25 inches (160 mm) with a maximum cross-section dimension of 2.25 inches (57 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

Type II. Handrails with a perimeter greater than 6.25 inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of .75 inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least .3125 inch (8 mm) within .875 inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least .375 inch (10mm) to a level that is not less than 1.75 inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1.25 inches (32 mm) to a maximum of 2.75 inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

**Reason:** The purpose of the change is to add new requirements to the code. This proposal will allow the use of additional types of rails now restricted from the code. Other types of rail have been proven to be equivalent to, or better than those currently allowed.

The handrail shape description that is proposed for Type II handrails has been developed by independent researchers retained by the SMA to investigate graspability of handrails. Acting without specific mandate from SMA, these researchers developed and implemented tests, experiments, and analyses that revealed stairway fall kinematics, the forces that stairway users exert on handrails during falls, and the forces that persons in the general population can exert on handrails of various shapes.

Specifically, through a collaborative effort with researchers at the University of Toronto, the primary researchers – engineers with Simpson Gumpertz & Heger Inc. – conducted tests with human subjects to determine forces exerted on handrails. During these tests, test subjects stood on an activated stairway in postures and positions that represent those of a descending stairway user. Then, the stairway was induced to move forward and then suddenly stopped to cause the test subjects to lurch forward. By setting certain test parameters and through the introduction of barriers that prevented the test subjects from recovering, test subjects fell forward while attempting to arrest their fall by grabbing a handrail. During these tests, the researchers measured the forces exerted on the handrail and monitored the movements of the test subjects to understand fall kinematics.

To account for the broad variation in human stature, the researchers used a computer program, calibrated against the Toronto tests with live subjects, to extrapolate those test results to determine forces generated on handrails by persons representing the distribution within the population.

In a separate set of tests, the researchers investigated forces that persons can exert on handrails of various shapes. For these studies, the researchers developed test apparatus that allowed test subjects to grasp segments of handrails, which were then pulled by a motor out of the test subjects' grasp while forces were recorded. The test subjects were in a seated position (which represents a position that is similar to the posture that persons falling on stairways attain at the time they are exerting maximum arresting force on handrails), and forces were measured in three orthogonal directions: transverse, perpendicular upward, and longitudinal relative to the rail. Hundreds of tests were performed with dozens of test subjects ranging in age from sub-adolescent to elderly.

These tests, experiments, and analyses evaluated round handrails and a broad range of dimensions of handrails that are not round. With the results of these studies, the researchers conducted statistical analyses to determine the proportion of the population that would likely not be able to maintain a grasp on handrails of various shapes during a fall. Using this method, the researchers determined which shapes are graspable (meaning, at least as likely as round handrails to be secure handholds in actual fall scenarios). These statistical analyses showed that Type II handrails have graspability that is essentially equal to or greater than the graspability of handrails meeting the long-accepted and codified shape defined in this proposal as Type I (essentially round handrails, of common size).

The key feature of the graspability of Type II handrails is graspable finger recesses on both sides of the handrail. These recesses allow users to firmly grip a properly proportioned grasping surface on the top of the handrail, ensuring that the user can tightly retain a grip on the handrail for all forces that are associated with attempts to arrest a fall. In addition, Type II handrails have been shown to more than serve adequately for "guidance and support" as required by codes.

The research conducted by these independent researchers validates experience with handrails in service. Handrails meeting the Type II definition have been in service for perhaps hundreds of years without documentation that there is any deficiency in their functional characteristics. Indeed, some handrails conforming to the Type II definition perhaps are among the most common shapes presently used in the United States. Furthermore, by adopting the definition of Type II handrails in the IBC, we will be positively excluding from use a wide spectrum of handrail shapes that also are in common use, but do not meet the standard for graspability that has led to this proposal. With the adoption of this proposal, much of the uncertainty about what constitutes "equivalent graspability" will be removed, since a specific definition of acceptable alternative shapes will be introduced and codified.

The Type II definition has been expressly included in the IRC for five years. During that time, this shape definition has become a standard for determining the suitability of handrail shapes, even in jurisdictions that have not adopted the IRC. Furthermore, the SMA is aware of no documentation that suggests that inclusion of the Type II definition in the IRC has in any way diminished safety of handrails.

The adoption of the Type II shape allows the use of viable, lower-cost, safe handrails. Without allowing Type II shapes, we run the risk that economical and fully functional handrail designs (including those of wood, which require closely-spaced supports which potentially interfere with the grasping surface of round handrails) will be unreasonably excluded from use, to the detriment of the population which is entitled to cost-efficient construction when it has been demonstrated to be safe. Acceptance of the Type II shape would once again permit the use of low-cost, renewable-resource handrail shapes, all but eliminated as an option for the jurisdictions adopting the current IBC code.

In addition, the Type II shape allows for the development of new ergonomic profiles that could exceed the properties of the limited handrail options now allowed in the IBC. Such options would not only permit the design of profiles for those with impairments, unable to close their hand to grasp small round objects, but also would allow greater flexibility to the designer that must respond to the aesthetic preferences of the consumer, thereby encouraging long-term and committed compliance with code regulations.

The research and testing summarized above has been published and is available on the Internet as listed below in the bibliography. We believe that these landmark studies, sponsored by the SMA but performed by independent researchers, constitute the most thorough and legitimate research on handrail graspability performed anywhere in the world.

**Bibliography:**

Dusenberry, D.O., Simpson, H., DelloRusso, S.J., and Rao, R.S., "Evaluation of Graspability of Handrails During Falls on Stairs." Presented at the Proceedings of the 13th Conference of Engineering Mechanics, Baltimore, MD, 13-16, June, 1999. <http://www.sgh.com/PDFs/Dusenberry.pdf>

Maki, B.E. and Perry, S.D. (1996). "Influence of Handrail Design on Postural Stabilization: Pilot Phase." Report prepared for the Stairway Manufacturer's Association under contract to Simpson Gumpertz & Heger Inc., Arlington, MA. [http://www.stairways.org/code\\_changes/Influence\\_HandrailDesign.pdf](http://www.stairways.org/code_changes/Influence_HandrailDesign.pdf)

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

**E88-06/07**  
**1012.3 (IFC [B] 1012.3)**

**Proponent:** David W. Cooper, Stairway Manufacturers' Association

**Revise as follows:**

**1012.3 Handrail graspability.** All required handrails shall meet Type I criteria as follows or shall provide equivalent graspability.

Type I. Handrails with a circular cross-section shall have an outside diameter of at least 1.25 inches (32 mm) and not greater than 2 inches (51 mm) ~~or shall provide equivalent graspability.~~ If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6.25 inches (160 mm) with a maximum cross-section dimension of 2.25 inches (57 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

**Exception:** In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; handrails shall be Type I, Type II as follows or shall provide equivalent graspability.

Type II. Handrails with a perimeter greater than 6.25 inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of .75 inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least .3125 inch (8 mm) within .875 inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least .375 inch (10mm) to a level that is not less than 1.75 inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1.25 inches (32 mm) to a maximum of 2.75 inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

**Reason:** The purpose of the change is to add new requirements to the code. This proposal is offered only as an alternative to our other change to this section, which would allow a more comprehensive solution.

Other types of rail have been proven to be equivalent to, or better than those currently allowed. Although this proposal will allow the use of additional types of rails now restricted from the code. The Type II shape allows for the development of new ergonomic profiles that could exceed the properties of the limited handrail options now allowed in the IBC. Such options would not only permit the design of profiles for those with impairments, unable to close their hand to grasp small round objects, but also would allow greater flexibility to the designer that must respond to the aesthetic preferences of the consumer, thereby encouraging long-term and committed compliance with code regulations. Because this proposals scope is only for residential use these advantages would be severely compromised and only available to persons in the home environment.

The handrail shape description that is proposed for Type II handrails has been developed by independent researchers retained by the SMA to investigate graspability of handrails. Acting without specific mandate from SMA, these researchers developed and implemented tests, experiments, and analyses that revealed stairway fall kinematics, the forces that stairway users exert on handrails during falls, and the forces that persons in the general population can exert on handrails of various shapes.

Specifically, through a collaborative effort with researchers at the University of Toronto, the primary researchers – engineers with Simpson Gumpertz & Heger Inc. – conducted tests with human subjects to determine forces exerted on handrails. During these tests, test subjects stood on an activated stairway in postures and positions that represent those of a descending stairway user. Then, the stairway was induced to move forward and then suddenly stopped to cause the test subjects to lurch forward. By setting certain test parameters and through the introduction of barriers that prevented the test subjects from recovering, test subjects fell forward while attempting to arrest their fall by grabbing a handrail. During these tests, the researchers measured the forces exerted on the handrail and monitored the movements of the test subjects to understand fall kinematics.

To account for the broad variation in human stature, the researchers used a computer program, calibrated against the Toronto tests with live subjects, to extrapolate those test results to determine forces generated on handrails by persons representing the distribution within the population.

In a separate set of tests, the researchers investigated forces that persons can exert on handrails of various shapes. For these studies, the researchers developed test apparatus that allowed test subjects to grasp segments of handrails, which were then pulled by a motor out of the test subjects' grasp while forces were recorded. The test subjects were in a seated position (which represents a position that is similar to the posture that persons falling on stairways attain at the time they are exerting maximum arresting force on handrails), and forces were measured in three orthogonal directions: transverse, perpendicular upward, and longitudinal relative to the rail. Hundreds of tests were performed with dozens of test subjects ranging in age from sub-adolescent to elderly.

These tests, experiments, and analyses evaluated round handrails and a broad range of dimensions of handrails that are not round. With the results of these studies, the researchers conducted statistical analyses to determine the proportion of the population that would likely not be able to maintain a grasp on handrails of various shapes during a fall. Using this method, the researchers determined which shapes are graspable (meaning, at least as likely as round handrails to be secure handholds in actual fall scenarios). These statistical analyses showed that Type II handrails have graspability that is essentially equal to or greater than the graspability of handrails meeting the long-accepted and codified shape defined in this proposal as Type I (essentially round handrails, of common size).

The key feature of the graspability of Type II handrails is graspable finger recesses on both sides of the handrail. These recesses allow users to firmly grip a properly proportioned grasping surface on the top of the handrail, ensuring that the user can tightly retain a grip on the handrail for all forces that are associated with attempts to arrest a fall. In addition, Type II handrails have been shown to more than serve adequately for "guidance and support" as required by codes.

The research conducted by these independent researchers validates experience with handrails in service. Handrails meeting the Type II definition have been in service for perhaps hundreds of years without documentation that there is any deficiency in their functional characteristics. Indeed, some handrails conforming to the Type II definition perhaps are among the most common shapes presently used in the United States. Furthermore, by adopting the definition of Type II handrails in the IRC, we will be positively excluding from use a wide spectrum of handrail shapes that also are in common use, but do not meet the standard for graspability that has led to this proposal. With the adoption of this proposal, much of the uncertainty about what constitutes "equivalent graspability" will be removed, since a specific definition of acceptable alternative shapes will be introduced and codified.

The Type II definition has been expressly included in the IRC for five years. During that time, this shape definition has become a standard for determining the suitability of handrail shapes, even in jurisdictions that have not adopted the IRC. Furthermore, the SMA is aware of no documentation that suggests that inclusion of the Type II definition in the IRC has in any way diminished safety of handrails.

The adoption of the Type II shape allows the use of viable, lower-cost, safe handrails. Without allowing Type II shapes, we run the risk that economical and fully functional handrail designs (including those of wood, which require closely-spaced supports which potentially interfere with the grasping surface of round handrails) will be unreasonably excluded from use, to the detriment of the population which is entitled to cost-efficient construction when it has been demonstrated to be safe. Acceptance of the Type II shape would once again permit the use of low-cost, renewable-resource handrail shapes, all but eliminated as an option for the jurisdictions adopting the current IBC code.

The research and testing summarized above has been published and is available on the Internet as listed below in the bibliography. We believe that these landmark studies, sponsored by the SMA but performed by independent researchers, constitute the most thorough and legitimate research on handrail graspability performed anywhere in the world.

#### **Bibliography:**

Dusenberry, D.O., Simpson, H., DelloRusso, S.J., and Rao, R.S., "Evaluation of Graspability of Handrails During Falls on Stairs," Presented at the Proceedings of the 13th Conference of Engineering Mechanics, Baltimore, MD, 13-16, June, 1999. <http://www.sgh.com/PDFs/Dusenberry.pdf>

Maki, B.E. and Perry, S.D. (1996). "Influence of Handrail Design on Postural Stabilization: Pilot Phase." Report prepared for the Stairway Manufacturer's Association under contract to Simpson Gumpertz & Heger Inc., Arlington, MA. [http://www.stairways.org/code\\_changes/Influence\\_HandrailDesign.pdf](http://www.stairways.org/code_changes/Influence_HandrailDesign.pdf)

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## **E89-06/07**

### **1012.4 (IFC [B] 1012.4)**

**Proponent:** David W. Cooper, Stairway Manufacturers' Association

#### **Revise as follows:**

**1012.4 Continuity.** Handrail-gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

#### **Exceptions:**

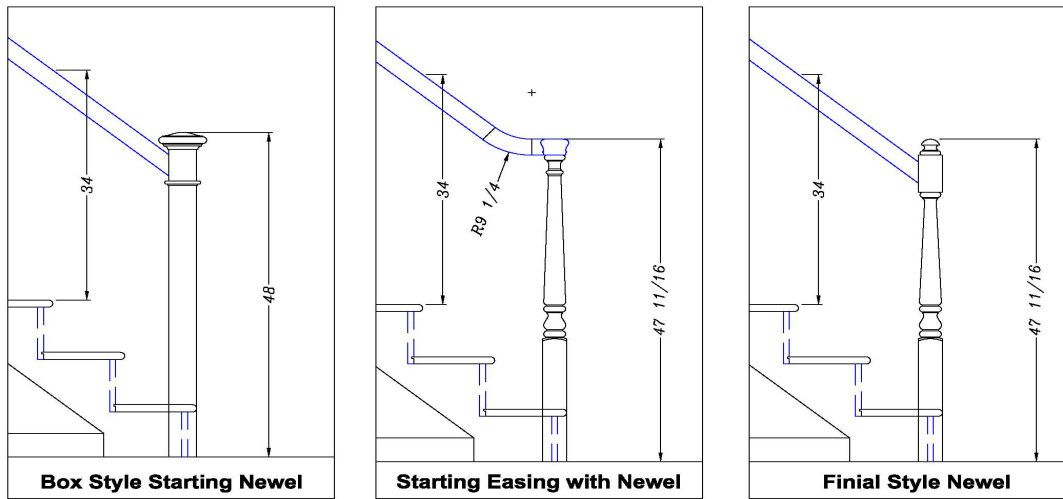
1. Handrails within dwelling units are permitted to be interrupted by a newel post at a turn stair landing.
2. Within a dwelling unit, the use of a volute, turnout, ~~or~~ starting easing or starting newel is allowed ~~on~~ over the lowest tread.
3. Handrail brackets or balusters attached to the bottom surface of the handrail that do not project horizontally beyond the sides of the handrail within 1.5 inches (38 mm) of the bottom of the handrail shall not be considered obstructions. For each 0.5 inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of 1.5 inches (38 mm) shall be permitted to be reduced by 0.125 inch (3 mm).

**Reason:** The proposed change will make editorial corrections required as well as clarify the use of newels

The need to allow the use of a newel at intersections of the rail in dwelling units at a turn in the stair to provide for the use of newels within a flight has been recognized and allowed within the IRC and should be included in the IBC to allow lower cost options that have not caused any known attributable safety issues.

The use of a starting newel, like starting fittings, been a historically accepted practice in stairway construction and design. A starting newel installation presents no variance in the continuity of the handrail when compared to starting fittings and should be permitted. Please see attached graphic. As the user approaches the stair, if they use the handrail, the hand is extended more than the distance of one tread to grasp the rail. This is visually apparent in the wear marks on rails that extend beyond the nosing. The placement of the newel over the lowest step also allows for the post to be attached to the stair shortening the overall length of the stairway allowing more room to fit larger tread depths in the same space.

The editorial change in the preposition from "on" to "over" more clearly describes the position of the listed items to the lowest tread and has been used in the IRC with consistent interpretation.



**FOR COMPARISON EACH OF THE ABOVE CONDITIONS ARE SHOWN ON THE SAME STAIR AT THE SAME RAIL HEIGHT**

The above illustration shows little or no variation in continuity for the stairway user.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

**E90-06/07**  
**1012.4 (IFC [B] 1012.4)**

**Proponent:** Bill Conner, Conner Associates LLC, representing himself

**Revise as follows:**

**1012.4 Continuity.** Handrail-gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

**Exceptions:**

1. Handrails within dwelling units are permitted to be interrupted by a newel post at a stair landing.
2. Within a dwelling unit, the use of a volute, turnout or starting easing is allowed on the lowest tread.
3. Handrail brackets or balusters attached to the bottom surface of the handrail that do not project horizontally beyond the sides of the handrail within 1.5 inches (38 mm) of the bottom of the handrail shall not be considered obstructions. For each 0.5 inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of 1.5 inches (38 mm) shall be permitted to be reduced by 0.125 inch (3 mm).
4. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

**Reason:** Sometime handrails are provided for patient use in nursing homes and hospitals along hallways. In these situations, it would not be practicable to require them to meet the gripping surface and still work as a bumper guard or handrail. While a patient may fall in a corridor, they do not have the same safety concern of continuing to fall, such as on a stairway, therefore, this compromise would not create a safety concern. The change is also for coordination with ADAAG and ICC A117.1 Section 505.6

**Cost Impact:** This code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

## E91–06/07

### 1012.5 (New) [IFC [B] 1012.5 (New)]

**Proponent:** Bill Conner, Conner Associates LLC, representing himself

**Add new text as follows:**

**1012.5 Fittings.** Handrails shall not rotate within their fittings.

(Renumber subsequent sections)

**Reason:** This is an important safety concern that is not currently in the IBC requirements. This will also coordinate with ADAAG and ICC A117.1 Section 505.9.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E92–06/07

### 1012.5 (IFC [B] 1012.5)

**Proponent:** Bill Conner, Conner Associates LLC, representing himself

**Revise as follows:**

**1012.5 Handrail extensions.** Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight or ramp run. At stairways where handrails are not continuous between flights, the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom ramps. At stairways and ramps the handrail extensions shall extend in the same direction of the stair flight and ramp run.

**Exceptions:**

1. Handrails within a dwelling or sleeping unit that is not required to be ~~accessible~~ Accessible, Type A or Type B units in accordance with Section 1107, need extend only from the top riser to the bottom riser.
2. Aisle handrails in Group A occupancies in accordance with Section 1025.13.

**Reason:** The change adds a new sentence. The current provisions do not indicate if the handrails extensions must go straight or could bend. If they bend, they no longer assist the stairway user that needs the handrail for support. The change is also for coordination with ADAAG and ICC A117.1 Section 505.10. We have another proposal that includes an exception at stairways in alterations.

The intent of the additional language in Exception 1 is so that there is no confusion with the three levels of units in ICC A117.1. For example – is a Type B dwelling unit accessible? The effect should be minimal since Accessible, Type A and Type B units do not typically have stairways.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E93–06/07

### 1012.5 (IFC [B] 1012.5)

**Proponent:** Robert Bagnetto, Lapeyre Stair, Inc./Laitram Corp.

**Revise as follows:**

**1012.5 Handrail extensions.** Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom ramps.

**Exceptions:**

1. Handrails within a dwelling unit that is not required to be accessible need extend only from the top riser to the bottom riser.

2. Aisle handrails in Group A occupancies in accordance with Section 1025.13.
3. Handrails for alternating tread devices may terminate at a location vertically above the top and bottom risers. Handrails for alternating tread devices are not required to be continuous between flights or to extend beyond the top or bottom risers.

**Reason:** The purpose of this proposed change is to remove the current requirements for handrail continuity between flights of alternating tread devices and to remove the requirements for handrail extensions at the top and bottom of non-continuous flights of alternating tread devices.

This proposal is superior to the current provisions of the code in that it removes overly restrictive requirements for handrails of alternating tread devices. The current required handrail extension of alternating tread devices of 12 inches horizontally beyond the top riser and the slope of one tread depth beyond the bottom riser, as well as the requirement for handrail continuity between adjacent flights is based on the requirements for handrails of traditional type stairs. The alternating tread device handrail extension and continuity requirements appear to have been chosen arbitrarily, assuming that the handrail requirements best suited for traditional type stairs would also be best for alternating tread devices. However, considering alternating tread devices are typically used as a safer alternative to a ladder, typically used in tight spaces where traditional type stairs cannot be used, have stair angles much steeper than traditional type stairs, and have different usage than traditional type stairs, removal of the existing extension and continuity requirements is appropriate.

Alternating tread devices have been used for approximately 25 years without handrail extensions or continuous handrails been flights. Lapeyre Stair is not aware of any cases where these handrail features has been a problem for users of alternating tread devices. Alternating tread device handrails without extensions or continuity between flights have proved to provide adequate gripping length to allow the user to safely reach the top or bottom landing. Prior to release of the alternating tread device, Lapeyre Stair performed informal testing to verify the acceptability of this handrail configuration. Additionally, a scientific stud titled "Performance, perceived safety and comfort of the alternating tread stair" was performed that demonstrated the satisfactory use of alternating tread devices. The handrail extension and continuity requirements for alternating tread devices appears to have first been introduced in sections 1003.3.3.10.1, and 1003.3.3.11.5 of IBC-2000 and then carried forward to sections 1009.10.1 and 1009.11.5 of IBC-2003. The precursor codes to IBC appear not to discuss alternating tread device handrail extensions or continuity or to allow whatever handrail configuration provides safe use of the device. (Ref: BOCA-1999 Sections 1014.6.6.1 and 1022.2.5, SBC-1999 Section 1007.8.4 and 1007.8.5; UBC Section 1003.3.3.1). Finally, in an IBC code interpretation letter dated July 23, 2004 to Fanning/Howley Associates Inc, indicates that the current handrail extension requirements in the IBC may not be appropriate for alternating treads, and of alternative approval for an alternating tread device without handrail extensions may be acceptable. The elimination of extension and continuity requirements of handrails for alternating tread devices does not substantially alter the design of alternating tread devices, and actually results is less occupied space which could minimally lower costs.

**Bibliography:**

The BOCA National Building Code/1999 sections 1014.6.6.1 & 1022.2.5

Standard Building Code 1999 Edition sections 1007.8.4 & 1007.8.5

1997 Uniform Building Code section 1003.3.3.1 (exception)

Performance, perceived safety and comfort of the alternating tread stair by Jorna, Mohageg & Synder Virginia Polytechnic Institute and State University, published Applied Ergonomics 1989.20.1,26-32

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

**E94-06/07**  
**1012.7 (IFC [F] 1012.7)**

**Proponent:** William W. Stewart, Chesterfield, MO, representing himself

**Revise as follows:**

**1012.7 Projections.** ~~On ramps, the clear width between handrails shall be 36 inches (914 mm) minimum.~~ Projections into the required width of stairways and ramps at each handrail shall not exceed 4.5 inches (114 mm) at or below the handrail height. Projections into the required width shall not be limited above the minimum headroom height required in Section 1009.2.

**Reason:** The first sentence is removed because it is redundant. It requires 36" exactly the same as 1010.5.1 does. 1010.5.1 is the place the requirement belongs. Furthermore this section regulates projections into the required width, not the required width.

**Cost Impact:** This code change will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

**E95-06/07**  
**1012.8 (IFC [B] 1012.8)**

**Proponent:** Michael Lodespoto, AIA, MTA, NY City Transit, representing State of New York

**Revise as follows:**

**1012.8 Intermediate handrails.** Stairways shall have intermediate handrails located in such a manner so that all portions of the stairway width required for egress capacity are within ~~30~~ 44 inches (~~762~~ 1118 mm) of a handrail. On

monumental stairs, handrails shall be located along the most direct path of egress travel. Projection from the intermediate handrail into the stairs passageway must not exceed the size of a single handrail. A double handrail is not allowed in the intermediate handrail.

**Reason:** The purpose is to maintain the 44" minimum required stairway width called for in Section 1003.3.3.1" and F1010.13 and enough egress capacity along stair passageway. This will also permit two lanes of travel on either side of an intermediate handrail.

The purpose of suggesting disallowance of double grab bar handrails is that normally they project into the lane of travel from each side thereby reducing the 44" minimum required stairway width and capacity. This will prevent designers from arguing whether there is any code preventing them from installing double grab bar handrails.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E96-06/07

**1013.1, 1013.1.1 (New), 1013.2, 1013.3, 1013.5, 1013.6 (IFC [B] 1013.1, [B] 1013.1.1 (New), [B]1013.2, [B] 1013.3, [B] 1013.5, [B] 1013.6); IRC R312.1, R312.2 (New), R312.2**

**Proponent:** Paul K. Heilstedt, P.E., Chair, representing ICC Code Technology Committee (CTC)

**THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.**

### PART I – IBC

**Revise as follows:**

#### SECTION 1013.0 GUARDS

**1013.1 Where required.** Guards shall be located along open-sided walking surfaces, including mezzanines, industrial equipment platforms, stairways, stairs, ramps and landings, that are located more than 30 inches above the floor or grade below. Guards shall be adequate in strength and attachment in accordance with Section 1607.7. ~~Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Guards shall also be located along glazed sides of stairways, ramps and landings that are located more than 30 inches (762 mm) above the floor or grade below where the glazing provided does not meet the strength and attachment requirements in Section 1607.7.~~

**Exception:** Guards are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including steps leading up to the stage and raised platforms.
3. On raised stage and platform floor areas such as runways, ramps and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating where guards in accordance with Section 1025.14 are permitted and provided.

**1013.1.1 Glazing.** Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Where the glazing provided does not meet the strength and attachment requirements in Section 1607.7, complying guards shall also be located along glazed sides of open-sided walking surfaces.

**1013.2 Height.** Guards shall form a protective barrier not less than 42 inches high, measured vertically above the adjacent walking surfaces, adjacent fixed seat-boards or the line connecting the leading edge edges of the tread treads, adjacent walking surface or adjacent seat-board.

**Exceptions:**

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, ~~guards whose top rail also serves as a handrail shall have a height not less than 34 inches and not more than 38~~

~~inches measured vertically from the leading edge of the stair tread nosing. guards on the open sides of stairs shall have a height not less than 34 inches measured vertically from a line connecting the leading edges of the treads.~~

- ~~2.~~ For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be not less than 34 inches and not more than 38 inches measured vertically from a line connecting the leading edges of the treads.

~~2- 3.~~ The height in assembly seating areas shall be in accordance with Section 1025.14.

**1013.3 Opening limitations.** ~~Open Guards shall have balusters or ornamental patterns such that a~~ not have openings which allow passage of a sphere 4-inch-inches diameter sphere in diameter from the walking surface to the required guard height cannot pass through any opening up to a height of 34 inches. From a height of 34 inches to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches in diameter shall not pass.

**Exceptions:**

- ~~1.~~ From a height of 36 inches to 42 inches (1067 mm), guards shall not have openings which allow passage of a sphere 4-3/8 inches in diameter.
- ~~1- 2.~~ The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail, at the open side of a stairway shall be of a maximum size such that a sphere of 6 inches in diameter cannot pass through the opening. not allow passage of a sphere 6 inches in diameter.
- ~~2 3.~~ At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall have balusters or be of solid materials such that a sphere with a diameter of 21 inches cannot pass through any opening. not have openings which allow passage of a sphere 21 inches in diameter.
- ~~3- 4.~~ In areas which are not open to the public within occupancies in Group I-3, F, H or S, balusters, horizontal intermediate rails or other construction shall not permit a sphere with a diameter of 21 inches to pass through any opening. guards shall not have openings which allow passage of a sphere 21 inches in diameter.
- ~~4- 5.~~ In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall have balusters or ornamental patterns such that a not have openings which allow passage of a sphere 4 inch inches in diameter sphere cannot pass through any opening up to a height of 26 inches (660 mm). From a height of 26 inches to 42 inches above the adjacent walking surfaces, guards shall not have openings which allow passage of a sphere 8 inches in diameter shall not pass.
- ~~5- 6.~~ Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, openings for required guards on the sides of stair treads shall not allow a sphere of 4-3/8" to pass through. guards on the open sides of stairs shall not have openings which allow passage of a sphere 4-3/8 inches in diameter.

**1013.4. Screen porches.** (No change to current text)

**1013.5 Mechanical equipment.** Guards shall be provided where appliances, equipment, fans, roof hatch openings or other components that require service are located within 10 feet of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inch inches in diameter sphere. The guard shall extend not less than 30 inches beyond each end of such appliance, equipment, fan or component.

**1013.6 Roof access.** Guards shall be provided where the roof hatch opening is located within 10 feet of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inch inches in diameter sphere

**PART II – IRC**

**SECTION R312  
GUARDS**

**R312.1 Where Guards required.** ~~Porches, balconies, ramps or raised walking floor surfaces located more than 30 inches above the floor or grade below shall have guards not less than 36 inches in height. Open sides of stairs with a total rise of more than 30 inches above the floor or grade below shall have guards not less than 34 inches in height measured vertically from the nosing of the treads. Guards shall be located along open-sided walking surfaces, including porches, decks, balconies, mezzanines, stairs, ramps and landings, which are located more than 30 inches above the floor or grade below. Insect screening shall not be considered as a guard.~~



Porches and decks which are enclosed with insect screening shall be equipped with guards where the walking surface is located more than 30 inches above the floor or grade below.

**R312.2 Height.** Guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches high measured vertically above the adjacent walking surface, adjacent fixed seat-boards or the line connecting the leading edges of the treads.

**Exceptions:**

1. Guards on the open sides of stairs shall have a height not less than 34 inches measured vertically from a line connecting the leading edges of the treads.
2. Where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be not less than 34 inches and not more than 38 inches measured vertically from a line connecting the leading edges of the treads.

**R312.2 R312.3 Guard Opening limitations.** Required Guards on open sides of stairways, raised floor areas, balconies and porches shall not have openings intermediate rails or ornamental closures which do not allow passage of a sphere 4 inches or more in diameter from the walking surface to the required guard height.

**Exceptions:**

1. The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a guard, at the open side of a stairway shall be permitted to be of such a size that a sphere 6 inches cannot pass through. not allow passage of a sphere 6 inches in diameter.
2. Openings for required guards on the open sides of stair treads stairs shall not allow passage of a sphere 4-3/8 inches or more in diameter to pass through Guards on the open sides of stairs shall not have openings which allow passage of a sphere 4-3/8 inches in diameter

**Reason:** The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/cc/ctc/index.html>. Since its inception, the CTC has held six meetings - all open to the public.

This proposed change is a result of the CTC's investigation of the area of study entitled "Climbable Guards". The scope of the activity is noted as:

The study of climbable guards will focus on determining the need for appropriate measures to prevent or inhibit an individual from utilizing the elements of a guard system, including rails, balusters and ornamental patterns, to climb the guard, thereby subjecting that person to the falling hazard which the guard system is intended to prevent.

The general focus of these two proposals, one to the IBC and one to the IRC, is to create consistency in language regulating guards in the two codes.

**Part I – IBC**

IBC 1013.1. Editorial. Laundry lists of items in the code are typically not all-inclusive. The word "including" provides this clarification in the following sections as well. This section is divided into two paragraphs with the second paragraph dealing with glass and glazing without a change in intent.

IBC 1013.2: The technical portion of this change is the change which identifies that a fixed seat becomes a potential walking surface to a child and thus warrants the guard height to be measured from that point. The remainder does not change the intent but rather provides standardized text dealing with stair treads and the determination of how to measure guard height.

IBC 1013.3: The majority of the revision in this section and exception involve editorial rewording of the sentences for clarity and consistency. The technical change is to reduce the maximum opening (8" to 4-3/8" inches) for this upper portion of the guard above 36 inches.

The 8 inch limitation on openings at the upper section of the guard was based on the difference between the 34 inch height being the part of the guard that protects small children and the 42 inch height for the rest of the population. However this does not take into account that residential R-3 use groups require a minimum guard height of 36 inches. Proposed exception 1 raises the height for which the 4 inch opening requirement is applicable - to coincide with the minimum guard height of 36 inches in residential occupancies.

The change in maximum opening size at the upper portion of the guard, from the current 8 inch sphere criteria to a 4-3/8 inch sphere, is based on providing an equivalent level of protection as that provided by the current 4 inch opening on the lower portion of the guard. As a point of reference, the following measurements of head sizes of infants are excerpted from Drawing #2 Measurement of Infants from a book entitled "The Measure of Man and Woman: Human Factors" by Alvin R. Tilley, first published by Whitney Library of Design in 1993, republished and copyrighted by John Wiley & Sons, New York (ISBN 0-471-09955-4) in 2002.

The publication states "We have chosen to accommodate 98% of the U.S. population, which lies between the 99 percentile and the 1 percentile, for product designs for civilians" page 10-11 headlined percentiles.

<u>Age</u>	<u>Side-to-side measurement</u>	<u>Back-to-front measurement</u>
12-15 months:	5"	6.5"
16-19 months:	5"	6.5"
20-23 months:	5.1"	6.8"

Additional point of reference, from the same book entitled "The Measure of Man and Woman: Human Factors" by Alvin R. Tilley, figure number 8, page 14, showing child age 2.5 – 3 years. The chest dimension when scaled (1" = 12") shows a 4-3/4" dimension from the back to the front.

The following information from various resources has been compiled to illustrate how countries outside of the US are regulating the openings in guards:

Country of Origin	Sphere Rule Metric	Sphere Rule Inches
Canada	100mm	3.94"
United Kingdom	100mm	3.94"
United States	102mm	4"
Australia	125mm	4.92"
Germany	120mm	4.72"
France	110mm	4.33"
Mexico (no code – standard followed)	102mm – 152mm	4" – 6"
Russia	100mm	3.94"
Romania	100mm	3.94"
Trinidad & Tobago	102mm	4"
Japan (Confirmation Pending)	125mm	4.92"
Spain (Confirmation Pending)	(120mm) (125mm)	(4.72") (4.92")
Switzerland	120mm	4.72"
Sweden	100mm	3.94"
Taiwan (Confirmation Pending)	125mm	4.92"
Singapore (Confirmation Pending)	125mm	4.92"
Poland ( Confirmation Pending)	100mm	3.94"
Turkey	100 mm	3.94"
Netherlands (Confirmation Pending)	100mm	3.94"

**Part II - IRC**

IRC R312.1: This section is being divided into two sections, similar to the IBC. The first section includes the general guard requirement, and the new section (R312.2) includes the height requirements.

IRC R312.2: This new section includes the guard height requirements. It is reformatted to place emphasis on the 36" high guard required at level surfaces. There are not technical changes to the minimum height. This section does include an added phrase - "or adjacent seatboard" – intended to clarify that where there is built-in seating, the guard height is to be measured from the seat itself to provide for the minimum required height where it is assumed that children may be standing.

IRC R312.3: The majority of the revision in this section and exception involve editorial rewording of the sentences for clarity and consistency.

**Bibliography:**

Interim Report No. 1 of the CTC, Area of Study – Climable Guards, March 9, 2006.  
 "The Measure of Man and Woman: Human Factors" by Alvin R. Tilley

**Cost Impact:** The code change proposal will not increase the cost of construction.

**PART I - IBC**

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

**PART II - IRC**

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

**E97–06/07**

**1013.1 (IFC [B] 1013.1); IRC R312.1**

**Proponent:** Thomas B. Zuzik, Jr., Artistic Railings, Inc., representing himself

**THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.**

**PART I – IBC**

**Revise as follows:**

**1013.1 Where required.** Guards shall be located along open-sided walking surfaces, mezzanines, industrial equipment platforms, stairways, ramps and landings which are located more than 30 inches (762 mm) above the floor or grade below, measured vertically from the edge height of the open-side to the deepest point no more than 24 inches (610 mm) horizontal off the open-side edge. Guards shall be adequate in strength and attachment in accordance with Section 1607.7. Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Guards shall also be located along glazed sides of stairways, ramps and landings that are located more than 30 inches (762 mm) above the floor or grade below. Where the glazing provided does not meet the strength and attachment requirements in Section 1607.7.

**Exception:** Guards are not required for the following locations:

1. On the loading side of loading docks or piers.

2. On the audience side of stages and raised platforms, including steps leading up to the stage and raised platforms.
3. On raised stage and platform floor areas such as runways, ramps and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating where guards in accordance with Section 1025.14 are permitted and provided.

## PART II – IRC

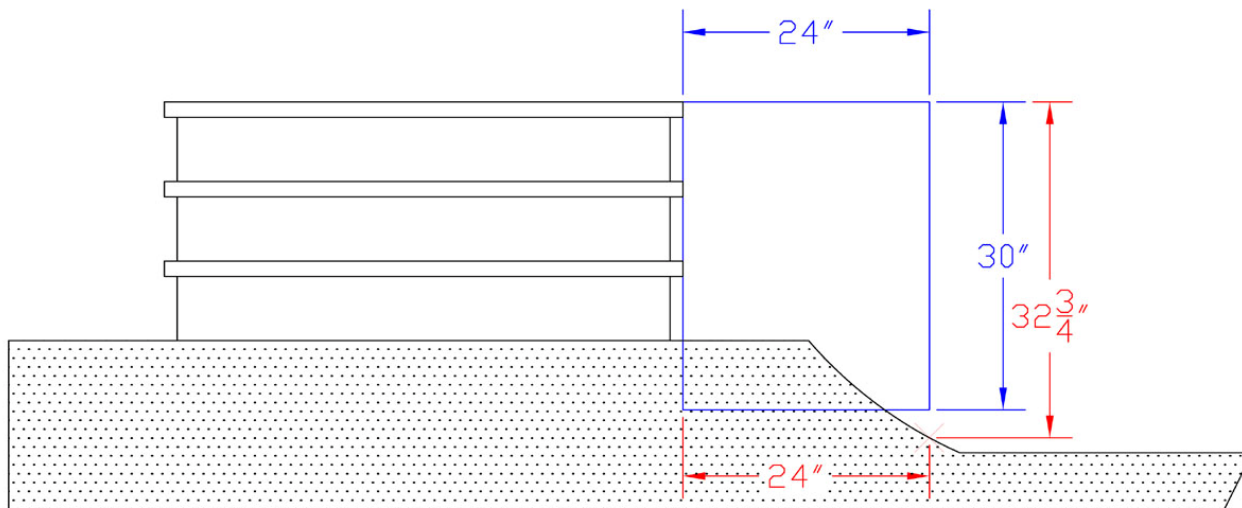
**R312.1 Guards.** Porches, balconies, ramps or raised floor surfaces located more than 30 inches (762 mm) above the floor or grade below shall have guards not less than 36 inches (914 mm) in height. Open sides of stairs with a total rise of more than 30 inches (762 mm) above the floor or grade below, measured vertically from the edge height of the open-side to the deepest point no more than 24 inches (610 mm) horizontal off the open-side edge, shall have guards not less than 34 inches (864 mm) in height measured vertically from the nosing of the treads.

Porches and decks which are enclosed with insect screening shall be equipped with guards where the walking surface is located more than 30 inches (762 mm) above the floor or grade below.

**Reason:** The purpose of the code change is to provide fixed points for measuring the 30 inch vertical riser height of elevated surfaces to determine if guards are required.

Though Sections 1013.1 and R312.1 state that guards are required when the walking surface is 30 inches or more above the walking surface below, it does not define clearly where to measure that vertical measurement. This proposed code change gives a set of parameters as to where to make the measurements. The author used the 24 inch measurement that is published in the BOCA 1996 building code, section 1825.0 retaining walls, section 1825.5 guards, as the determining distance or point of reference for when retaining walls where required to have guards.

The diagram below was drawn by the author and is shown as a visual guide or technical drawing. The drawing shows a 3 riser front entry stoop with 7-3/4" risers from a front elevation. The ground is detailed in outlined dots. The 24" horizontal with 30" vertical box shows the area in which the code change submits the measurements should be taken. The 32-3/4" vertical point shows the deepest point within the 24" horizontal edge measurement.



Thus if this stoop was on a home it would require a guard be installed on the right side only as the left side is not 30 inches or more deep.

**Cost Impact:** The code change proposal will not increase the cost of construction.

## PART I – IBC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

## PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

## E98-06/07

### 1013.2 (IFC [B] 1013.2)

**Proponent:** Thomas Kinsman, T. A. Kinsman Consulting Company

#### Revise as follows:

**1013.2 Height.** Guards shall form a protective barrier not less than 42 inches (1067 mm) high, measured vertically above the leading edge of the tread, or adjacent walking surface or adjacent seatboard. Guards in grandstands, bleachers, and folding and telescopic seating shall comply with ICC 300.

#### Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards whose top rail also serves as a handrail shall have a height not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from the leading edge of the stair tread nosing.
2. The height in assembly seating areas shall be in accordance with Section 1025.14.

**Reason:** The purpose of this code change is to delete the reference to "seatboards" which is understood to be an undefined term previously used in at least one legacy code for addressing guards in grandstands and bleachers. Grandstands, bleachers, etc. are addressed in ICC 300 as currently referenced in 1025.1.1. In the 2002 edition of the ICC 300, the successor term for "seatboard" is "bench seat".

The reason for the code change is to clarify the current code intends that "seatboards" are associated with grandstands, bleachers, etc. and not for benches used for sitting that may be adjacent to a guardrail. With the term "seatboard" undefined, the intent is not clear. The cross reference to ICC 300 refers the code user to the standard where such features are addressed.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** A question would be if the proposed additional sentence would be better located as an exception for consistency with Exception 2 since both are related to types of fixed seating.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E99-06/07

### 1013.2 (IFC [B] 1013.2)

**Proponent:** Robert Bagnetto, Lapeyre Stair, Inc./Laitram Corp.

#### Revise as follows:

**1013.2 Height.** Guards shall form a protective barrier not less than 42 inches (1067 mm) high, measured vertically above the leading edge of the tread, adjacent walking surface or adjacent seatboard.

#### Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards whose top rail also serves as a handrail shall have a height not less than 34 inches (864 mm) and not more than 38 inches (1067 mm) measured vertically from the leading edge of the stair tread nosing.
2. The height in assembly seating areas shall be in accordance with section 1024.14.
3. Along alternating tread device, guards whose top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

**Reason:** The purpose of this proposed change is to replace the current guardrail height requirements for alternating tread devices, which are inappropriately based on the guardrail height requirements for traditional type stairs, with new guardrail height requirements more appropriate to alternating tread devices. This change also allows the top rail of a guardrail to also be used as a handrail.

This proposal is superior to the current provisions of the code in that it rectifies shortcomings in the existing code for alternating tread device guard requirements. The current required guardrail height of alternating tread devices of 42 inches is based on the required guardrail height of traditional type stairs which have a stair angles much lower than alternating tread devices. This alternating tread device guardrail height appears to have been chosen arbitrarily, assuming that the guardrail height best suited for traditional type stairs would also be best for alternating tread devices. Although they have treads as a traditional stair does, alternating tread devices have considerable different characteristics (the most important being a much steeper angle) from a traditional stair and thus the requirements for the features for an alternating tread device often must differ from a traditional stair. Considering that the steeper angle of alternating tread devices and that the rails are often used under the arms for stabilization, a lower guardrail height of 30 inches to 34 inches is more appropriate and the existence of a separate handrail and guardrail is unnecessary for alternating tread devices.

Alternating tread devices have been used for approximately 25 years with a single rail, with a height (measured vertically from the tread nosings to the top of the rail) of approximately 32 inches, acting both as a guardrail and a handrail. Lapeyre Stair is not aware of any cases where this rail height has been a problem for users of alternating tread devices. Prior to release of the alternating tread device, Lapeyre Stair performed informal testing to verify that this is the optimal rail height. Additionally, a scientific stud titled "Performance, perceived safety and comfort of the alternating

tread stair” was performed that demonstrated the satisfactory use of alternating tread devices. The 42 inch guardrail height requirement for alternating tread devices appears to have first been introduced in sections 1003.2.12 and 1003.2.12.1 of IBC-2000 and then carried forward to section 1012.1 and 1012.2 of IBC-2003. The precursor codes to IBC are unclear or appear not to discuss alternating tread device guardrail height at all. (Ref: BOCA-1999 Sections 1014.6.6.1, 1021.2, 1022.2.2 and 1022.2.5, SBC-1999 Sections 1007.5, 1007.8.4 and 1007.8.5, 1015.1; UBC Section 1003.3.3.1, 1003.3.3.7, 509.1 and 509.2). Furthermore, there does not appear to be any documented scientific testing to verify that the current guardrail heights in IBC for alternating tread devices are the most appropriate. Finally, an IBC code interpretation letter dated July 23, 2004 to Fanning/Howley Associates Inc, indicated that the current rail height in the IBC may not be appropriate, and alternative approval of an alternating tread device with a rail configuration inconsistent with IBC, Section 1013.2 may be appropriate. The lower guardrail height and allowing a single rail to act as both a guardrail and a handrail for alternating tread devices does not substantially alter the design of alternating tread devices, and actually results in less construction cost and less occupied space which could minimally lower costs.

#### **Bibliography:**

The BOCA National Building Code/1999 Sections 1014.6.6.1, 1021.2, 1022.2.2 and 1022.2.5

Standard Building Code 1999 Edition Sections 1007.5, 1007.8.4 and 1007.8.5, 1015.1

1997 Uniform Building Code Section 1003.3.3.1 (exception), 1003.3.3.7, 509.1 and 509.2

Performance, perceived safety and comfort of the alternating tread stair by Jorna, Mohageg & Synder Virginia Polytechnic Institute and State University, published Applied Ergonomics 1989.20.1,26-32

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## **E100-06/07**

### **1013.3 (IFC [B] 1013.3)**

**Proponent:** Robert Bagnetto, Lapeyre Stair, Inc./Laitram Corp.

#### **Revise as follows:**

**1013.3 Opening limitations.** Open guards shall have balusters or ornamental patterns such that a 4-inch-diameter (102 mm) sphere cannot pass through any opening up to a height of 34 inches (864 mm). From a height of 34 inches (864 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.

#### **Exceptions:**

1. The triangular openings formed by the riser, tread and bottom rail at the open side of a stairway shall be of a maximum size such that a sphere of 6 inches (152 mm) in diameter cannot pass through the opening.
2. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall have balusters or be of solid materials such that a sphere with a diameter of 21 inches (533 mm) cannot pass through any opening.
3. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices, balusters, horizontal intermediate rails or other construction shall not permit a sphere with a diameter of 21 inches (533 mm) to pass through any opening.
4. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall have balusters or ornamental patterns such that a 4-inch-diameter (102 mm) sphere cannot pass through any opening up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.
5. Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, openings for required guards on the sides of stair treads shall not allow a sphere of 4.375 inches (111 mm) to pass through.

**Reason:** The purpose of this proposed change is to replace the current requirements for guard openings for alternating tread devices, which are inappropriately based on the requirements for guard openings for traditional type stairs, with new requirements for guard openings more appropriate to alternating tread devices.

This proposal is superior to the current provisions of the code in that it rectifies shortcomings in the existing code for requirements of, and provides clarification for, guard openings on alternating tread devices. The current requirements for guard openings of alternating tread devices are identical to the required guard openings of traditional type stairs. IBC currently requires open guards on stairs to have baluster or ornamental patterns such that a 4 inch diameter sphere cannot pass through (with exceptions above 34 inches and between the tread, riser and bottom rail). IBC provides an exception which allows guard openings such that a 21 inch diameter sphere cannot pass through for guards in areas not open to the public within occupancies in Group I-3, F, H or S. Requirements for guard openings on alternating tread devices appears to have not been addressed in the code, and by lack of any other requirements default to the requirements for traditional type stairs. Alternating tread devices are not limited to uses within the occupancies in Group I-3, F, H or S. In addition to use in the areas of these occupancies, alternating tread devices can be used for access to a.) unoccupied roofs (1009.11), b.) boiler, a incinerator and furnace rooms (1015.3) c.) refrigeration machinery rooms (1015.4) and d.) catwalks, gridirons and galleries used for stages (1015.6.1). None of the uses allowed in IBC for alternating tread devices are of the type such that the device would require guards with openings such that a 4 inch diameter sphere could not pass through. Guard requirements for alternating tread devices in uses than other Group I-3, F, H or S would therefore be unnecessarily restrictive by not allowing guard openings such that a 21 inch diameter sphere could not pass through.

Alternating tread devices have been used for approximately 25 years without guards having openings such that a 4 inch sphere cannot pass through. Lapeyre Stair is not aware of any cases where the guards have been a problem for users of alternating tread devices. Alternating tread

devices are typically not used in locations where the 4 inch sphere rule would apply (i.e. where small children would use the device, etc.). The guardrail opening requirement for alternating tread devices appears to have first been introduced in section 1003.2.12.2 of IBC-2000 and then carried forward to section 1012.3 of IBC-2003. The precursor codes to IBC are unclear or appear not to discuss alternating tread device guardrail openings. (ref: BOCA-1999 Sections 1014.6.6, 1021.3 and 1022.2.5, SBC-1999 Sections 1007.8.4 and 1007.8.5, 1015.3; UBC Section 1003.3.3.1, 1003.3.3.7 and 509.3). Finally, in an IBC code interpretation letter dated July 23, 2004 to Fanning/Howley Associates Inc, indicated that rail requirements in the IBC may not be appropriate for alternating tread devices, and alternate approval of an alternating tread device with a rail configuration inconsistent with IBC, Section 1013.3 may be acceptable. Allowing a 21 inch guard opening in alternating tread devices does not substantially alter their design of, and actually results in less construction cost.

**Bibliography:**

The BOCA National Building Code/1999 sections 1014.6.6, 1021.3, and 1022.2.5  
Standard Building Code 1999 Edition sections 1007.8.4 and 1007.8.5, 1015.3  
1997 Uniform Building Code section 1003.3.3.1 (exception), 1003.3.3.7 and 509.3

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E101-06/07

### 1013.4 (New) [IFC [B] 1013.4 (New)]; IRC R312.3 (New)

**Proponent:** Robert D. Lee, Town of Cave Creek, AZ

**THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.**

#### PART I – IBC

**Add new text as follows:**

**1013.4 Climb resistance.** Guards are to be constructed in a manner so that they do not contain straight, non-flexible elements greater than 4 inches (102 mm) in length that are within 45 degrees (.79 rad) of horizontal, between 4 inches (102 mm) and 32 inches (813 mm) measured vertically above the adjacent walking surface.

**Exceptions:**

1. Guards in areas that are not open to the public within occupancies in Group I-3, F, H or S.
2. Guards constructed in accordance with Section 1013.5 (Mechanical equipment).
3. Guards constructed in accordance with Section 1013.6 (Roof access).
4. Guards on stairs.

#### PART II – IRC

**Add new text as follows:**

**R312.3 Climb resistance.** Guards are to be constructed in a manner so that they do not contain straight, non-flexible elements greater than 4 inches (102mm) in length that are within 45 degrees (.79 rad) of horizontal, between 4 inches (102 mm) and 32 inches (813 mm) measured vertically above of the adjacent walking surface.

**Exception:** Guards on the open sides of stairs.

**Reason:** While there may be some debate about the data on the relationship between climbable guards and the resulting accidents, there is an immediate need for prescriptive code requirements that are based on the best available data coupled with sound logic and reason. Since the current code provides no restrictions on the climbability of guards, logical reason suggests that guards will be climbed less if they are built in accordance with this code proposal.

This code proposal specifically addresses and limits the use of straight, solid, horizontal guard infill. Most noted are guards commonly referred to as horizontal "pipe rail" guards and outdoor deck guards that are constructed using horizontal S4S members. It is these guards that are among the most climbable and are the most visually inviting to climb, particularly for children that are still within the developmental stages where their sense of danger is not yet fully developed.

This code proposal only limits the most climbable and inviting guards. While these guards only represent a fraction of the guards that are built today, they represent a great majority of guards that can be, and are, climbed by young children.

By limiting this code proposal to "non-flexible elements", it does not restrict the use of infill constructed of cable, as these guards are much more difficult and less likely to be climbed because of the small size of the members. It is also noted that this proposal does not specifically limit the use of ornamental infill.

45 degrees was chosen as this is the generally recognized distinction between vertical and horizontal.

Many countries around the world restrict climbability of guards with performance language. In our prescriptive code this approach isn't practical or desirable but the need is the same and this proposal addresses that need.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** A similar code change was proposed Daniel O'Brien. The difference is the degrees from horizontal (i.e., 10-45).

## PART I - IBC

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

## PART II - IRC

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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# E102-06/07

## 1013.4 (New) [IFC [B] 1013.4 (New)]; IRC R312.3 (New)

**Proponent:** Daniel K. O'Brien, Universal Building Systems, Inc.

**THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.**

## PART I – IBC

**Add new text as follows:**

**1013.4 Climb resistance.** Required guards are to be constructed in a manner that they do not contain straight, non-flexible elements greater than 4 inches (102 mm) in length that are within 10 degrees (.17 rad) of being horizontal, between the areas of 4 inches (102 mm) to 32 inches (813 mm) measured vertically off of the walking surface.

### Exceptions:

1. Guards in areas that are not open to the public within occupancies in Group I-3, F, H or S.
2. Guards constructed in accordance with Section 1013.5 (Mechanical equipment).
3. Guards constructed in accordance with Section 1013.6 (Roof access).
4. Guards on stairs

## PART II – IRC

**R312.3 Climb resistance.** Required guards are to be constructed in a manner that they do not contain straight, non-flexible elements greater than 4 inches (102 mm) in length that are within 10 degrees (.17 rad) of being horizontal, between the areas of 4 inches (102 mm) to 32 inches (819 mm) measured vertically off of the walking surface.

### Exception: Guards on the open sides of stairs.

**Reason:** With a lack of quantifiable scientific data on the relationship between climbable guards and resulting accidents, there remains an immediate need for prescriptive code requirements that are based on the best available data coupled with sound logic and reason. The current code provides no restrictions on the climbability of guards. The available data and logical reason both suggest that guards will be climbed less if they are built in accordance with this code proposal.

This code proposal specifically addresses and limits the use of straight, solid, horizontal guard infill. Most noted are guards commonly referred to as horizontal "pipe rail" guards and/or outdoor deck guards that are constructed using horizontal S4S members. It is these guards that are among the most climbable and are the most visually inviting to climb, particularly for children that are still within the developmental stages where their sense of danger is not yet fully developed.

This code proposal only limits the most climbable and inviting guards. While these guards only represent a fraction of the guards that are built today, they represent a great majority of guards that can be, and are, climbed by young children. Furthermore, industry will adapt easily to this code proposal with little or no cost consequences.

By limiting this code proposal to "non-flexible elements", it does not restrict the use of infill constructed of semi-flexible cable, as these guards are much more difficult and less likely to be climbed. It is also noted that this proposal does not specifically limit the use of ornamental infill.

**Cost Impact:** Industry will adapt to this code change proposal with little or not cost impact.

**Analysis:** A similar code change was proposed by Robert Lee. The difference is the degrees from horizontal (i.e., 10-45)

## PART I – IBC

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

## PART II – IRC

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E103-06/07

### 1014.2 (IFC [B] 1014.2)

**Proponent:** James L. Sills, Greenville County, South Carolina

**Revise as follows:**

**1014.2 Egress through intervening spaces.** Egress through intervening spaces shall comply with this section.

1. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas are accessory to the area served, are not a high-hazard occupancy and provide a discernible path of egress travel to an exit.

**Exception:** Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy when the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.

2. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

**Exceptions:**

1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or sleeping unit.
2. Means of egress are not prohibited through stockrooms in Group M occupancies when all of the following are met:
  - 2.1. The stock is of the same hazard classification as that found in the main retail area;
  - 2.2. Not more than 50 percent of the exit access is through the stockroom;
  - 2.3. The stockroom is not subject to locking from the egress side; and
  - 2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by continuous full or 36 inches minimum partial height fixed walls or similar construction that does not contain case openings and meets the requirements for an accessible route as required by Section 1104.5 that will maintain the required width and lead directly from the retail area to the exit without obstructions.
3. An exit access shall not pass through a room that can be locked to prevent egress.
4. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.

**Reason:** Section 1104.5 specifically prohibits a means of egress to travel through storage. The purpose of the proposed code change is to provide basic guidelines to make this path of egress accessible if the exit is required to be accessible as required by Section 1007.

The proposal is an attempt to provide an accessible means of egress that is required by Section 1007 for a retail space that requires two means of egress. In accordance with Section 1007, if a space requires two or more means of egress, a minimum of two means of egress must be accessible. An opening or too low of a partial height wall with case opening(s) does not provide a delineated path for people who are visually impaired. By designating a minimum height partition wall without case openings, or other openings (i.e., Dutch doors, or full size doors required), a visually impaired person could determine the correct path for the exit in times of emergency.

Section 1104.5 requires an accessible route not to travel through storage. Section 1007 requires that if two or more means of egress are required from a space, then a minimum of two means of egress must be accessible. Partition wall height of 36 inches was chosen because it is the height above grade that a handrail for a ramp or stairway is to be located. To keep the height of obstructions similar for visually impaired people, because of human nature, they tend to feel for obstructions at this height. Without having a continuous path or barrier provided, a visually impaired person could venture into the stock area in the event of an emergency.

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

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E104-06/07

### 1014.2.2 (IFC [B] 1014.2.2)

**Proponent:** John Williams, Construction Review Services, Washington State Department of Health

**Revise as follows:**

**1014.2.2 Group I-2.** Habitable rooms or suites in Group I-2 occupancies shall have an exit access door leading directly to a corridor.



## Exceptions:

1. Rooms with exit doors opening directly to the outside at ground level.
2. Patient sleeping rooms are permitted to have one intervening room if the intervening room is not used as an exit access for more than eight patient beds.
3. Special nursing suites are permitted to have one intervening room where the arrangement allows for direct and constant visual supervision by nursing personnel.
4. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through one intervening room where the travel distance to the exit access door is not greater than 100 feet (30 480 mm).
5. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through two intervening rooms where the travel distance to the exit access door is not greater than 50 feet (15 240 mm).

Suites of sleeping rooms shall not exceed 5,000 square feet (465 m<sup>2</sup>). Suites of rooms other than patient sleeping rooms shall not exceed 10,000 square feet (929 m<sup>2</sup>). Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93 m<sup>2</sup>) shall have at least two exit access doors remotely located from each other. Any room or suite of rooms other than patient sleeping rooms of more than 2,500 square feet (232 m<sup>2</sup>) shall have at least two exit access doors remotely located from each other. The travel distance between any point in a Group I-2 occupancy and an exit access door in the room shall not exceed 50 feet (15 240 mm). The travel distance between any point in a suite of sleeping rooms and an exit access door of that suite shall not exceed 100 feet (30 480 mm).

**Reason:** The purpose of the proposed change is to clarify the required access to exits provided in a non sleeping suite of patient rooms. The term "access door" is not consistent with similar requirements in this section. This change would mend an omission to the original text. The charging statement of this code refers to an "exit access door". All other requirements in this section that relate to size of suites and access to exits use the term "exit access door".

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E105-06/07

### 1014.2.2, 1014.2.3 through 1014.2.5 (New) [IFC [B] 1014.2.2, [B] 1014.2.3 through [B] 1014.2.5 (New)]

**Proponent:** John Williams, Construction Review Services, Washington State Department of Health

#### Delete and substitute as follows:

**1014.2.2 Group I-2.** Habitable rooms or suites in Group I-2 occupancies shall have an exit access door leading directly to a corridor.

#### Exceptions:

- ~~1. Rooms with exit doors opening directly to the outside at ground level.~~
- ~~2. Patient sleeping rooms are permitted to have one intervening room if the intervening room is not used as an exit access for more than eight patient beds.~~
- ~~3. Special nursing suites are permitted to have one intervening room where the arrangement allows for direct and constant visual supervision by nursing personnel.~~
- ~~4. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through one intervening room where the travel distance to the exit access door is not greater than 100 feet (30 480 mm).~~
- ~~5. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through two intervening rooms where the travel distance to the exit access door is not greater than 50 feet (15 240 mm).~~

~~Suites of sleeping rooms shall not exceed 5,000 square feet (465 m<sup>2</sup>). Suites of rooms other than patient sleeping rooms shall not exceed 10,000 square feet (929 m<sup>2</sup>). Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93 m<sup>2</sup>) shall have at least two exit access doors remotely located from each other. Any room or suite of rooms other than patient sleeping rooms of more than 2,500 square feet (232 m<sup>2</sup>) shall have at least two access doors remotely located from each other. The travel distance between any point in a Group I-2 occupancy and an exit access door in the room shall not exceed 50 feet (15 240 mm). The travel distance between any point in a suite of sleeping rooms and an exit access door of that suite shall not exceed 100 feet (30 480 mm).~~

**1014.2.3 Suites in patient sleeping areas.** Patient sleeping areas in Group I-2 Occupancies shall be permitted to be divided into suites if one of the following conditions is met:

1. The intervening room within the suite is not used as an exit access for more than eight patient beds.
2. The arrangement of the suite allows for direct and constant visual supervision by nursing personnel.

**1014.2.3.1 Area.** Suites of sleeping rooms shall not exceed 5,000 square feet (465 m<sup>2</sup>).

**1014.2.3.2 Exit access.** Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93m<sup>2</sup>) shall have at least two exit access doors remotely located from each other.

**1014.2.3.3 Travel distance.** The travel distance between any point in a suite of sleeping rooms and an exit access door of that suite shall not exceed 100 feet (30 480 mm).

**1014.2.4 Suites in areas other than patient sleeping areas.** Areas other than patient sleeping areas in Group I-2 Occupancies shall be permitted to be divided into suites.

**1014.2.4.1 Area.** Suites of rooms, other than patient sleeping rooms, shall not exceed 10,000 square feet (929 m<sup>2</sup>).

**1014.2.4.2 Exit access.** Any room or suite of rooms, other than patient sleeping rooms, of more than 2,500 square feet (232 m<sup>2</sup>) shall have at least two access doors remotely located from each other.

**1014.2.4.3 One intervening room.** For rooms other than patient sleeping rooms, suites of rooms are permitted to have one intervening room if the travel distance within the suite to the exit access door is not greater than 100 feet (30480mm).

**1014.2.4.4 Two intervening rooms.** For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through two intervening rooms where the travel distance to the exit access door is not greater than 50 feet (15 240 mm).

**1014.2.5 Travel distance.** The travel distance between any point in a Group I-2 occupancy room and an exit access door in that room shall not exceed 50 feet (15 240 mm).

**Reason:** This amendment serves to clarify the existing language to help designers and code enforcement personnel understand the current requirements.

The existing text covers two main concepts:

- Suites that contain patient sleeping areas; and,
- Suites that do not contain patient sleeping areas.

The requirements for each of these concepts are different, but they are not arranged consecutively. The proposed change clarifies the language by grouping the requirements for these two primary concepts into consecutive sections of code.

Exception 1, 2 and 3 moved. The benefit of allowing the use of suites is the ability to have intervening rooms. These two exceptions provide the only instances where intervening room is acceptable for patient sleeping areas. Therefore, they also define the only acceptable conditions for a sleeping suite. These exceptions are reworded and moved to the "sleeping suite" area (1014.2.3.x) of the proposed code.

Exception 4 and 5 moved. These exceptions deal with non sleeping suites and have been moved to the "non sleeping suite" area (1014.2.4.x) of the proposed code.

There are no intended changes to the actual requirements. This proposal is intended to rearrange and put logical breaks into a long and confusing section of code.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E106-06/07

### 1014.2.3 (New) [IFC [B] 1014.2.3 (New)]

**Proponent:** John Williams, Construction Review Services, Washington State Department of Health

**Add new text as follows:**

**1014.2.3 Separation.** Suites in Group I-2 occupancies shall be separated from other portions of the building by a smoke partition complying with Section 710.

**Reason:** The purpose of the proposed change is to clarify the walls that define an I-2 suite. Nowhere in the current code does it explain how the wall surrounding the suite should be constructed. The additional reference would help code officials determine how these suites should be designed.

The existing requirement listed in 1014 is that an I-2 occupant is able to travel directly from a room into a corridor or through a suite into a corridor. In either case, the occupant passes through a smoke partition (corridor wall) by entering the corridor. The occupancies are often designed

with suites being placed directly adjacent to each other. The code also states that the sizes of suites should be limited. It appears that the intent of code is to create separate atmospheres of a certain size that are constructed limit the transfer of smoke.

**Cost Impact:** The code change proposal will not increase the cost of construction. Smoke partitions create an atmospheric separation only and do not require dampers in most cases.

**Analysis:** Requirements for smoke barriers in Group I-2 is located in Section 407.4.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E107-06/07

### 1014.3 (IFC [B] 1014.3)

**Proponent:** Ron Nickson, National Multi Housing Council/National Apartment Association

#### Revise as follows:

**1014.3 Common path of egress travel.** In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In Group H-1, H-2 and H-3 occupancies, the common path of egress travel shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies having fixed seating, see Section 1025.8.

#### Exceptions:

1. The length of a common path of egress travel in Group B, F and S occupancies shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).
3. The length of a common path of egress travel in a Group I-3 occupancy shall not be more than 100 feet (30 480 mm).
4. The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

**Reason:** To increase the allowable common path of travel in R-2 occupancies from 75 feet to 125 feet when the R-2 occupancy is protected with a NFPA 13R sprinkler system. The design requirements and thus the protection provided with NFPA 13R system in the area being protected are the same as that provide with a NFPA 13 system. The 98% operational effectiveness of residential sprinkler systems is the best of all occupancy classifications.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E108-06/07

### 1014.3 (IFC [B] 1014.3)

**Proponent:** Richard B. Alpert, P.E., Schirmer Engineering Corporation

#### Revise as follows:

**1014.3 Common path of egress travel.** In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In occupancies in Groups H-1, H-2, and H-3, the common path of egress travel shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies having fixed seating, see Section 1025.8.

#### Exceptions:

1. The length of a common path of egress travel in an occupancy in Groups B, F and S shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. Where a tenant space in an occupancy in Groups B, S and U has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).

3. The length of a common path of egress travel in occupancies in Group I-3 shall not be more than 100 feet (30 480 mm).
4. The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

**Reason:** The purpose of the code change is to revise the code to allow exception provision for sprinkler systems installed in accordance with NFPA 13R. Exception 4 to Section 1014.3, "Common path of egress travel" allows the extension of the common path of travel in R-2 occupancies from 75 feet to 125 feet for buildings protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 of the code. This allows the exception provision for sprinkler systems installed in accordance with NFPA 13. The code is overly restrictive in that it does not allow the exception provision for building protected throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.2 of the code which would allow the exception provision for sprinkler systems installed in accordance with NFPA 13R.

**Substantiation:** Exception 4 to Section 1014.3, "Common path of egress travel" allows the extension of the common path of travel in R-2 occupancies from 75 feet to 125 feet for buildings protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 of the code. R-2 occupancies are defined in the code as "residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature". NFPA 13R is the standard for the installation of sprinklers in residential occupancies up to and including four stories in height. As stated in the administrative section of the handbook to this standard "the Technical Committee on Residential Sprinkler Systems intends that NFPA 13R provides an acceptable level of fire protection with respect to life safety and property protection". Per the title and scope of NFPA 13R, R-2 occupancies greater than four stories would be required follow the requirements of NFPA 13 for the installation of automatic sprinkler systems.

The increase in the common path of egress is for the portion of egress travel within the dwelling unit, once outside of the dwelling unit and in the exit access corridor two paths of travel are available to the occupants as shown in Figure 1014.3 of the 2006 IBC Commentary. In addition to the protection provided by the automatic sprinkler systems the dwelling units of an R-2 occupancy are required to be separated from each other by a minimum of a 1-hour fire resistive construction per Section 708.1 of the IBC, and from the exit access corridor by a minimum of a ½ hour fire resistive construction per Section 1017.1 of the IBC.

As stated in the commentary for the 2006 IBC Section 1015.2.1, Exception 2, "The protection provided by an automatic sprinkler system installed in accordance with either NFPA 13 or NFPA 13R can reduce the threat of fire buildup so that the reduction in remoteness is not unreasonable, based on the presumption that it provides the occupants with an acceptable level of safety from fire". This same reasoning in the protection provided by an automatic sprinkler system is applicable to an increase in the common path of travel. This revision to allow the exception provision for automatic sprinkler systems installed in accordance with NFPA 13R would be consistent with the provisions of Exception 2 to Section 1015.2.1 of the code which allows the exception for the reduction of the required exit doors or exit access doorways separation distance "where a building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2".

**Bibliography:**

NFPA 13, "Standard for the Installation of Sprinkler Systems", 2002 Edition, National Fire Protection Association, Quincy, MA.  
 NFPA 13R, "Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height ", 2002 Edition, National Fire Protection Association, Quincy, MA.  
 Automatic Sprinkler Systems Handbook, 2002, National Fire Protection Association, Quincy, MA

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

**E109-06/07**  
**1014.3 (IFC [B] 1014.3)**

**Proponent:** Maureen Traxler, City of Seattle, Washington, representing City of Seattle, Department of Planning and Development

**Revise as follows:**

**1014.3 Common path of egress travel.** In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In Group H-1, H-2 and H-3 occupancies, the common path of egress travel shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies having fixed seating, see Section 1025.8.

**Exceptions:**

1. The length of a common path of egress travel in Group B, F and S occupancies shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).
3. The length of a common path of egress travel in a Group I-3 occupancy shall not be more than 100 feet (30 480 mm).
4. The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.
5. The common path of egress travel is not limited in buildings that comply with Section 1019.2.

**Reason:** Common path of egress travel is measured to the place where two paths to two exits are available. An exception for buildings with a single exit is necessary because the common path requirements can never be satisfied within some buildings. Those that comply with Table 1019.2 already meet or exceed the requirements for common path of egress travel. However, this section, as currently written, would force a second exit in buildings complying with Item 2 or 3 of Section 1019.2 (Group R-3 occupancies or single-level buildings with the occupied space at the level of exit discharge, for example), even though the building only needs one exit under Section 1019.2. Under this proposal, these buildings will be allowed to maintain their single exit, but Section 1016 will still limit exit access travel distance.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E110-06/07

### 1014.4 (IFC [B] 1014.4)

**Proponent:** Jay Hall, Virginia Department of Housing & Community Development, representing Virginia Building and Code Officials Association

**Revise as follows:**

**1014.4 Aisles.** Aisles serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles shall be provided from all occupied portions of the exit access which contain seats, tables, furnishings, displays and similar fixtures or equipment. Aisles serving assembly areas, ~~other than seating at tables~~, shall comply with Section 1025. Aisles serving reviewing stands, grandstands and bleachers shall also comply with Section 1025. The required width of aisles shall be unobstructed.

**Reason:** Aisle and aisle accessway are defined terms in the IBC and IFC. Section 1014.4.2.1 and 1014.4.2.2 provide requirements for aisle accessway widths only. Section 1014.4 requires the user to obtain width requirements on aisles serving seating at tables from this section. This section does not provide width requirements for aisles serving seating at tables. The proposed language sends the user to section 1025, specifically 1025.9.1 to obtain minimum aisle widths serving seating at tables.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E111-06/07

### 1002.1, 1014.4 through 1014.5.2 (IFC [B] 1002.1, [B] 1014.4 through [B] 1014.5.2)

**Proponent:** Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

**Revise as follows:**

**1002.1 Definitions.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**AISLE.** An unenclosed exit access component that defines and provides a path of egress travel to a corridor or to an exit.

### SECTION 1017

#### AISLES

**1014.4 1017.1 Aisles General.** Aisles serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles shall be provided from all occupied portions of the exit access which contain seats, tables, furnishings, displays and similar fixtures or equipment. Aisles serving assembly areas, other than seating at tables, shall comply with Section 1025. Aisles serving reviewing stands, grandstands and bleachers shall also comply with Section 1025.

The required width of aisles shall be unobstructed.

**Exception:** Doors, when fully opened, and handrails shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) from each side.

**1014.4.1 1017.2 Aisles in Groups B and M.** In Group B and M occupancies, the minimum clear aisle width shall be determined by Section 1005.1 for the occupant load served, but shall not be less than 36 inches (914 mm).

**Exception:** Nonpublic aisles serving less than 50 people and not required to be accessible by Chapter 11 need not exceed 28 inches (711 mm) in width.

**1014.4.2 1017.3 Aisle accessways in Group M.** An aisle accessway shall be provided on at least one side of each element within the merchandise pad. The minimum clear width for an aisle accessway not required to be accessible shall be 30 inches (762 mm). The required clear width of the aisle accessway shall be measured perpendicular to the elements and merchandise within the merchandise pad. The 30-inch (762 mm) minimum clear width shall be maintained to provide a path to an adjacent aisle or aisle accessway. The common path of travel shall not exceed 30 feet (9144 mm) from any point in the merchandise pad.

**Exception:** For areas serving not more than 50 occupants, the common path of travel shall not exceed 75 feet (22880 mm).

**1014.4.3 1017.4 Seating at tables.** Where seating is located at a table or counter and is adjacent to an aisle or aisle accessway, the measurement of required clear width of the aisle or aisle accessway shall be made to a line 19 inches (483 mm) away from and parallel to the edge of the table or counter. The 19-inch (483 mm) distance shall be measured perpendicular to the side of the table or counter. In the case of other side boundaries for aisle or aisle accessways, the clear width shall be measured to walls, edges of seating and tread edges, except that handrail projections are permitted.

**Exception:** Where tables or counters are served by fixed seats, the width of the aisle accessway shall be measured from the back of the seat.

**1014.4.3.1 1017.4.1 Aisle accessway for tables and seating.** Aisle accessways serving arrangements of seating at tables or counters shall have sufficient clear width to conform to the capacity requirements of Section 1005.1 but shall not have less than the appropriate minimum clear width specified in Section 1014.4.3.2.

**1014.4.3.2 1017.4.2 Table and seating accessway width.** Aisle accessways shall provide a minimum of 12 inches (305 mm) of width plus 0.5 inch (12.7 mm) of width for each additional 1 foot (305 mm), or fraction thereof, beyond 12 feet (3658 mm) of aisle accessway length measured from the center of the seat farthest from an aisle.

**Exception:** Portions of an aisle accessway having a length not exceeding 6 feet (1829 mm) and used by a total of not more than four persons.

**1014.4.3.3 1017.4.3 Table and seating aisle accessway length.** The length of travel along the aisle accessway shall not exceed 30 feet (9144 mm) from any seat to the point where a person has a choice of two or more paths of egress travel to separate exits.

## **SECTION 1019** **EGRESS BALCONIES**

**1014.5 1019.1 Egress balconies General.** Balconies used for egress purposes shall conform to the same requirements as corridors for width, headroom, dead ends and projections.

**1014.5.1 1019.2 Wall separation.** Exterior egress balconies shall be separated from the interior of the building by walls and opening protectives as required for corridors.

**Exception:** Separation is not required where the exterior egress balcony is served by at least two stairs and a dead-end travel condition does not require travel past an unprotected opening to reach a stair.

**1014.5.2 1019.3 Openness.** The long side of an egress balcony shall be at least 50 percent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

**Reason:** A definition of aisle was introduced into the 2006 IBC. Unfortunately, a corridor, by definition, also meets the present definition of an aisle. The proposed modifications to the definition of aisle are based on the root definition of corridor as an exit access component. Inasmuch as there are only two interior exit access means of egress components and a corridor is defined as "an enclosed exit access component," an aisle must be an unenclosed exit access component. The definition of corridor also prescribes the extent of egress travel within that component. Similar language has been added to the definition of aisle. It is felt that more comprehensive definitions will assist code users in the proper design and analysis of means of egress systems.

Additionally, since aisles and exterior egress balconies are formal exit access components, it is felt that they should enjoy full section status similar to many other means of egress components. This will help users quickly and efficiently access necessary provisions. The reorganization of means of egress provisions in the 2003 IBC created several illogical locations for technical provisions. This provision will help correct that situation.

Approval of this proposal will clarify current code provisions and assist users in the proper determination of means of egress requirements. Approval of this proposal will greatly assist design professionals and code enforcement officials in the proper application of these fundamental and essential *International Building Code* provisions, especially those with minimal experience.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** If approved, the following editorial changes will occur. The proposed Section 1017, Aisles, would occur between current Section 1016, Exit Access Travel Distance, and Section 1017, Corridors. The proposed Section 1019, Egress Balconies, would occur between current Section 1017, Corridors, and Section 1018, Exits. Sections and references would be renumbered accordingly.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E112-06/07

### 1014.6 (New), 1016.1 [IFC [B] 1014.6 (New), [B] 1016.1]

**Proponent:** Greg Wheeler, City of Thornton, Colorado, representing Colorado Chapter ICC

**Add new text as follows:**

**1014.6 Exit access stairways.** Stairways that are used for egress purposes and permitted to be unenclosed by Section 1020.1 shall be considered as a component of the exit access. The distance of travel on such means of egress components shall be measured on a plane parallel and tangent to the stair tread nosings in the center of the stairway and continue until an exit is reached.

**1016.1 Travel distance limitations.** Exits shall be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story to the entrance to an exit along the natural and unobstructed path of egress travel, shall not exceed the distances given in Table 1016.1.

Where the path of exit access includes unenclosed stairways or ramps within the exit access ~~or includes unenclosed exit ramps or stairways as permitted in Section 1020.1~~, the distance of travel on such means of egress components shall also be included in the 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 stairway.

**Exceptions:**

1. Travel distance in open parking garages is permitted to be measured to the closest riser of open stairs.
2. In outdoor facilities with open exit access components and open exterior stairs or ramps, travel distance is permitted to be measured to the closest riser of a stair or the closest slope of the ramp.
- ~~3. Where an exit stair is permitted to be unenclosed in accordance with Exception 8 or 9 of Section 1020.1, the travel distance shall be measured from the most remote point within a building to an exit discharge.~~

**Reason:** There is confusion with how to measure travel distance when an open stairway is constructed as a part of the means of egress. This change provides clarification that the open stairway is a part of the exit access and travel distance is measured along the stair. This is intended to be a correlating change to Section 1016 regarding travel distance.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E113-06/07

### 1015.1, 1015.1.1, 1019.1, 1019.2 (IFC [B] 1015.1, [B] 1015.1.1, [B] 1019.1, [B] 1019.2)

**Proponent:** Philip Brazil, Reid Middleton, Inc., representing Washington Association of Building Officials (WABO)

**Revise as follows:**

**1015.1 Exits or exit access doorways required from spaces.** Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds one of the values in Table 1015.1.
2. The common path of egress travel exceeds one of the limitations of Section 1014.3.
3. Where required by Sections 1015.3, 1015.4, ~~and~~ 1015.5, 1015.6 or 1015.6.1.

**Exception:** Group I-2 occupancies shall comply with Section 1014.2.2.

**TABLE 1015.1  
SPACES WITH ONE MEANS OF EGRESS**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E <sup>a</sup> , F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29

a. Day care maximum occupant load 10.

**1015.1.1 Three or more exits or exit access doorways.** ~~Access to three or more~~ Three exits or exit access doorways shall be provided from ~~a floor area where required by Section 1019.1~~ any space with an occupant load of 501-1,000. Four exits or exit access doorways shall be provided from any space with an occupant load greater than 1,000.

**1019.1 Minimum number of Exits from stories.** ~~All rooms and spaces within each story shall be provided with and have access to the minimum number of approved independent exits as required by specified in Table 1019.1 based on the occupant load of the story, except as modified in Section 1015.1 or 1019.2. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.~~

**TABLE 1019.1  
MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD**

OCCUPANT LOAD (persons per story)	MINIMUM NUMBER OF EXITS (per story)
1-500	2
501-1,000	3
More than 1,000	4

**1019.2 Buildings with one exit.** Only one exit shall be required in buildings as ~~described~~ specified below:

- Buildings ~~described in meeting the limitations of~~ Table 1019.2, provided ~~that~~ the building has not more than one level below the first story above grade plane.
- Buildings of Group R-3 occupancy.
- Single-level buildings with the occupied spaces at the level of exit discharge provided ~~that the story or each space complies with Section 1015.1 as a space with one means of egress~~ exit or exit access doorway.

**TABLE 1019.2  
BUILDINGS WITH ONE EXIT**

OCCUPANCY	MAXIMUM HEIGHT OF BUILDING ABOVE GRADE PLANE	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE
A, B <sup>d</sup> , E <sup>e</sup> , F, M, U	1 Story	49 occupants and 75 feet travel distance
H-2, H-3	1 Story	3 occupants and 25 feet travel distance
H-4, H-5, I, R	1 Story	10 occupants and 75 feet travel distance
S <sup>a</sup>	1 Story	29 occupants and 100 feet travel distance
B <sup>b</sup> , F, M, S <sup>a</sup>	2 Stories	30 occupants and 75 feet travel distance
R-2	2 Stories <sup>c</sup>	4 dwelling units and 50 feet travel distance

For SI: 1 foot = 304.8 mm.

- For the required number of exits for open parking structures, see Section 1019.1.1.
- For the required number of exits for air traffic control towers, see Section 412.1.
- 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 1026 shall have a maximum height of three stories above grade plane.
- Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 with an occupancy in Group B shall have a maximum travel distance of 100 feet.
- Day care maximum occupant load 10.

**Reason:** This proposal addresses questions raised by code users in the state of Washington concerning the application of Sections 1015.1, 1015.1.1, 1019.1 and 1019.2 in determining the required number of exits and exit access doorways. Section 1015.1 intends to specify when two exits or exit access doorways are required from a space. Section 1015.1.1 intends to specify when three or more exits or exit access doorways are required from a space. Section 1019.1 intends to specify the minimum number of exits from a story based on the occupant load of that story. At least two exits are required as specified in Table 1019.1. Section 1019.2 effectively serves as an exception to Section 1019.1, permitting a building to have one exit if certain conditions are met.

The proposal will make the application of the proposals clearer. The phrase "one of" is added to Items 1 and 2 of Section 1015.1 clarifying that not all of the values in Table 1015.1 need to be exceeded before two exits or exit access doorways are required from a space. Sections 1015.6 and 1015.6.1 are added to Item 3 of Section 1015.1 because of the requirements in those sections for means of egress.



The reference to Section 1019.1 in Section 1015.1.1 is replaced with language requiring more than two exits or exit access doorways from a space based on its occupant load. Note that Section 1019.1 does not require three or more exits from floor areas. The reference to "floor area" in Section 1015.1.1 is replaced with references to spaces for consistency with Section 1015.1. Section 1015.1.1 applies to spaces, not stories, which is implied by the reference to floor areas.

Section 1019.1 is revised to require access from all spaces within each story to the minimum number of exits for each story as specified in Table 1019.1, which is based on the occupant load of each story. Reference to "rooms" is deleted because Section 1014.1 refers only to spaces. Its presence in Section 1019.1 is superfluous and the lack of its presence in Section 1015.1 is a potential conflict.

Reference to Table 1019.1 for the required number of exits from spaces has been the source of much confusion and is deleted. The required number of exits from spaces is specified more comprehensively in Sections 1015.1 and 1015.1.1, which require two or more exits or exit access doorways from spaces based on their occupant load and other factors. Note that Table 1019.1 does not require a minimum number of exits from spaces, but does require a minimum number from each story. The phrase "approved independent" in Section 1019.1 is superfluous and is deleted. The phrase "basement or individual space" is also deleted. A basement is a story that is partly or completely below grade plane making it superfluous. A story is composed of spaces making reference to them superfluous since stories include them.

Reference to Section 1015.1 in Section 1019.1 is superfluous and is deleted. Section 1019.1 requires at least two exits from each story. Section 1015.1 requires two exits from certain spaces but does not require exits from stories. Consequently, Section 1015.1 would never modify the requirements of Section 1019.1. Section 1015.1.1 intends to require three exits or exit access doorways from spaces with an occupant load of 501-1,000 and four exits or exit access doorways from spaces with an occupant load greater than 1,000. This is consistent with Table 1019.1, which specifies three exits from stories with an occupant load of 501-1,000 and four exits from stories with an occupant load greater than 1,000.

The proposed revisions to Section 1019.2 are largely editorial. The charging statement and Item #1 are revised to mandatory language. In Item #3, reference to the story is deleted and the phrase "means of egress" is replaced with "exit or exit access doorway" because compliance with Section 1015.1 is dependent on the number of exits or exit access doorways from spaces, not from stories, and requirements for the means of egress are not specified other than exits or exit access doorways from spaces.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** Tables 1015.1, 1019.1 and 1019.2 are shown for information only.

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

## E114-06/07

### 1015.1, Table 1015.1, 1002.1, 1014.3, 1025.8 (IFC [B] 1015.1, [B] Table 1015.1, [B] 1002.1, [B] 1014.3, [B] 1025.8)

**Proponent:** Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

#### 1. Revise as follows:

**1015.1 Exit or exit access doorways required.** Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load or the travel distance of the space exceeds the values in Table 1015.1.
- ~~2. The common path of egress travel exceeds the limitations of Section 1014.3.~~
- ~~3-2.~~ Where required by Sections 1015.3, 1015.4 and 1015.5.

#### Exceptions:

1. Group I-2 occupancies shall comply with Section 1014.2.2.
2. Group A occupancies with fixed seating shall comply with Section 1025.8.

**TABLE 1015.1  
 SPACES WITH ONE MEANS OF EGRESS**

OCCUPANCY	MAXIMUM OCCUPANT LOAD	TRAVEL DISTANCE
A, B, E <sup>a</sup> , F, M, U	49	75 feet <sup>b,c</sup>
H-1, H-2, H-3	3	25 feet
H-4, H-5, I-1, I-3, I-4, R	10	75 feet <sup>d,e</sup>
S	29	75 feet <sup>b,c</sup>

- a. Day care maximum occupant load is 10.
- b. Travel distance in Group B, F and S occupancies shall not exceed 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
- c. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 29, travel distance shall not exceed 100 feet (30 480 mm).
- d. Travel distance in a Group I-3 occupancy shall not exceed 100 feet (30 480 mm).
- e. Travel distance in a Group R-2 occupancy shall not exceed 125 feet (38 100 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

#### 2. Delete without substitution:

**1002.1 Definitions.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**COMMON PATH OF EGRESS TRAVEL.** That portion of exit access which the occupants are required to traverse before two separate and distinct paths of egress travel to two exits are available. Paths that merge are common paths of travel. Common paths of egress travel shall be included within the permitted travel distance.

**1014.3 Common path of egress travel.** In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In Group H-1, H-2 and H-3 occupancies, the common path of egress travel shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies having fixed seating, see Section 1025.8.

**Exceptions:**

1. The length of a common path of egress travel in Group B, F and S occupancies shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).
3. The length of a common path of egress travel in a Group I-3 occupancy shall not be more than 100 feet (30 480 mm).
4. The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

**3. Revise as follows:**

**1025.8 Common path of Travel distance.** The common path of egress Travel distance shall not exceed 30 feet (9144 mm) from any seat to a point where an occupant has a choice of two paths of egress travel to two exits.

**Exceptions:**

1. For areas serving less than 50 occupants, the common path of egress such travel distance shall not exceed 75 feet (22 860 mm).
2. For smoke-protected assembly seating, the common path of egress such travel distance shall not exceed 50 feet (15 240 mm).

**Reason:** This proposal is intended to improve exit access design requirements in two significant ways. First, many code users become conditioned to seek technical requirements in various tables without consulting the charging or enabling text. Such is often the case in the determination of the required number of exit or exit access doorways in Section 1015.1. Many fail to acknowledge the common path of egress travel requirement currently referenced in Section 1015.1 as detailed in Section 1014.3. The proposal combines both technical requirements in the table. This will greatly reduce the likelihood of overlooking common path of egress travel concerns in the determination of the required number of exits or exit access from a given space.

Secondly, it is recommended to delete the definition of "common path of egress travel." The primary reason for this deletion is that the current definition is unwieldy and confusing and serves no practical purpose. The current first sentence containing the "separate and distinct paths of egress travel" is subject to wide and varied interpretation. Indeed, explanation of this provision in technical commentaries and handbooks often requires numerous illustrations to describe the requirements. The fact of the matter is that common path of egress travel requirements trigger multiple exit or exit access requirements. That is to say, if an area is served by two exits or exit access, common path of egress travel becomes a moot issue. The last sentence in the definition of common path of egress travel states that it shall, "be included within the permitted travel distance. While the method of determination of common path of egress travel is not particularly clear, the determination of travel distance in Section 1016.1, is very clear. Fundamentally, common path of egress travel is a component of travel distance, and as such, should be determined in the same manner.

The elimination of the term "common path of egress travel" greatly simplifies the determination of multiple means of egress requirements. Pure travel distance, properly determined correctly establishes the appropriate technical threshold. This proposal represents a necessary simplification in this very important and fundamental requirement. It is realized that some may consider this proposal historically and technically inappropriate. To those, I would simply offer that a system virtually identical to that proposed is currently utilized in the determination of multiple exits from a building in Section and Table 1019.2. The exact criteria of occupant load and travel distance proposed in this submittal are currently used--without confusion--in the 2006 and previous editions of the IBC.

This proposal represents an initiative and a departure from the technical status quo in the International Building Code. Approval of this proposal will greatly clarify and simplify current multiple means of egress design requirements. It will also create consistency with those similar requirements found in Section 1019.2.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E115-06/07

### 1015.1, 1019.1 (IFC [B] 1015.1, [B] 1019.1)

**Proponent:** Maureen Traxler, City of Seattle, Washington, representing Washington Association of Building Officials

**Revise as follows:**

**1015.1 Exit or exit access doorways required.** Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds the values in Table 1015.1.

**Exception:** In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 16 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

2. The common path of egress travel exceeds the limitations of Section 1014.3.

3. Where required by Sections 1015.3, 1015.4 and 1015.5.

**Exception:** Group I-2 occupancies shall comply with Section 1014.2.2.

**1019.1 Minimum number of exits.** All rooms and spaces within each story shall be provided with and have access to the minimum number of approved independent exits required by Table 1019.1 based on the occupant load of the story, except as modified in Section 1015.1 or 1019.2. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.

**Exception:** In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 16 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

**Reason:** This proposal allows one exit in some dwelling units. This proposal is consistent with the IRC provisions allowing one exit from dwelling units, and is safer because dwellings built according to the IBC will have sprinkler protection. This reduction in exiting requirements is mitigated by the familiarity of the occupants with the exits, and their control over the environment. The code still requires two exits from every story outside the dwelling unit.

This provision is important for small dwelling units where there often is not enough space for two exits. It's also important for larger dwelling units in multifamily buildings in which it can be impracticable to provide the required separation between exits, particularly for buildings on urban infill lots with small footprints.

The occupant load of 16 was chosen for consistency with new provisions for Group R congregate living facilities. According to Section 310.1, congregate living facilities with 16 or fewer persons are Group R-3 occupancies, and those with more are Group R-2 occupancies.

The proposal is limited to dwelling units that are less than 3,200 square feet (Table 1004.1.1 specifies 200 sq.ft./person x 16 occupants = 3,200 sq.ft.) which corresponds with maximum allowable area for dwellings with one exit in one of the legacy codes. Other provisions of Chapter 10 may require additional exits to be provided – provisions limiting the length of the common path of egress travel and travel distance will apply. The limit of 125 feet on common path of egress travel found in Section 1014.3 is an especially strict limit.

There are cases where multifloor dwelling units with a small floor area and small occupant load are required to have access to two exits from the upper floors. In these cases, the common path of egress travel, which will be measured along stairways, will limit the size of a dwelling that can have one exit.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E116–06/07

### 1015.1 (IFC [B] 1015.1)

**Proponent:** Michael Perrino, Code Consultants, Inc.

**Revise text as follows:**

**1015.1 Exit or exit access doorways required.** Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds the values in Table 1015.1.
2. The common path of egress travel exceeds the limitations of Section 1014.3.
3. Where required by Sections 1015.3, 1015.4 and 1015.5.

**Exceptions:**

1. Group I-2 occupancies shall comply with Section 1014.2.2.
2. In Group R-2 apartment houses and Group R-3, individual dwelling units with one exit or exit access doorway shall be permitted to have a maximum occupant load of 24.

**Reason:** This change is intended to update the IBC egress provisions for dwelling units in apartment houses of R-2 occupancy to allow larger dwelling units with a single exit, as permitted in areas of the United States that have adopted the IBC, but have amended the single exit criteria. It will not allow these provisions to be applied to any other category of R-2 occupancy, such as boarding houses, dormitories, sorority or fraternity houses or congregate living facilities.

## Residential Occupant Loads in Perspective

Residential occupancies have traditionally been considered different from other occupancies for one reason. No other occupancy presupposes that occupants will be asleep during a significant portion of the time of occupancy. Sleeping occupants are assumed to need additional time to egress, since it can be disorienting to be awakened by an alarm signal. Also, it is assumed that occupants may need time to dress before leaving the dwelling unit.

Therefore, it is important to evaluate the maximum number of sleeping occupants likely to be present in the larger units in apartments. Larger units typically have two to three bedrooms. Based on the Census Bureau data cited below, it can be assumed that the master bedroom will have at least two occupants during sleeping hours. The other one or two bedrooms will likely have a single occupant, which will result in a sleeping population of between three and four in these units. Alternately, even if each bedroom in three bedroom units accommodates two occupants, the sleeping population of a 3,000 sf unit is seldom likely to exceed six, and in a 4,000 square foot 4 bedroom apartment, this logic still only results in an occupant load of eight. Yet, the code calculated occupant load for a 3,000 square foot unit will be 15 and for a 4,000 square foot unit will be 20.

Another area that has not been addressed by the code is the relative size of amenities in newer larger apartments. Few larger apartments include more than 3 or 4 bedrooms. Most of the increase in apartment square footages has been in the size of ancillary spaces such as kitchens, bathrooms, walk-in closets. And while there has been a general expansion in the sizes of bedrooms and living rooms, none of these changes necessarily have the effect of increasing occupant load in a residential occupancy.

### Residential and Assembly Occupant Loads

There are certain circumstances where the occupant load of a dwelling unit could exceed the assumed occupant load described above. Dinner parties, family gatherings and other such resident-controlled events would cause the occupant load to increase. Unlike the residents of the dwelling unit, however, these occupants can be assumed to be awake, aware of their surroundings and capable of self preservation. Consequently, during such gatherings, the dwelling unit's occupants more closely resemble those of a small assembly occupancy, which would be permitted an occupant load of up to 50 before two exits would be required.

It is illogical that the code allows a maximum occupant load of 50, based on area, in occupancies such as A, B and M, where a large number of occupants can be assumed to be unfamiliar with their surroundings, before the requirement for a second exit is imposed, while limiting the occupant load of Group R occupancies to 10. Persons within their own apartments will certainly be intimately familiar with the egress paths within their home.

### Residential Occupancy Fire Protection Features

In addition, dwelling units are required to be sprinklered with residential type, quick-response sprinklers in accordance with Section 903.3.2, and be provided with single and multiple station smoke alarms per Section 907.2.10.1.2, further protecting the occupants.

The current code requirements have the effect of penalizing Group R occupancies, and in some respects ignores the code's own logic, which permits many allowances for Group R occupancies such as spiral stairs, dead-ends within dwelling units, etc., based on the familiarity of occupants with their surroundings and the increased life safety provided by the extra safeguards required by the code.

### Substantiation:

#### Occupant Load of 24

This proposal will allow an occupant load of up to 24 occupants before a second exit is required. This number was chosen because it represents apartments up to slightly less than 5,000 square feet to be designed with a single exit, based on the factor in Table 104.1.1. This is a reasonable number, based on the logic given above for the sleeping population of a large apartment unit. It also represents slightly less than one-half of the occupant load permitted in Florida, where this provision has worked well in the past.

### Single Exit Criteria in the Florida Building Code

It's important to note that the basic concept of this proposal mirrors the current Florida Building Code (FBC), which is based on the 2003 IBC. This proposal is actually more stringent, however, since the Florida 2005 Supplement amended the IBC to allow an occupant load of 50 before an apartment requires two means of egress (the same as Groups A, B, E, F, M and U). This proposal only permits half as many occupants (25) as would be permitted in Florida.

Significantly, this supplement also increased travel distance within a dwelling unit to 125 feet, the same as the allowance in the 2006 IBC. Note also that these same provisions have been in the Florida codes for some time, and have been deemed safe and practical enough that they have been carried into the new IBC based Florida Building Code.

### Census Bureau Data

In today's residential housing market, larger dwelling units have become the norm rather than the exception. And while unit size has grown, information from the United States Census Bureau indicates that the statistical size of the average family is essentially unchanged (persons per household has dropped slightly from 2.63 in 1990 to 2.58 in 2002). In addition, the percentage of one person households has increased from 24.6% to 26.3% in the same period. This is part of a continuing downward trend. Average household size in 1950 was 3.38 persons. Based on this alone, as dwelling units get larger and family units get smaller, the code has clearly not kept pace.

### Florida and the IBC

The single exit provision in the IBC is outmoded, based on the evidence of the Florida amendment to the IBC, which is based on years of experience allowing larger occupant loads in apartments. This provision is a contributing factor that has helped energize the housing market in Florida, without compromising safety. The Florida experience makes it clear that it is time for the IBC to catch up with the latest thinking regarding egress for apartments in R-2 occupancies.

### Florida Housing Market Analysis

Florida is one of the country's largest markets for new upscale residential multifamily buildings. In Miami alone, it's reported in Econsouth, published by the Federal Reserve Bank, that 60 construction projects containing 14,134 residential units are currently underway, and that another 212 projects representing 57,392 residential units are proposed for construction in the near future. The provision allowing larger dwelling units with a single exit (in this case up to an occupant load of 50) has worked well in Florida and has permitted units to be designed with appropriate exits based on the relative hazards presented by the occupancy.

Revised Table 1014.1 and Table 1015.1 of the Florida Building Code can be accessed at:

<http://www.dca.state.fl.us/fbc/publications/2005supplement090605rev102205.pdf>

The article from Econsouth, Volume 7, Number 3, Third Quarter 2005, can be accessed at:

<http://www.frbatlanta.org/invoke.cfm?objectid=98D5072C-5056-9F06-99352E51FC7900C1&method=display>

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

# E117-06/07

## Table 1015.1 (IFC [B] Table 1015.1)

Proponent: Michael Perrino, Code Consultants, Inc.

Revise table as follows:

**TABLE 1015.1  
SPACES WITH ONE MEANS OF EGRESS**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, E, E <sup>a</sup> , F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R-1, R-2 <sup>b</sup>	10
R-2 <sup>c</sup> , R-3, R-4	24
S	29

- a. Day care maximum occupant load is 10.
- b. All Group R-2 occupancies except individual dwelling units in apartment houses.
- c. Group R-2 individual dwelling units in apartment houses.

**Reason:** This change is intended to update the IBC egress provisions for dwelling units in apartment houses of R-2 occupancy to allow larger dwelling units with a single exit, as permitted in areas of the United States that have adopted the IBC, but have amended the single exit criteria. It will not allow these provisions to be applied to any other category of R-2 occupancy, such as boarding houses, dormitories, sorority or fraternity houses or congregate living facilities.

### Residential Occupant Loads in Perspective

Residential occupancies have traditionally been considered different from other occupancies for one reason. No other occupancy presupposes that occupants will be asleep during a significant portion of the time of occupancy. Sleeping occupants are assumed to need additional time to egress, since it can be disorienting to be awakened by an alarm signal. Also, it is assumed that occupants may need time to dress before leaving the dwelling unit.

Therefore, it is important to evaluate the maximum number of sleeping occupants likely to be present in the larger units in apartments. Larger units typically have two to three bedrooms. Based on the Census Bureau data cited below, it can be assumed that the master bedroom will have at least two occupants during sleeping hours. The other one or two bedrooms will likely have a single occupant, which will result in a sleeping population of between three and four in these units. Alternately, even if each bedroom in three bedroom units accommodates two occupants, the sleeping population of a 3,000 sf unit is seldom likely to exceed six, and in a 4,000 square foot 4 bedroom apartment, this logic still only results in an occupant load of eight. Yet, the code calculated occupant load for a 3,000 square foot unit will be 15 and for a 4,000 square foot unit will be 20.

Another area that has not been addressed by the code is the relative size of amenities in newer larger apartments. Few larger apartments include more than 3 or 4 bedrooms. Most of the increase in apartment square footages has been in the size of ancillary spaces such as kitchens, bathrooms, walk-in closets. And while there has been a general expansion in the sizes of bedrooms and living rooms, none of these changes necessarily have the effect of increasing occupant load in a residential occupancy.

### Residential and Assembly Occupant Loads

There are certain circumstances where the occupant load of a dwelling unit could exceed the assumed occupant load described above. Dinner parties, family gatherings and other such resident-controlled events would cause the occupant load to increase. Unlike the residents of the dwelling unit, however, these occupants can be assumed to be awake, aware of their surroundings and capable of self preservation. Consequently, during such gatherings, the dwelling unit's occupants more closely resemble those of a small assembly occupancy, which would be permitted an occupant load of up to 50 before two exits would be required.

It is illogical that the code allows a maximum occupant load of 50, based on area, in occupancies such as A, B and M, where a large number of occupants can be assumed to be unfamiliar with their surroundings, before the requirement for a second exit is imposed, while limiting the occupant load of Group R occupancies to 10. Persons within their own apartments will certainly be intimately familiar with the egress paths within their home.

### Residential Occupancy Fire Protection Features

In addition, dwelling units are required to be sprinklered with residential type, quick-response sprinklers in accordance with Section 903.3.2, and be provided with single and multiple station smoke alarms per Section 907.2.10.1.2, further protecting the occupants.

The current code requirements have the effect of penalizing Group R occupancies, and in some respects ignores the code's own logic, which permits many allowances for Group R occupancies such as spiral stairs, dead-ends within dwelling units, etc., based on the familiarity of occupants with their surroundings and the increased life safety provided by the extra safeguards required by the code.

### Occupant Load of 24

This proposal will allow an occupant load of up to 24 occupants before a second exit is required. This number was chosen because it represents apartments up to slightly less than 5,000 square feet to be designed with a single exit, based on the factor in Table 104.1.1. This is a reasonable number, based on the logic given above for the sleeping population of a large apartment unit. It also represents slightly less than one-half of the occupant load permitted in Florida, where this provision has worked well in the past.

### Single Exit Criteria in the Florida Building Code

It's important to note that the basic concept of this proposal mirrors the current Florida Building Code (FBC), which is based on the 2003 IBC. This proposal is actually more stringent, however, since the Florida 2005 Supplement amended the IBC to allow an occupant load of 50 before an apartment requires two means of egress (the same as Groups A, B, E, F, M and U). This proposal only permits half as many occupants (25) as would be permitted in Florida.

Significantly, this supplement also increased travel distance within a dwelling unit to 125 feet, the same as the allowance in the 2006 IBC. Note also that these same provisions have been in the Florida codes for some time, and have been deemed safe and practical enough that they have been carried into the new IBC based Florida Building Code.

### Census Bureau Data

In today's residential housing market, larger dwelling units have become the norm rather than the exception. And while unit size has grown, information from the United States Census Bureau indicates that the statistical size of the average family is essentially unchanged (persons per household has dropped slightly from 2.63 in 1990 to 2.58 in 2002). In addition, the percentage of one person households has increased from 24.6% to 26.3% in the same period. This is part of a continuing downward trend. Average household size in 1950 was 3.38 persons. Based on this alone, as dwelling units get larger and family units get smaller, the code has clearly not kept pace.

**Florida and the IBC**

The single exit provision in the IBC is outmoded, based on the evidence of the Florida amendment to the IBC, which is based on years of experience allowing larger occupant loads in apartments. This provision is a contributing factor that has helped energize the housing market in Florida, without compromising safety. The Florida experience makes it clear that it is time for the IBC to catch up with the latest thinking regarding egress for apartments in R-2 occupancies.

**Florida Housing Market Analysis**

Florida is one of the country's largest markets for new upscale residential multifamily buildings. In Miami alone, it's reported in Econsouth, published by the Federal Reserve Bank, that 60 construction projects containing 14,134 residential units are currently underway, and that another 212 projects representing 57,392 residential units are proposed for construction in the near future. The provision allowing larger dwelling units with a single exit (in this case up to an occupant load of 50) has worked well in Florida and has permitted units to be designed with appropriate exits based on the relative hazards presented by the occupancy.

Revised Table 1014.1 and Table 1015.1 of the Florida Building Code can be accessed at:

<http://www.dca.state.fl.us/fbc/publications/2005supplement090605rev102205.pdf>

The article from Econsouth, Volume 7, Number 3, Third Quarter 2005, can be accessed at:

<http://www.frbatlanta.org/invoke.cfm?objectid=98D5072C-5056-9F06-99352E51FC7900C1&method=display>

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

# E118-06/07

## Table 1015.1 (IFC [B] Table 1015.1)

**Proponent:** Ron Nickson, National Multi Housing Council/National Apartment Association

**Revise table as follows:**

**TABLE 1015.1  
SPACES WITH ONE MEANS OF EGRESS**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E <sup>a</sup> , F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R, R-1, R-3, R-4	10
S	29
<u>R-2</u>	<u>20</u>

a. Day care maximum occupant load is 10.

**Reason:** To provide and increase in the occupant load for R-2 occupancies which would allow 4000 square feet single exit apartments. Based on the design maximum floor area allowed per occupant from Table 1004.1 the current occupant load of 10 for all R occupancies requires a 2000 square foot apartment to have two exits. In real life the design occupant load for apartments never reaches the 1 per 200 square foot level, especially in the larger luxury apartments with 2000 or more square feet. Based on data from 2003 American Housing Survey the actual load based on the mean occupant load for a 2000 square foot apartment would be about 900 square feet per occupant. The propose change to Table 1015.1, which would apply only to the calculation of occupant load to determine the number of required exits would allow the construction of a 4000 square foot single exit apartment. Based on the data below the 4000 square foot apartment would have an occupant load of about 1 per every 1818 square feet. Well beyond the maximum of 200 square feet set by Table 1004.1.

Occupant Load – 2003 American Housing Survey

UNIT SIZE (square feet)	NUMBER OF PEOPLE PER HOUSEHOLD	NUMBER OF PEOPLE PER APARTMENT
<500	1.7	1.5
500-999	2.1	1.9
1000-1499	2.5	2.3
1500-1999	2.7	2.6
2000+	2.9	2.2

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

# E119-06/07

## Table 1015.1 (IFC [B] Table 1015.1)

**Proponent:** Tom Rubotton, City of Lakewood, Colorado, representing the Colorado Chapter of ICC

**Revise table as follows:**

**TABLE 1015.1  
SPACES WITH ONE MEANS OF EGRESS**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E <sup>a</sup> , M, F, U	50
H-1, H-2, H-3	3
H-4, H-5, I-1, I-2, I-4, R-1, R-4	10
R-2, R-3	15
S	30

a. Day care maximum occupant load is 10.

**Reason:** Currently, the IBC requires 2 exit access doorways for dwelling units when the square footage of the units exceeds 2000sf. This change would increase the area to 3000sf, used successfully by at least one of the former model code organizations. This corrects a condition that appears overly restrictive for larger dwelling unit configurations becoming common in multifamily projects. These units typically have lower occupant densities due to their higher costs. Common path of egress travel will continue to dictate when additional exit doors are required for units under 3000sf, ensuring adequate options for egress.

**Cost Impact:** The code change proposal will reduce the cost of construction.

**Analysis:** Per Section 310.1, congregate residences in Groups R-3 and R-4 are 16 or fewer occupants.

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

# E120-06/07

## 1015.2.1 (IFC [B] 1015.2.1)

**Proponent:** Arlan Smith, Idaho Division of Building Safety, representing Idaho Association of Building Officials

**Revise as follows:**

**1015.2.1 Two exits or exit access doorways.** Where two exits or exit access doorways are required from any portion of the exit access, the exit doors or exit access doorways shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the ~~building~~ or area to be served measured in a straight line between exit doors or exit access doorways. Interlocking or scissor stairs shall be counted as one exit stairway.

### Exceptions:

1. Where exit enclosures are provided as a portion of the required exit and are interconnected by a 1-hour fire-resistance-rated corridor conforming to the requirements of Section 1017, the required exit separation shall be measured along the shortest direct line of travel within the corridor.
2. Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the exit doors or exit access doorways shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

**Reason:** The reference to the dimension of the building can not be complied with in some building configurations. In a long narrow building (think strip mall) that contains a smaller space that requires two exits or exit accesses and has no travel path communication with the rest of the building it may be impossible to comply. The areas served is just that space and the exit access separation can be obtained if "the area served" is used but not if "the building" is used. Please note that exception 2 to this same section uses the "area served" and not "the building" for the same type of requirement. If the exits or exit access doorways serve the entire building this change does not reduce the separation. The reference to the "building" in this section only confuses the user of the code.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

# E121-06/07

## 1002.1, 1015.2.1. 1015.2.2 (New) [IFC [B ]1002.1, [B] 1015.2.1, [B] 1015.2.2 (New)]

**Proponent:** Thomas Kinsman, T. A. Kinsman Consulting Company

### 1. Revise as follows:

**1002.1 Definitions.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**SCISSOR STAIR.** Two interlocking stairways providing two separate paths of egress located within one ~~stairwell~~ exit enclosure.

**1015.2.1 Two exits or exit access doorways.** Where two exits or exit access doorways are required from any portion of the exit access, the exit doors or exit access doorways shall be placed a distance apart equal to less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exit doors or exit access doorways. ~~Interlocking or scissor stairs shall be counted as one exit stairway.~~

#### Exceptions:

1. Where exit enclosures are provided as a portion of the required exit and are interconnected by a 1-hour fire-resistance-rated corridor conforming to the requirements of Section 1017, the required exit separation shall be measured along the shortest direct line of travel within the corridor.
2. Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the exit doors or exit access doorways shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

### 2. Add new text as follows:

**1015.2.2 Scissor stairs.** Scissor stairs shall be counted as one exit.

Exception: Stairs that interlock similarly to scissor stairs shall be permitted to be considered as two exits provided the entrances in the exit enclosures are separated as required in Section 1015.2.1. Such exit enclosures shall be separated from the building interior and from one another with fire resistance rated construction as required by Section 1020. The separation between the individual stairways shall be permitted to be constructed of a single wall of the required fire resistance rating.

**Reason:** The proposal is the change originally proposed under item E81-04/05 and it includes the original proposed changes to Section 1002 and Section 1015.2.1. It also includes a new subsection 1015.2.2 which has been revised from the original proposal.

The proposed new Section 1015.2.2 has been changed to accommodate concerns expressed in Cincinnati regarding possible interpretations that would omit the remoteness requirements found in Section 1015.2.1. Reference to Section 1015.2.1 has been included to ensure remoteness requirement such as those associated the separation measurement along a 1 hour rated corridor or others such as what a horizontal exit may provide.

The original supporting information is valid and is repeated as follows:

The intent of this code change is to clarify that if the "interlocking stairs" are separated from one another with a single wall constructed of appropriate fire resistive rated construction, they can be considered two exit enclosures. Some jurisdictions are interpreting the code to prohibit a single common wall between the stairways; rather they require two distinct walls so the two stairs are surrounded by their own respective enclosure walls.

Clarifying that a single wall is acceptable is important, particularly for residential development on small lots in urban areas where efficient and safe designs can be constructed using interlocking stairs and provisions of Chapter 10 allowing exit separation to be measured along the length of 1 hour corridors.

The definition of scissor stair states that they are within an enclosure. The term "stairwell" has been editorially changed to use the more appropriate adjective "exit".

The last sentence in Section 1015.2.1 referring to interlocking or scissor stairs has been deleted and relocated in a new Section 1015.2.2. In this relocation to the new section, the term "interlocking" has been dropped because the term "interlocking" is used in the scissor stair definition as a descriptor rather than a reference to a distinct type of stair.

New Section 1015.2.2 charges that scissor stairs are considered a single exit enclosure, but provides an exception that allows consideration of two stair enclosures, if indeed the two stairways are appropriately separated from one another.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

# E122-06/07

## 1016.1, 1019.1, 1020.1 (IFC [B] 1016.1, [B] 1019.1, [B] 1020.1)

**Proponent:** Sarah A. Rice, CBO, Schirmer Engineering Corporation

### Revise as follows:

**1016.1 Travel distance limitations.** Exits shall be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story to the entrance to an exit along the natural and unobstructed path of egress travel, shall not exceed the distances given in Table 1016.1.



Where the path of exit access includes unenclosed stairways or ramps within the exit access ~~or includes unenclosed exit ramps or stairways as permitted in Section 1020.4~~, the distance of travel on such means of egress components shall also be included in the 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 stairway.

**Exceptions:**

1. Travel distance in open parking garages is permitted to be measured to the closest riser of open stairs.
2. In outdoor facilities with open exit access components and open exterior stairs or ramps, travel distance is permitted to be measured to the closest riser of a stair or the closest slope of the ramp.
3. ~~Where an exit stair is permitted to be unenclosed in accordance with Exception 8 or 9 of Section 1019.1, the travel distance shall be measured from the most remote point within a building to an exit discharge. In other than occupancy Groups H and I, the exit access travel distance to a maximum of 50 percent of the exits is permitted to be measured from the most remote point within a building to an exit discharge using unenclosed stairways or ramps when connecting a maximum of 2 stories. The two connected stories shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.~~
4. In other than occupancy Groups H and I, exit access travel distance is permitted to be measured from the most remote point within a building to an exit discharge using unenclosed stairways or ramps in the first and second stories in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The first and second stories shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.

**1019.1 Minimum number of exits.** All rooms and spaces within each story shall be provided with and have access to the minimum number of approved independent exits required by Table 1019.1 based on the occupant load of the story, ~~except as modified in Section 1015.1 or 1019.2~~. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.

**Exceptions:**

1. As modified by Section 1015.1.
2. As modified by Section 1019.2.
3. Rooms and spaces within each story provided with and having access to a means of egress that complies with Exception 3 or 4 in Section 1016.1 shall not be required to be provide the minimum number of approved independent exits required by Table 1019 on each story.

**1020.1 Enclosures required.** Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit 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 exit enclosure shall include any basements but not any mezzanines. An exit enclosure shall not be used for any purpose other than means of egress.

**Exceptions:**

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
  - 1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
  - 1.2. The stairway is open to not more than one story below the story at the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. ~~Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.~~
5. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
6. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
7. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
8. ~~In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors~~

~~served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.~~

9. ~~In other than Group H and I occupancies, interior egress stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.~~

**Reason:** There appears to be two distinct egress concepts that though integrally tied, are being confused. How exit access travel distance is measured (Section 1016.1) and when exits are required to be enclosed in fire rated constructions (Section 1020.1).

Section 1016.1 is intended to tell the code user how to measure "exit access travel distance", e.g., from the most remote point on a story to an "exit." Section 1020.1 tells the code user that all exits are to be enclosed in fire rated construction, and more importantly, the conditions when an exit is not required to be enclosed in fire rated construction. In multiple story buildings, that "exit" is typically an interior stairway or an exterior stairway, separated from the remainder of the story by fire rated construction.

Through past code change activity, the membership has accepted the concept that exit access travel distance does not always have to terminate at an "exit" which is located on that story, but under certain circumstances (those found in Exceptions 8 & 9 in Section 1020.1) can continue down a vertical egress element until the exit access travel distance is exceeded. At that point, regardless of where within the building the person is they must enter an "exit" that is enclosed in fire rated construction.

We do not disagree with the concept of allowing the exit access travel distance to continue past what has traditionally been the termination point, the top of a stairway. But we do feel that code, as currently written in Sections 1016.1 and 1020.1, does not accurately depict the concept. Rather than making the allowance for exit access travel distance to extend past the story in which it started in Section 1016.1, the code has made exceptions to when a vertical exit is required to be enclosed in Section 1020.1.

The proposed language here, and in Section 1020.1, seeks to clarify the application of this concept. The exceptions now found in Section 1020.1 are proposed for deletion and relocated into Section 1016.1. In addition, the current arrangement of the concept of measuring exit access travel distance has created confusion with regard to the application of other provisions within the code, e.g., enclosure of exit access corridors, levels of exit discharge, exit passageways.

Regarding the deletion of Exception 4: Section 1020 is only applicable to "vertical exit enclosures." One would not even look to Section 1020 for a stair that is not an "exit." Openings created by stairs that are not exits are not treated unlike any other opening in a floor assembly. They are classified as "openings" in horizontal assemblies and subject to the applicable provisions for such, potentially shaft enclosures or classification as an atrium. Retaining the text of Exception 4 is misleading as it seems to imply that stairs that are not exits are in some way regulated by the provisions of Section 1020 when this is untrue. The proposed deletion of Exception 4 removes any possible confusion.

The intent of the revision to Section 1019.1 is to address the concern over two exit access stairways being provided from a 2<sup>nd</sup> floor when two exits were required. This is basically a correlation issue.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E123-06/07

**1002.1, 1016.1, 1018.3 (New), 1020.1 (IFC [B] 1002.1, [B] 1016.1, [B] 1018.3 (New), [B] 1020.1)**

**Proponent:** Anne von Weller, Murray City, Utah, representing Utah Chapter of ICC

### 1. Revise as follows:

**1002.1 Definitions.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**EXIT.** That portion of a means of egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives as required to provide a protected path of egress travel between the exit access and the exit discharge. Exits include exterior exit doors at ground the level of exit discharge, vertical exit enclosures, exit passageways, exterior exit stairs, exterior exit ramps and horizontal exits.

**1016.1 Travel distance limitations.** Exits shall be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story ~~to the entrance to an exit~~ along the natural and unobstructed path of egress travel to an exterior exit door at the level of exit discharge, an entrance to a vertical exit enclosure, an exit passageway, a horizontal exit, an exterior exit stair or an exterior exit ramp, shall not exceed the distances given in Table 1016.1.

Where the path of exit access includes unenclosed stairways or ramps within the exit access or includes unenclosed exit ramps or stairways as permitted in Section ~~1020.4~~ 1018.3, the distance of travel on such means of egress components and on connecting stories shall also be included in the 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 stairway.

### Exceptions:

1. Travel distance in open parking garages is permitted to be measured to the closest riser of open exit stairs.
2. In outdoor facilities with open exit access components and open exterior exit stairs or ramps, travel distance is permitted to be measured to the closest riser of a stair or the closest slope of the ramp.

3. Where an exit stair is permitted to be unenclosed in accordance with Exception 8 or 9 of Section 1020.1, the travel distance shall be measured from the most remote point within a building to an exit discharge.

## 2. Add new text as follows:

**1018.3 Unenclosed interior exit stairways and ramps.** Provided the travel distance limitations of Section 1016.1 are met, unenclosed interior stairways and ramps shall be permitted to be considered exits without separation from other interior spaces as required by Section 1020.1 under the following conditions:

1. In all occupancies, other than Group H and I occupancies, an exit stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
  - 1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
  - 1.2. The stairway is open to not more than one story below the story at the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Exit stairways serving and contained within a single residential dwelling unit or sleeping unit in Groups R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Exit stairways in open parking structures that serve only the parking structure are not required to be enclosed.
5. Exit stairways in Group I-3 occupancies, as provided for in section 408.3.6, are not required to be enclosed.
6. Exit stairways as required by Section 410.5.3 are not required to be enclosed.
7. In other than Group H and I occupancies, a maximum of 50 percent of exit stairways serving an adjacent floor are not required to be enclosed, provided at least two exits are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in section 1015.2
8. In other than H and I occupancies, interior exit stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 are not required to be enclosed, provided at least two exits are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.

## 3. Revise as follows:

**1020.1 Enclosures required.** Except as provided in Section 1018.3, interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit 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 exit enclosure shall include any basements but not any mezzanines. An exit enclosure shall not be used for any purpose other than means of egress.

### Exceptions:

1. ~~In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.~~
  - 1.1. ~~The stairway is open to not more than one story above the story at the level of exit discharge; or~~
  - 1.2. ~~The stairway is open to not more than one story below the story at the level of exit discharge.~~
2. ~~Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.~~
3. ~~Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.~~
4. ~~Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.~~
5. ~~Stairways in open parking structures that serve only the parking structure are not required to be enclosed.~~
6. ~~Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.~~
7. ~~Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.~~
8. ~~In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.~~
9. ~~In other than Group H and I occupancies, interior egress stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.~~

**Reason:** There remains a good deal confusion about the appropriate application of unenclosed stairways and ramps under the IBC.

One of the legacy building codes permitted the limited use of unenclosed stairways as exits. Millions of buildings exist which have preformed admirably for decades where the only means of egress are unenclosed stairways. The success of unenclosed stairways is related to the restrictions on number of stories served and limitation of travel distance in an unprotected environment.

This change is offered to help clarify the understanding of how unenclosed stairways should be used without changing the current intent of the code.

**Specific changes:**

Section 1002-The definition is revised for consistency with other definitions in this section and consistency terms in Section 1020.

Section 1016.1-Changes are proposed to clarify exactly which components constitute an "exit" where the measurement of travel distance ceases and to make clear travel distance must be measured down unenclosed stairways as well as on connecting stories until a protected path of egress travel is reached. Exception 3 was eliminated because it is no longer needed with the clarification added in the paragraph above and it is appropriate to cease measuring travel distance when a protected exit is reached.

Section 1018.3-The section was added and included with the general information for exits. Much of the confusion regarding unenclosed stairs stems from the location of the multitude of exceptions to 1020.1 which govern the requirements for vertical exit enclosures. An unenclosed stairway is obviously not an enclosure, but is it an exit or can it be considered a required exit? The creation of the new section and moving the exceptions of 1020.1 into the new section, as conditions rather than exceptions to enclosure requirements should make it more clear how unenclosed stairways are intended to be utilized. The only exception that was not included is #4 because it is not applicable in the new location. The word "exit" has been added in front of the word "stairway" in several of the conditions, again for clarification.

Section 1020.1 - See reason above.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E124-06/07

### 1016.2 (IFC [B] 1016.2)

**Proponent:** Richard Schulte, Schulte & Associates

**Revise as follows:**

**1016.2 Roof vent One Story Groups F-1 and S increase.** In buildings which are one story in height, ~~equipped with automatic heat and smoke roof vents complying with Section 910 and~~ equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the maximum exit access travel distance shall be 400 feet (122 m) for occupancies in Group F-1 and S.

**Reason:** The purpose of this proposal is to increase the allowable exit access travel distance in one-story buildings classified as F-1 and S-1 occupancies protected throughout by a sprinkler system from 250 feet to 400 feet without roof vents and draft curtains.

The code presently permits a travel distance of 400 feet in buildings which are protected by a sprinkler system and provided with roof vents and draft curtains. Since it is unlikely that roof vents will operate if the sprinkler system effectively controls the fire, it seems reasonable that a travel distance of 400 feet should be allowed for one story buildings without roof vents.

The code limits the egress travel distance in order to limit the occupant egress time.

The time which is available for egress from a room or space is dependent upon the size of the fire in the room or space and also the size of the room or space. The size of a fire in a room or space is determined by the type and density of the contents. The larger the volume of the room or space (given the same type and density of combustibles), the more time is available for egress from the room or space. Similarly, flashover occurs sooner in smaller rooms and spaces than in larger spaces (again, given the same type and density of contents). Hence, it can be stated that more time is available for egress from rooms or spaces with greater volumes (given the same size fire).

Given the above, it is reasonable to conclude that more time is available for egress in F-1 and S-1 occupancies which have larger travel distances simply because the rooms and spaces in the building will be larger. Based upon this, it seems reasonable that larger travel distances should be permitted in larger F-1 and S-1 occupancies.

While an increase in the allowable travel distance from 250 feet to 400 feet is a 60 percent increase in the travel distance presently permitted for these two occupancies, it should be noted that an allowable travel distance of 400 feet would result in an egress travel time of 240 seconds (4 minutes) at a walking speed of 100 feet per minute (1.14 miles per hour), while a walking speed of 150 feet per minute (1.70 miles per hour) results in an egress travel time of 160 seconds (2.7 minutes). Hence, this proposed change would result in an egress time of between 2.7 and 4 minutes (once egress begins) walking at a relatively slow pace. Given the size of a building with a travel distance of 400 feet, these egress times are reasonable.

When considering this proposal, it should be noted that section 1016.2 in the 2006 edition of the International Building Code already permits an exit travel distance of 400 feet in single story F-1 and S-1 occupancies which are protected throughout by a sprinkler system and which are provided with roof vents. Given an egress time of between 2.7 and 4 minutes, there is a high probability that the roof vents will not even operate prior to the completion of the evacuation of the building. Hence, there seems to be little connection between an increase in the allowable exit access travel distance and the installation of roof vents. If a travel distance of 400 feet is permitted in a sprinklered building with roof vents, then it seems logical that a travel distance of 400 feet should also be permitted in a sprinklered building without roof vents.

It should be noted that Table 910.3 in the International Building Code requires that the maximum spacing of roof vents to be between 90 feet and 120 feet depending upon the occupancy of the building and the storage height. NFPA 13 limits the maximum spacing of standard sprinklers to 15 feet on centers. Based upon the spacing of sprinklers with respect to the spacing of roof vents, it is highly probable that sprinklers will activate prior to the roof vents (unless the fire is located in close proximity to a roof vent). If sprinklers operate prior to the roof vents and successfully control the fire, then it is highly improbable that the roof vents will ever operate. Given this, it can be concluded that, in the most highly probable scenario, providing roof vents will have no impact upon the heat or smoke generated by the fire. Hence, it can be concluded that, in most cases, providing roof vents in sprinklered buildings will have no beneficial impact on egress system serving F-1 and S-1 occupancies. In other words, the heat and smoke conditions under which egress will be made will usually be the same in sprinklered buildings with or without roof vents.

It should also be noted that the 2003 edition of the Life Safety Code permits an exit access travel distance of 400 feet in special purpose industrial occupancies protected throughout by a sprinkler system and ordinary hazard storage occupancies protected throughout by a sprinkler system. (See Tables 40.2.6 and 42.2.6, LSC-2003.) Section 40.1.4.1 in the Life Safety Code defines a "special purpose industrial occupancy" as an

industrial occupancy which “. . . conducts ordinary and low hazard industrial operations in buildings designed for, and suitable only for, particular types of operations. Such occupancy is characterized by a relatively low density of employee population with much of the area occupied by machinery or equipment.”

**Bibliography:**

Section 1016.2, International Building Code-2006 edition  
Table 910.3, International Building Code-2006 edition  
Chapter 40, Life Safety Code-2003 edition  
Chapter 42, Life Safety Code-2003 edition

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## **E125-06/07**

### **1016.2.1 (New) (IFC [B] 1016.2.1 (New))**

**Proponent:** Robert J. Davidson, Davidson Code Concepts, LLC, representing himself

**Add new text as follows:**

**1016.2.1 Early suppression fast-response (ESFR) sprinklers increase.** In buildings equipped with an automatic sprinkler system in accordance with Section 903.3.1.1, in areas provided with early suppression fast response (ESFR) sprinklers as permitted by Section 910.1, Exception 2, the maximum exit access travel distance shall be 400 feet (122 m) for occupancies in Group F-1 or S provided:

1. The building is provided with a fire alarm signaling system activated by sprinkler water-flow devices installed in accordance with Chapter 9; and,
2. An approved engineering analysis is provided that documents that the occupants will have safely exited the building before the height of the lowest horizontal surface of the accumulating smoke layer is less than 6 feet (1829 mm) above any walking surface that forms a portion of a required egress system within the ESFR sprinkler protected area based upon the configuration of the fuel load expected to be present.

**Reason:** In the 2003 editions of the IBC and the IFC recognition was provided for the effectiveness of early suppression fast-response (ESFR) sprinklers by eliminating the requirement for smoke and heat vents for areas protected by those systems. The change was made to the 2003 editions of both codes for the purpose of balancing the application of the newer ESFR technology against the existing requirement for the smoke and heat vents together with the IFC committees concern with providing for firefighter safety.

This proposal provides correlation between the ESFR exception to Section 910.1 concerning smoke and heat vents and the increased travel distance allowance of Section 1016.2.

The configuration of fuel loads and the egress capabilities of the intended occupants varies from occupancy to occupancy and cannot be addressed by a one size fits all exception. By requiring an engineering analysis to be submitted life safety needs will be met by balancing the egress capabilities, (time needed to exit), of the intended occupants against the smoke layer generation of the fuel load and fuel configuration expected to be present. The language relating to the 6 foot height of the smoke layer correlates with existing Section 909.8.1 which is the level chosen to meet the tenable environment for evacuation requirements found in existing Section 909.1 concerning smoke control systems.

When using engineering analysis to model egress times of occupants and how long occupant egress takes, the model is based upon the occupants knowing they are supposed to be moving towards an exit at a defined reference point in time. The only effective way to provide for this 'knowledge' on the part of the occupants is to require the installation of alarm notification appliances in accordance with Chapter 9, Fire Protection Systems and its' referenced standard, NFPA 72, The National Fire Alarm Code.

This proposal also meets the intent of the IBC and IFC to provide for "...safety to firefighters..." by tying the exception to the use of the ESFR sprinklers. The IFC committee stated that they accepted ESFR systems as an exception to the installation of smoke and heat vents because the capability of the ESFR systems to quickly suppress and possibly extinguish fires will greatly reduce the amount of smoke and heat generated. This is important since the lengthening of the travel distance allowed for egress of occupants will correlate directly with the lengthening of the distance firefighters might have to travel in entering the fire structure for the purpose of search and rescue and fire extinguishment, i.e., increases their exposure to risk.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## **E126-06/07**

### **1017 (IFC [B] 1017)**

**Proponent:** Gregory J. Cahanin, Cahanin Fire & Code Consulting, representing Building Performance and Research Institute

**Revise as follows:**

#### **SECTION 1017**

#### **EXIT ACCESS CORRIDORS**

**1017.1 Construction.** Exit access corridors shall be fire-resistance rated in accordance with Table 1017.1. The exit access corridor walls required to be fire-resistance rated shall comply with Section 708 for fire partitions.

### Exceptions:

1. A fire-resistance rating is not required for exit access corridors in an occupancy in Group E where each room that is used for instruction has at least one door directly to the exterior and rooms for assembly purposes have at least one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A fire-resistance rating is not required for exit access corridors contained within a dwelling or sleeping unit in an occupancy in Group R.
3. A fire-resistance rating is not required for exit access corridors in open parking garages.
4. A fire-resistance rating is not required for exit access corridors in an occupancy in Group B which is a space requiring only a single means of egress complying with Section 1015.1.

### **TABLE 1017.1** **EXIT ACCESS CORRIDOR FIRE-RESISTANCE RATING**

(No change to table contents)

**1017.2 Exit access corridor width.** The minimum exit access corridor width shall be as determined in Section 1005.1, but not less than 44 inches (1118 mm).

### Exceptions:

1. Twenty-four inches (610 mm)—For access to and utilization of electrical, mechanical or plumbing systems or equipment.
2. Thirty-six inches (914 mm)—With a required occupant capacity of less than 50.
3. Thirty-six inches (914 mm)—Within a dwelling unit.
4. Seventy-two inches (1829 mm)—In Group E with an exit access corridor having a required capacity of 100 or more.
5. Seventy-two inches (1829 mm)—In exit access corridors serving surgical Group I, health care centers for ambulatory patients receiving outpatient medical care, which causes the patient to be not capable of self-preservation.
6. Ninety-six inches (2438 mm)—In Group I-2 in areas where required for bed movement.

**1017.3 Dead ends.** Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in exit access corridors more than 20 feet (6096 mm) in length.

### Exceptions:

1. In occupancies in Group I-3 of Occupancy Condition 2, 3 or 4 (see Section 308.4), the dead end in a exit access corridor shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B and F where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the length of dead-end exit access corridors shall not exceed 50 feet (15 240 mm).
3. A dead-end exit access corridor shall not be limited in length where the length of the dead-end exit access corridor is less than 2.5 times the least width of the dead-end exit access corridor.

**1017.4 Air movement in exit access corridors.** Exit access corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts.

### Exceptions:

1. Use of a exit access corridor as a source of makeup air for exhaust systems in rooms that open directly onto such exit access corridors, including toilet rooms, bathrooms, dressing rooms, smoking lounges and janitor closets, shall be permitted, provided that each such exit access corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the exit access corridor.
2. Where located within a dwelling unit, the use of exit access corridors for conveying return air shall not be prohibited.
3. Where located within tenant spaces of 1,000 square feet (93 m<sup>2</sup>) or less in area, utilization of exit access corridors for conveying return air is permitted.

**1017.4.1 Exit access corridor ceiling.** Use of the space between the exit access corridor ceiling and the floor or roof structure above as a return air plenum is permitted for one or more of the following conditions:

1. The exit access corridor is not required to be of fire-resistance-rated construction;
2. The exit access corridor is separated from the plenum by fire-resistance-rated construction;

3. The air-handling system serving the exit access corridor is shut down upon activation of the air-handling unit smoke detectors required by the *International Mechanical Code*.
4. The air-handling system serving the exit access corridor is shut down upon detection of sprinkler waterflow where the building is equipped throughout with an automatic sprinkler system; or
5. The space between the exit access corridor ceiling and the floor or roof structure above the exit access corridor is used as a component of an approved engineered smoke control system.

**1017.5 Exit access corridor continuity.** Fire-resistance-rated exit access corridors shall be continuous from the point of entry to an exit, and shall not be interrupted by intervening rooms.

**Exception:** Foyers, lobbies or reception rooms constructed as required for exit access corridors shall not be construed as intervening rooms.

**Reason:** For Means of Egress Sections 1014 through 1017 are addressing exit access with Section 1015 labeled Exist Access Doorways and Section 1016 labeled Exit Access Travel distance while Section 1017 is labeled Corridors.

The revision of corridor to exit access corridor provides continuity to this section. The implication of existing language is that Section 1017 applies to all corridors when it is specific to corridors for exit access. The addition of "exit access" within this section prevents the application access provisions for convenience corridors.

The addition of "exit access corridors" in this section is basically an editorial change to provide consistency.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

## E127-06/07

### Table 1017.1 (IFC [B] Table 1017.1)

**Proponent:** Lorin Neyer, Office of Statewide Health, Planning & Development, State of California, representing California Fire Chief's Association

**Revise table as follows:**

**TABLE 1017.1  
CORRIDOR FIRE-RESISTANCE RATING**

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler <sup>e</sup> system
H-1, H-2, H-3	All	Not Permitted	1
H-4, H-5	Greater than 30	Not Permitted	1
A, B, E, F, M, S, U	Greater than 30	4	0 1
R	Greater than 10	4	0.5 1
I-2 <sup>a</sup> , I-4	All	Not Permitted	0 1
I-1, I-3	All	Not Permitted	1 <sup>b</sup>

- a. For requirements for occupancies in Group I-2, see Section 407.3.
- b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.7.
- c. ~~Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.~~

**Reason:** This proposed amendment eliminates the automatic sprinkler system trade-off for corridors and reinstates the one hour fire resistance rating requirement for corridors in all occupancies.

The 2006 *International Building Code* allows the use of non-fire resistance rated corridors (less than 1-hour fire resistance rating) to a much greater extent than the 1997 Uniform Building Code (UBC) currently adopted by California. In many cases the required 1-hour fire resistance rating for corridors is traded-off for the installation of an automatic sprinkler system. We do not believe that such trade-offs are appropriate where life safety is concerned. In such cases, it is advantageous and desirable to maintain the built-in passive fire resistant protection, as well as to provide the active automatic sprinkler system protection, where life safety is involved. In our opinion, trade-offs are entirely inappropriate where life safety is concerned. We believe that a balanced approach should be used to assure that the appropriate level of life safety will be provided to the occupants of the building who must rely upon the corridors to exit the building.

A secondary benefit of 1-hour fire resistance rated corridors is that they also assist fire fighters in doing their job by providing a protected means of access to the interior of the building where they can perform their search and rescue missions, as well as fire fighting operations, in relative safety. Fire resistance rated corridors can provide fire fighters with additional time to do their jobs more effectively and safely.

We strongly believe that sprinkler trade-offs should not be allowed for means of egress components. In California we are especially concerned because of the high probability of severe earthquakes occurring which can knock out the water supply to the sprinkler system. At present, neither the UBC nor the IBC allow sprinkler trade-offs for the fire resistance ratings required for exit stair enclosures, horizontal exits, and exit passageways. So why should sprinkler trade-offs be allowed for the 1-hour fire resistance rating of corridors which provide a protected egress path giving access to these exit elements?

Furthermore, other sprinkler trade-offs related to the means of egress in buildings have already been provided for in the IBC. For example, travel distance is allowed to be increased where automatic sprinkler systems are provided. The separation of exits (remoteness) is also allowed to be reduced where automatic sprinkler systems are installed. Interior finish requirements are relaxed within corridors where Class C interior finish can be used in lieu of Class B interior finish and Class B interior finish can be used where Class A interior finish would otherwise be required if not for the installation of automatic sprinklers. And in certain occupancies dead end corridors are allowed to be increased in length by as much as 150%, i.e. from 20 feet to 50 feet, where automatic sprinkler systems are provided.

We are concerned that the compounding effect of sprinkler trade-offs could lead to greater risk to the life safety of the building occupants, especially if combined with a reduction in or the elimination of the 1-hour fire resistance rating for corridors providing access to the exits or the exit stairs. Too much reliance on automatic sprinkler systems may not be wise where life safety is a key consideration. We strongly believe that a balanced approach to fire and life safety in buildings should be provided to greatly enhance the probability that the intended level of fire and life safety prescribed by the building code will be provided when a fire occurs, even if something should go wrong.

We acknowledge that automatic sprinkler systems are an important fire protection tool, but they are not infallible. Like any mechanical system, they are subject to failure. In fact, a recent statistical analysis of automatic sprinkler system performance conducted by the NFPA has concluded that automatic sprinkler systems fail to activate in at least 1 out of every 6 fires that occur in sprinklered buildings. In our opinion such a level of performance does not justify trading-off built-in fire resistant protection for the means of egress in buildings where the occupant's lives are at risk in a fire emergency. A balanced design approach of providing built-in fire resistive protection in conjunction with automatic sprinkler protection, in our opinion, will go a long way toward assuring that the level of fire and life safety intended by the building code will be delivered during a fire emergency.

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

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

## E128-06/07 Table 1017.1 (IFC [B] Table 1017.1)

**Proponent:** John C. Dean, The National Association of State Fire Marshals

**Revise table as follows:**

**TABLE 1017.1  
 CORRIDOR FIRE-RESISTANCE RATING**

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE RESISTANCE RATING (hours)	
		<del>Without Sprinkler System</del>	<del>With Sprinkler System<sup>e</sup></del>
H1-, H-2, H3	All	<del>Not Permitted</del>	<del>1</del>
H4, H-5	Greater than 30	<del>Not Permitted</del>	<del>1</del>
A, B, E, F, M, S, U	Greater than 30	<del>4</del>	<del>0.5 1</del>
R	Greater than 10	<del>Not Permitted</del>	<del>0.5 1</del>
I-2 <sup>a</sup> , I-4	All	<del>Not Permitted</del>	<del>0 1</del>
I-1, I-3	All	<del>Not Permitted</del>	<del>1<sup>d</sup></del>

- a. For requirements for occupancies in Group I-2, see Section 408.7.
- b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.7.
- c. ~~Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.~~

**Reason:** Evacuation is a primary concern for all safety codes and, as such, the integrity of exit corridors must be maintained in a way that does not rely on a single measure to provide the appropriate level of fire and life safety. The fire resistance ratings, as specified under the "With Sprinkler System" column in Table 1017.1, IBC, place a considerable burden on active fire suppression systems. With the extended evacuation times as a result of larger, taller buildings, it is imperative that these corridors be robust. It is the position of the National Association of State Fire Marshals (NASFM) that **both** active and passive fire protection must be in place at adequate levels to achieve a balanced fire protection environment for safety from fire for the occupants, fire fighters, and other emergency responders. Used together, they can provide a superior level of fire and life safety that neither can provide alone. NASFM finds it problematic that built-in fire resistant protection in corridors has, in many instances, been reduced. The NFPA Life Safety Code does not permit ratings below 1 hour for corridors.

NASFM is not the only organization that has expressed concerns that the built-in fire resistant protection of building elements has, in many cases, been reduced. This position is also supported by the findings in the studies conducted by the National Institute of Standards and Technology (NIST) and the City of New York. According to NIST's June 2004 Progress Report on the Federal Building and Fire Safety Investigation of the World Trade Center Disaster,

*"While sprinklers improve safety in the most common building fires and prevent them from becoming large fires, the technical basis is not available to establish the sprinkler trade-off in current codes which allows for a lower fire rating to be used for structural components in sprinklered buildings."*

In addition, the NIST 2005 Draft for Public Comment, further states,

*"The passive fire protection system and the active sprinkler system each provide redundancy for maintaining structural integrity in a building fire, should one of the systems fail to perform its intended function."*



The absence of a proper technical basis for trade-offs is sufficient justification to call for fire-rating requirements to remain stringent. NASFM is sympathetic to the notion of economic incentives to achieve higher levels of safety—which is the justification for trade-offs. But NASFM sees no value in a system of incentives that allows reductions in the levels of safety, or encourages building owners to meet minimum levels of fire protection. While economic realities make the need for *some* trade-offs inevitable, the pendulum has swung too far in favor of economics over safety. Trade-offs that allow for the significant reduction of passive fire protection materials in order to install sprinklers are not supported by the science and clearly do not serve the public interest.<sup>3</sup> In New York City, where the economic aspects of these issues were given a thorough assessment, many trade-offs were rejected.<sup>4</sup> Instead, both passive and active fire protection were given similar weight.

By eliminating the fire resistance rating in corridors due to sprinklers, it must be assumed that sprinklers were thought to have provided the same level of safety. Unfortunately, sprinklers can not perform the same function as passive protection systems. In order for fire sprinklers to function a fire has already occurred. With the fire comes smoke, and impaired visibility. By eliminating the fire resistance rating in corridors several other protective measures are lost as well. Fire rated doors and closers are no longer required. Penetration protection and HVAC dampers disappear; both of which are in areas not typically protected by sprinklers. Smoke migration is a significant problem during fire events. Losing the ability to control the spread of smoke may even present a larger problem than the fire itself. “0” rated corridor walls are not required to be constructed floor to deck, thus creating a plenum for smoke travel. In addition, structural integrity and security can be compromised.

This proposal does not create new values; it merely restores the corridor ratings that existed in prior legacy codes. Without a technical basis to justify the weakening of these public safety standards, and with so much evidence to the contrary, NASFM believes that the ICC can further the efforts for fire safety by adopting this proposal without delay. Even the most open and diverse process does not justify placing narrow economic interests above common sense and dedication to public safety.

<sup>1</sup> Fact Sheet: “Key Findings of NIST’s June 2004 Progress Report on the Federal Building and Fire Safety Investigation of the World Trade Center Disaster.” Available at [http://www.nist.gov/public\\_affairs/factsheet/wtc\\_keyfindings.htm](http://www.nist.gov/public_affairs/factsheet/wtc_keyfindings.htm)

<sup>2</sup> National Institute of Standards and Technology. (2005, September) “Final Report of the National Construction Safety Team on the Collapse of the World Trade Center Towers.” (Draft) p. 204 Retrieved from: <http://wtc.nist.gov/pubs/NISTNCSTAR1Draft.pdf>

<sup>3</sup> A trade-off that creates an incentive for the installation of sprinklers, but also keeps passive requirements at an adequate level is an appropriate compromise. This proposal allows for an hour reduction when sprinklers are installed but does not reduce passive protection to the point where occupant and first responder safety may be in jeopardy, should a sprinkler not activate.

<sup>4</sup> Release No. 160, Office of the Mayor, City of New York. The Task Force “brought together experts from government, the real estate community, and the design and construction professions in an effort to review high-rise building design, construction and operating requirements and identify practical ways to improve the current levels of safety provided by the City’s building code.”

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

Public Hearing: Committee AS AM D  
 Assembly: ASF AMF DF

## E129–06/07

### 1017.1.1 (New), Table 1017.1 [IFC [B] 1017.1.1 (New), Table [B] 1017.1]

**Proponent:** William E. Koffel, P.E., Koffel Associates, Inc., representing Fire Rated Glazing Industry

**Add new text as follows:**

**1017.1.1 Group E.** In occupancies in Group E where a fire resistance rating is not required by Table 1017.1, corridor walls shall be constructed as smoke partitions in accordance with Section 710.

**TABLE 1017.1  
 CORRIDOR FIRE-RESISTANCE RATING**

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system <sup>c</sup>
A, B, E, F, M, S, U	Greater than 30	1	0 <sup>d</sup>

(Portions of table not shown do not change)

- For requirements for occupancies in Group I-2, see Section 407.3.
- For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.7.
- Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.
- For requirements for occupancies in Group E, see Section 1017.1.1.

**Reason:** The current code text would permit the use of all types of glazing provided the glazing is “sealed.” However, some low cost glass products, including annealed glass and tempered glass are extremely sensitive to flame, temperature differentials, and thermal shock. When exposed to such conditions, annealed glass will break and fall from the frame in dangerous shards. When tempered glass fails it will completely vacate the frame. When the glazing vacates the frame, smoke will be able to freely pass thru the opening permitting smoke to migrate to the corridor. It should also be noted that there are no limits with respect to the size of individual glazed openings or the percent of wall area that may be glazed openings.

The Fire Rated Glazing Industry is concerned that some types of glazing will not provide the level of protection desired and therefore is proposing that the corridors be constructed as required for smoke partitions. A companion change has been submitted to address the specific requirements for glazing in smoke partitions.

Since it has not been required in this text, the doors would not need to be smoke- and draft-control assemblies nor would they be required to be self-closing. Air transfer openings between the corridor and adjacent spaces would require a smoke damper but ducted penetrations would not.

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

Public Hearing: Committee AS AM D  
 Assembly: ASF AMF DF

## E130-06/07

### 1017.3 (IFC [B] 1017.3)

**Proponent:** William E. Koffel, P.E., Koffel Associates, Inc.

#### Revise as follows:

**1017.3 Dead ends.** Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.

#### Exceptions:

1. In occupancies in Group I-3 of Occupancy Condition 2, 3 or 4 (see Section 308.4), the dead end in a corridor shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B<sub>1</sub> and E, F, I-1, M, R-1, R-2, R-4, S, and U, where the building is equipped throughout with an automatic sprinkler system in accordance with 903.3.1.1, the length of the dead-end corridors shall not exceed 50 feet (15 240 mm).
3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.

**Reason:** The allowance of 50 foot dead-end corridors in fully sprinkler protected buildings is consistent with other national codes, including the 2006 Edition of NFPA 101 Table A.7.6, the 2006 Edition of NFPA 5000, the 2006 Edition of the International Existing Building Code (2006 IEBC), and the 2006 Edition of the International Fire Code (IFC). In other than Group A and H occupancies, the 2006 IEBC permits newly created dead-end corridors of 50 feet on floors protected with an automatic sprinkler system in accordance with the 2006 International Building Code (IBC) for Alterations – Level 2 (605.6 exc. 4) and Alterations – Level 3 (705.1). In addition, Section 812.4.1.1 (Means of egress for change in occupancy to higher hazard) of the 2006 IEBC references Section 605.6 for existing dead-end corridors. Further, when the change of occupancy complies with Section 812.3 of the 2006 IEBC, Section 812.4.1.2 (Means of egress for change of use to equal or lower hazard category) of the 2006 IEBC allows existing dead-end corridors no matter what length to remain regardless of the presence of an automatic sprinkler system. Section 1027.17.2 of the 2006 IFC permits dead-end corridors of 50 feet in buildings with an automatic sprinkler system in accordance with the 2006 IFC.

Once a new building is given its Use & Occupancy approval, any future work in the building can reference the 2006 IEBC and 2006 IFC requirements. The lack of conformity between the 2006 IBC and the 2006 IEBC and the 2006 IFC creates a conflict when future Alteration level work occurs. Amending Section 1017.3 of the 2006 IBC to allow 50 foot dead-end corridors in buildings containing the proposed occupancies, where the building is protected throughout with an automatic sprinkler system in accordance with NFPA 13 requirements allows for consensus between the two ICC building codes and the 2006 IFC. A similar code change is necessary for the Section 1017.3 (new dead-end corridors) of the 2006 IFC to address the allowable dead-end corridor distance of the 2006 IEBC and Section 1027.17.2 of the 2006 IFC.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E131-06/07

### 1017.3 (IFC [B] 1017.3)

**Proponent:** Michael Perrino, Code Consultants, Inc.

#### Revise as follows:

**1017.3 Dead-ends.** Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.

#### Exceptions:

1. In occupancies in Group I-3 of Occupancy Condition 2, 3 or 4 (see Section 308.4), the dead end in a corridor shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B<sub>1</sub> and F and S where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the length of dead-end corridors shall not exceed 50 feet (15 240 mm).
3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.

**Reason:** The purpose of the proposed change is to provide the same clarification and benefit for buildings designed in accordance with Section 509 As with F occupancies, storage occupancies generally have low occupant loads, and should be provided with the same benefits for egress when fully sprinklered.

This allowance will acknowledge the additional level of life safety afforded by an automatic sprinkler system for this type of occupancy, which is otherwise permitted to have at least the same exit access travel distance as F uses, and can be permitted to have greater exit access travel distance than Group B occupancies.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## **E132-06/07**

### **1017.5 (IFC [B] 1017.5)**

**Proponent:** Gregory J. Cahanin, Cahanin Fire & Code Consulting, representing Building Performance and Research Institute

#### **Revise as follows:**

**1017.5 Exit access corridor continuity.** ~~Fire-resistance-rated~~ Exit access corridors shall be continuous from the point of entry to an exit, and shall not be interrupted by intervening rooms. Exit access corridors are not permitted to lead through enclosed elevator lobbies.

**Exception:** Foyers, lobbies or reception rooms constructed as required for exit access corridors shall not be construed as intervening rooms.

**Reason:** For Means of Egress Sections 1014 through 1017 are addressing exit access with Section 1015 labeled Exit Access Doorways and Section 1016 labeled Exit Access Travel distance while Section 1017 is labeled Corridors.

The implication of existing language is that Section 1017 applies to all corridors when it is specific to corridors for exit access. The addition of "exit access" within this section prevents the application access provisions for convenience corridors.

Section 1017.5, Continuity now only applies to corridors that are fire-resistance rated corridors when many exit access corridors are not required to be fire-resistance-rated, but should be continuous. The deletion of 'fire-resistance-rated' and addition of language to properly address exit access corridors is logical. The new sentence reestablishes for all exit access corridors an exception contained in the 2000 edition of the IBC involving the ability to have egress paths travel through elevator lobbies.

Section 1017.5 continuity requirements for egress corridors have incorrectly limited continuity to fire-resistance-rated corridors when all exit egress corridors should have continuity as proposed in this change. Table 1017.1 reduces the fire resistance rating for several occupant type corridors with the addition of automatic sprinklers.

In the 2000 edition of the IBC an exception allowed fully sprinklered Group B occupancies with to have corridors lead though an enclosed elevator lobby provided all areas of the building have access to at least one required exit without passing through the elevator lobby. A proposed change in the 2002 Code Development Cycle (E-54) deleting Exception 2 addressing egress through an elevator lobby in Group B occupancies was approved. The reason for the deletion was, "The exception deleted serves no purpose and will only add to confusion in design and enforcement. A building, in use Group B, equipped with an automatic sprinkler system would not be required to have a fire-resistance-rated corridor. See IBC Table 1004.3.2.1."

The reestablishment of qualifiers for egress through an elevator lobby is a recognition that lobbies provide a necessary vertical separation component on each floor for elevator hoistways which are common to the interior of elevator lobbies.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## **E133-06/07**

### **1017.5, 1017.5.1 (New) [IFC [B] 1017.5, [B] 1017.5.1 (New)]**

**Proponent:** Bill Ziegert, Smoke Guard, division of RectorSeal

#### **Revise as follows:**

**1017.5 Corridor continuity.** Fire-resistance rated corridors shall be continuous from the point of entry to an exit, and shall not be interrupted by intervening rooms or enclosed elevator lobbies.

**Exception:** Foyers, lobbies or reception rooms constructed as required for corridors shall not be construed as intervening rooms

**1017.5.1 Nonrated corridors.** Nonrated corridors shall not be interrupted by elevator lobbies.

**Exception:** In Group B buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, corridors are permitted to lead through enclosed elevator lobbies provided all areas of the building have access to at least one required exit without passing through the elevator lobby.

**Reason:** The purpose of this code change is clarify what is already the intent of the code and adds back language that was present in the 2000 IBC, but removed in the 2003 IBC. The current reference to lobbies in the Exception is confusing as to whether it just refers to office / residential lobbies or includes elevator lobbies. When people are in the exit access system leading to the exit stairs they should not be required to pass through an

area of lesser safety to reach the safety of the exit stair system. In the case of both fire rated corridors and non rated corridors, the enclosed elevator lobby is subject to smoke from fires on other floors. Allowing people to pass through the enclosed lobby on their way to the exit stairs exposes them to this hazard.

In the 2000 IBC the reference to allowing passing through an enclosed elevator lobby in fully sprinklered office buildings was not required because elevator lobbies were not required in these types of buildings since they were not required to use fire rated corridors. That was the reason for the removal of this language in the 2003 IBC. In the 2006 IBC however, elevator lobby protection was no longer tied to the presence of fire rated corridors and this protection will be required in all High Rise buildings regardless of occupancy and whether or not the corridor is rated.

This change clarifies what is already the intent of the code as evidenced in prior code commentaries.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** There are other proposals to the elevator lobby provisions being heard by the Fire Safety Committee.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E134-06/07

### 1019.1.2 (IFC [B] 1019.1.2)

**Proponent:** Robert Bagnetto, Lapeyre Stair, Inc./Laitram Corp.

**Revise as follows:**

**1019.1.2 Helistops.** The means of egress from helistops shall comply with the provisions of this chapter, provided that landing areas located on buildings or structures shall have two or more exits. For landing platforms or roof areas less than 60 feet (18 288 mm) long, or less than 2,000 square feet (186 m<sup>2</sup>) in area, the second means of egress is permitted to be a fire escape, alternating tread device, or ladder leading to the floor below.

**Reason:** The purpose of this proposed code change to IBC-2006 is to allow the use of alternating tread devices as a means of egress from Helistops.

IBC-2006 Section 1019.1.2 is overly restrictive in that it does not allow the use of alternating tread devices as a means of egress from Helistops. IBC-2003 allows the use of alternating tread devices in sections, including but not limited to, 1009.11, 1015.3, 1015.4, and 1015.6.1. Alternating tread devices are typically safer to use than ladders and would be suitable for the application specified in section 1019.1.2. This proposal is superior to the current code in that it allows an additional adequate means of egress from Helistops that is not allowed under the current code.

**Cost Impact:** The change could result in a minor increase in construction costs if alternating tread devices are used in lieu of ladders as the second means of egress to Helistops.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E135-06/07

### 1019.1.3 (New) [IFC [B] 1019.1.3 (New)]

**Proponent:** Lori Lee Graham, City of Portland, Oregon

**Add new text as follows:**

**1019.1.3 Multi-story dwelling units.** Individual multi-story dwelling units located in buildings of any height shall be permitted to have a single exit from the dwelling unit provided all of the following criteria are met:

1. The individual dwelling unit occupies not more than three stories; and
2. The exit from the dwelling unit is located at the level of exit discharge or is located to provide immediate access to not less than two approved independent exits from the story; and
3. The dwelling unit complies with Section 1015.1 as a space with one means of egress.

**Reason:** It is the purpose of this change to allow for individual multi-story dwelling units located in buildings to have a single exit from the unit within the unit itself.

It is becoming more and more frequent that dwelling units are being placed in mixed occupancy buildings. Because of limitations in Section 1019, the current code requires that each occupant in a multi-story dwelling unit have access to two exits on each story regardless of the occupant load or unit size. This is overly restrictive because this would require dwelling units with more than one level to always have two stairs to the other levels no matter the size of the level or the travel distance. However, the 2003 IBC commentary indicates that it is common practice to allow for units in these situations to have a single exit within the dwelling unit, even though the Code does not say this.

This code change clearly allows for a single exit from a multi-story dwelling unit so long as the unit meets both the occupant load for a single means of egress as indicated in Table 1015.1 and that the unit meets the common path of egress travel requirements.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** The proponent has the same language proposed as part of a larger proposal to Section 1019.2. If approved, the committee should be aware of the different location for the proposed text.

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

## E136-06/07

### 1019.2, Table 1019.2, 1019.3 (New) [IFC [B] 1019.2, [B] Table 1019.2, [B] 1019.3 (New)]

**Proponent:** Lori Lee Graham, City of Portland, Oregon

#### 1. Revise as follows:

**1019.2 Buildings Stories with one exit.** Only one exit shall be required in ~~buildings~~ from stories as described below:

1. Buildings Stories described in Table 1019.2, ~~provided that the building has not more than one level below the first story above grade plane.~~
2. Buildings of Group R-3 occupancy.
3. ~~Single level buildings with the occupied space at the level of exit discharge provided that the story or space complies with Section 1015.1 as a space with one means of egress.~~

#### 2. Delete table and substitute as follows:

**TABLE 1019.2  
 BUILDINGS WITH ONE EXIT**

OCCUPANCY	MAXIMUM HEIGHT OF BUILDING ABOVE GRADE PLANE	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE
A, B <sup>d</sup> , E <sup>e</sup> , F, M, U	1 Story	49 occupants and 75 feet travel distance
H-2, H-3	1 Story	3 occupants and 25 feet travel distance
H-4, H-5, I, R	1 Story	10 occupants and 75 feet travel distance
S <sup>a</sup>	1 Story	29 occupants and 100 feet travel distance
B <sup>b</sup> , F, M S <sup>a</sup>	2 Stories	30 occupants and 75 feet travel distance
R-2	2 Stories	4 dwelling units and 50 feet travel distance

For SI: 1 foot = 304.8 mm.

- a. For the required number of exits for parking structures, see Section 1019.1.1.
- b. For the required number of exits for air traffic control towers, see Section 412.1.
- c. 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 1026 shall have a maximum height of three stories above grade plane.
- d. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 with an occupancy in Group B shall have a maximum travel distance of 100 feet.
- e. Day care maximum occupant load is 10.

**TABLE 1019.2  
 STORIES WITH ONE EXIT**

STORY ABOVE GRADE PLANE	OCCUPANCY	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE TO EXIT
<u>First story or basement</u>	A, B <sup>d</sup> , E <sup>e</sup> , F <sup>d</sup> , M, U, S <sup>d</sup>	49 occupants and 75 feet travel distance
	H-2, H-3	3 occupants and 25 feet travel distance
	H-4, H-5, I, R	10 occupants and 75 feet travel distance
	S <sup>a</sup>	29 occupants and 100 feet travel distance
<u>Second story</u>	B <sup>b</sup> , F, M, S <sup>a</sup>	29 occupants and 75 feet travel distance
	R-2	4 dwelling units and 50 feet travel distance
<u>Third Story</u>	R-2 <sup>c</sup>	4 dwelling units and 50 feet travel distance

- a. For the required number of exits for parking structures, see Section 1019.1.1.
- b. For the required number of exits for air traffic control towers, see Section 412.1.
- c. Emergency escape and rescue openings as provided in accordance with Section 1026.
- d. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum travel distance of 100 feet.
- e. Day care occupancies shall have a maximum occupant load of 10.

**1019.3 Egress from multi-story dwelling units.** Only one exit is required from individual multi-story dwelling units located in buildings of any height provided the dwelling unit meets all of the following requirements:

1. The individual dwelling unit occupies not more than three stories; and
2. The exit from the dwelling unit is located at the level of exit discharge or is located to provide immediate access to not less than two approved independent exits from the story; and
3. The dwelling unit complies with Section 1015.1 as a space with one means of egress.

**Reason:** The purpose of the proposed code change is to provide clarity to egress review in conditions where only one exit is provided. The reasons are as follows:

- Confusion Regarding Application of Table: Table 1019.2 has caused great confusion amongst the plans examiners and the public. Frequently a building has multiple exits on the Ground Level and people have assumed that the table does not apply in these conditions. Yet, oftentimes, the exits are not available to all spaces or tenants.
- Mixed Occupancies: Table 1019.2 does not address mixed occupancies and yet planning codes are encouraging mixed occupancies. It is common to have residential use over commercial space but frequently the access and egress systems are completely independent of each other.
- Multiple Tenants: This code section fails to address the separations that occur in buildings due to multiple tenant spaces. Tenant configurations have become less standardized. Tenants frequently want to control access and egress from their space.
- Discrepancy in Application: The current table treats the first story of a two story building differently than a one-story building. This makes no sense. It would be preferable to review each level separately. For instance, under the current table, a one story mercantile building may have 50 occupants and 75 feet travel distance but the first story of a two story mercantile building may only have 30 occupants.

**Examples:**

- A two-story office building has separate tenant spaces on each story. There is a lobby shared by both tenants with a stair serving the 2<sup>nd</sup> floor tenant. There is a 2<sup>nd</sup> door, leading from the ground level tenant space to the parking lot. The 2<sup>nd</sup> floor does not have a 2<sup>nd</sup> exit access.
- A two story office building with a demising wall separating the building into two, two-story spaces. Each tenant has its own entrance and stair. There is no shared exit way.
- Three story, mixed use building with Retail on the first floor, offices on the 2<sup>nd</sup> floor and apartments on the 3<sup>rd</sup> floor. The offices and apartments share one exit stair. The Retail tenants have individual exits.

**Substantiation:** The proposed table evaluates the egress system based on the specific story in question and the occupancy of that story. This provides more flexibility in evaluating egress systems when there are mixed occupancies or multiple tenants. It also reduces the confusion that the present table has created.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** The proponent has a similar proposal that matches the last new section proposed, Section 1019.3. If approved, the committee should be aware of the different location for the proposed text.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

## E137-06/07

### 1020.1 (IFC [B] 1020.1)

**Proponent:** William M. Connolly, State of New Jersey, Department of Community Affairs, Division of Codes and Standards, representing International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

**Revise as follows:**

**1020.1 Enclosures required.** Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit 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 shaft enclosure shall include any basements but not any mezzanines. An exit enclosure shall not be used for any purpose other than means of egress. Exit stair enclosures shall be continuous from the highest story served by the enclosure to the level of exit discharge and shall not include horizontal transfer corridors other than at the level of exit discharge in accordance with Section 1024.

**Exceptions:**

1. In all occupancies, other than Group Hand I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.

- 1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
- 1.2. The stairway is open to not more than one story below the story at the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.
5. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
6. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
7. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
8. In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.
9. In other than Group H and I occupancies, interior egress stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.

**Reason:** This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings.

The purpose of this proposal is to eliminate the use of horizontal transfer corridors on upper floors thereby requiring an exit stair shaft to descend directly to the level of approved exit discharge.

The National Institute of Standards and Technology (NIST) World Trade Center (WTC) Report pointed out that horizontal transfers from one shaft to another caused occupant confusion and thereby slowed egress time. The WTC Report also recommended that Codes be revised to address the need for full building evacuation in the shortest possible time.

This proposal amends Section 1020.1 of the Code to require that exit stair enclosures be continuous from the top to the level of exit discharge. This will promote prompt evacuations. Some would argue that occupants can be trained to accept the counterintuitive horizontal transfers. Given the impracticality of full drills in high rise buildings, this training will be paper or lecture-based. At any given time, the building will have occupants who have not been trained. The proponents believe it is better to eliminate the unnatural rather than trying to train building occupants, who will be highly stressed, to expect and accept it.

Some will argue that this provision will put constraints on design. Of course it will. All safety requirements put constraints on design. It may take a little extra effort on the part of designers, but good buildings can incorporate this type of feature if designers put safety first.

**Bibliography:**

National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.

**Cost Impact:** The code change proposal will not increase the cost of construction. It can be met with careful design alone.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

## E138–06/07

### 1020.1 (IFC [B] 1020.1)

**Proponent:** Jason T. Thompson, National Concrete Masonry Alliance (NCMA), representing Masonry Alliance for Codes and Standards (MACS)

**Revise as follows:**

**1020.1 Enclosures required.** Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit 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 exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. An exit enclosure shall not be used for any purpose other than means of egress.

**Exceptions:**

1. In all occupancies, other than Group Hand I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
  - 1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
  - 1.2. The stairway is open to not more than one story below the story at the level of exit discharge.

2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.
5. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
6. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
7. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
8. In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.
9. In other than Group H and I occupancies, interior egress stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.

**Reason:** The purpose of this code change is for vertical exit enclosures to have their minimum required fire-resistance rating determined in the same manner as required for shaft enclosures in Section 707.4. The added text is taken from the last sentence of that section. Since a vertical exit enclosure is basically the same as a shaft enclosure in regard to the protection of vertical openings penetrating multiple floors, the minimum fire-resistance rating requirements should be the same.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

## E139-06/07

### 1011.3, 1020.1.6 (IFC [B] 1011.3, [B] 1020.1.6), 1110.3

**Proponent:** Bill Conner, Conner Associates LLC, representing himself

#### Revise as follows:

**1011.3 Tactile exit signs.** A tactile sign stating EXIT and complying with ICC A117.1 Section 703.3 shall be provided adjacent to each door to an egress exit stairway, an exit ramp, an exit passageway and the exit discharge.

**1020.1.6 Stairway Floor number signs.** A sign shall be provided at each floor landing in interior exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the stair exit enclosure and the identification of the stair or ramp. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the stairway enclosure for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with ICC A117.1, Section 703.3 shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

**1110.3 Other signs.** Signage indicating special accessibility provisions shall be provided as shown:

1. Each assembly area required to comply with Section 1108.2.6 shall provide a sign notifying patrons of the availability of assistive listening systems.

**Exception:** Where ticket offices or windows are provided, signs are not required at each assembly area provided that signs are displayed at each ticket office or window informing patrons of the availability of assistive listening systems.

2. At each door to an egress stairway, exit passageway and exit discharge, signage shall be provided in accordance with Section 1011.3.
3. At areas of refuge, signage shall be provided in accordance with Sections 1007.6.3 through 1007.6.5.
4. At areas for assisted rescue, signage shall be provided in accordance with Section 1007.8.3.
5. Within exit enclosures signage shall be provided in accordance with Section 1020.1.6.

**Reason:** Tactile signs should also be required at exit ramps, similar to exit stairways. Exit signage is not required at all stairways, just exit stairways. The change will also coordinate with ADAAG 216.4.1 and ICC A117.1 504.9.



Persons with visual impairments need to know what floor level they are on both for general use and emergency situations. This is coordination with ICC A117.1 504.9. The proposal to Section 1110.3 is coordination only.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## **E140–06/07**

### **1020.1.6, 1020.1.6.1 (New) [IFC [B] 1020.1.6, [B] 1020.1.6.1 (New)]**

**Proponent:** Dave Frable, U.S. General Services Administration

#### **Revise as follows:**

**1020.1.6 Stairway ~~identification~~ floor number signs.** A sign shall be provided at each floor landing in interior exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the stair enclosure and the identification of the stair. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the stairway for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions.

**1020.1.6.1 Signage requirements.** Stairway identification signs shall comply with all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The letters designating the identification of the stair enclosure shall be a minimum of 1-1/2 inches (38 mm) in height.
3. The number designating the floor level shall be a minimum of 5 inches (127 mm) in height and located in the center of the sign.
4. All other lettering and numbers shall be a minimum of 1 inch in height (22 mm).
5. Characters and their background shall have a nonglare finish. Characters shall contrast with their background, with either light characters on a dark background, or dark characters on a light background.

**Reason:** The only intent of this code change proposal is to revise the title of this section to a title that more accurately reflects the content of the Section. In addition, the proposed signage requirements will provide some sort of consistency for stairway identification signs across the U.S. The signage requirements are based on current GSA requirements as well current signage requirement in the NFPA 101, *Life Safety Code*.

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

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## **E141–06/07**

### **403.14 (New); 1020.1.6, 1020.1.6.1 (New), Chapter 35 [IFC [B] 1020.1.6, [B] 1020.1.6.1 (New), Chapter 45]**

**Proponent:** Dave Frable, U.S. General Services Administration

#### **1. Add new text as follows:**

**403.14 Stairway identification signs.** All stairway identification signs shall be installed in all exit stairways serving occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access in accordance with Section 1020.1.6.1.

#### **2. Revise as follows:**

**1020.1.6 Stairway ~~floor number~~ identification signs.** A sign shall be provided at each floor landing in interior exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the stair enclosure and the identification of the stair. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the stairway for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions.

#### **3. Add new text as follows:**

**1020.1.6.1 Photoluminescent stairway identification signs.** In buildings required to comply with Sections 403.14, each stairway identification sign shall also be required to have a photoluminescent background that complies with ASTM Standard E 2072.

#### 4. Add standard to Chapter 35 (IFC Chapter 45) as follows:

##### ASTM

##### ASTM E 2072-04 Standard Specification for Photoluminescent (Phosphorescent) Safety Marking

**Reason:** The purpose of the code change proposal is to improve the visibility of stairway identification signs under normal and emergency conditions in high-rise buildings. We believe the IBC should provide minimum requirements for when stair identification signs should be required to have a photoluminescent background. Currently the IBC does not address this issue. However, more and more jurisdictions (e.g., New York, Washington DC, GSA) are requiring stairway identification signs to have a photoluminescent background.

The proposed code change is based on current GSA requirements.

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

**Analysis:** There is also a proposal being heard by the General Committee for photoluminescent markings in Section 411, Special Amusement Buildings.

The standard ASTM E2072-04 has been reviewed for compliance with ICC Council Policy #28, Section 3.6. In the opinion of ICC Staff, the standard complies with ICC Criteria for referenced standards.

The action on the proposed change to Section 403.14 is dependent on the decision of the Means of Egress Committee to the remainder of the proposal, therefore, for consistency, the MEO Committee will make the determination for the entire proposal.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E142-06/07

### 403.14 (New); 1020.1.6 through 1020.1.6.6 (New), Chapter 35 [IFC [B] 1020.1.6 through [B] 1020.1.6.6 (New), Chapter 45]

**Proponent:** Dave Frable, U.S. General Services Administration

#### 1. Add new text as follows:

**403.14 Stairway photoluminescent markings.** Photoluminescent markings shall be installed in all exit stairways serving occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access in accordance with Section 10201.6.

**1020.1.6 Stairway photoluminescent markings.** Where required, photoluminescent markings shall be provided in all exit stairways and shall comply with Sections 1020.1.6.1 through 10201.6.6.

**1020.1.6.1 Steps.** A solid and continuous photoluminescent stripe shall be applied as a coating or a material integral with, the horizontal leading edge of each step and shall be installed within 6 inches (152 mm) of each side of the step.

**1020.1.6.1.1 Width.** The marking stripe shall have a minimum horizontal width of 1 inch but, not more than 2 inches.

**1020.1.6.1.2 Consistency.** The horizontal width of the marking stripe shall be consistent on each step.

**1020.1.6.1.3 Leading edge.** The leading edge of the marking stripe shall be installed at a maximum of ½ inch (13 mm) from the leading edge of the step.

**1020.1.6.2 Landings.** A solid and continuous photoluminescent stripe shall be applied as a coating or a material integral with, the horizontal leading edge of each landing and shall be installed within 6 inches (152 mm) of each side of the landing.

**1020.1.6.2.1 Width.** The marking stripe shall have a minimum horizontal width of 1 inch (25 mm) but, not more than 2 inches (51 mm).

**1020.1.6.2.2 Consistency.** The horizontal width of the marking stripe shall be consistent on each landing.

**1020.1.6.2.3 Leading edge.** The leading edge of the marking stripe shall be installed at a maximum of ½ inch (13 mm) from the leading edge of the landing.

**1020.1.6.3 Handrails.** A solid and continuous photoluminescent stripe shall be applied as a coating or a material integral with, the entire length of each handrail, including handrail extensions.

**1020.1.6.3.1 Width.** The marking stripe, at a minimum, shall be located at the top surface of each handrail, having a minimum width of ½ inch (13 mm).

**1020.1.6.3.2 Consistency.** The marking stripe shall stop at the end of each handrail. If the handrail turns a corner, the marking stripe shall continue around the corner.

**Exception.** A maximum 4 inch (102 mm) gap without the marking stripe is permitted where handrail extensions bend or turn corners.

**1020.1.6.4 Standard.** The photoluminescent markings used shall comply with ASTM Standard E 2072.

**1020.1.6.5 Instructions.** The photoluminescent markings shall be approved and installed in accordance with the manufacturer's instructions.

**1020.1.6.6 Lighting control devices.** Lighting control devices that automatically turn exit stair lighting on and off based on occupancy shall not be installed where stairway photoluminescent markings are installed.

(Renumber subsequent sections)

**2. Add standard to Chapter 35 (IFC Chapter 45) as follows:**

**ASTM**

ASTM E2072-04 Standard Specification for Photoluminescent (Phosphorescent) Safety Marking

**Reason:** The intent of the code change is to improve the visibility of stair treads and handrails under normal and emergency conditions in high-rise buildings. Many building occupants have common visual impairments such as low vision and this proposed change will help those individual's navigating stairs. We believe that the IBC should provide minimum requirements for when exit stair photoluminescent markings are installed in high-rise buildings. Currently, the IBC does not address exit stair photoluminescent markings. However, more and more jurisdictions (e.g., New York City, Washington DC, GSA, etc.) are requiring stairway photoluminescent markings that may or may not provide a safety benefit depending on the type of product used or how the product is installed.

We believe the proposed code change provides minimum requirements for exit stair photoluminescent marking products to ensure a reasonable degree of safety is provided when photoluminescent markings are installed in exit stairs. The proposed code change is based on current GSA requirements as well as the requirements recently adopted into law in New York City.

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

**Analysis:** There is also a proposal being heard by the General Committee for photoluminescent markings in Section 411, Special Amusement Buildings.

The standard ASTM E2072-04 has been reviewed for compliance with ICC Council Policy #28, Section 3.6. In the opinion of ICC Staff, the standard complies with ICC Criteria for referenced standards.

The action on the proposed change to Section 403.14 is dependent on the decision of the Means of Egress Committee to the remainder of the proposal, therefore, for consistency, the MEO Committee will make the determination for the entire proposal.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## **E143-06/07**

### **1020.1.7.3 (New), Chapter 35 (IFC [B] 1020.1.7.3 (New), Chapter 45)**

**Proponent:** Bob Eugene, Underwriters Laboratories, Inc.

**1. Add new text as follows:**

**1020.1.7.3 Marking.** Stairs, landings and doors within a smokeproof enclosure shall be provided with a luminous egress path marking system complying with UL 1994.

**2. Add standard to Chapter 35 as follows:**

**UL**

UL 1994-04 Luminous Egress Path Marking Systems, with revisions through February 2005

**Reason:** The purpose is to add requirements for a luminous egress path marking system.

The application for these requirements is limited to smokeproof enclosures. These enclosures serve underground and high-rise buildings. These systems may be photo-luminescent, self-luminous, or externally powered. Such systems, when installed, facilitate the egress of buildings required to have smokeproof enclosures.

UL 1994 requirements cover floor proximity and other egress path marking and lighting systems that provide a visual delineation of the path of egress. These systems are also used to identify significant egress path features such as doors, stair banisters, obstacles or information placards.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** There is also a proposal being heard by the General Committee for photoluminescent markings in Section 411, Special Amusement Buildings.

The standard UL 1994-05 has been reviewed for compliance with ICC Council Policy #28, Section 3.6. In the opinion of ICC Staff, the standard complies with ICC Criteria for referenced standards.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

## E144-06/07

### 1021.3 (IFC [B] 1021.3)

Proponent: Michael Perrino, Code Consultants, Inc.

#### Revise as follows:

**1021.3 Construction.** Exit passageway enclosures shall have walls, floors and ceilings of not less than 1-hour fire-resistance rating, and not less than that required for any connecting exit enclosure. Exit passageways shall be constructed as fire barriers in accordance with Section 706.

**Exception:** Where an exit passageway is located at the topmost floor of a building, a roof or ceiling that is not a part of a fire resistance rated assembly shall be permitted as a portion of the enclosure in buildings of Type IIB, IIIB, and VB construction, and at roofs meeting the requirements of Footnote c. of Table 601. Where nonrated roofs or roof/ceiling assemblies enclose the ceiling of the exit passageway and the roof above the exit passageway is exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated ceiling or roof/ceiling assembly shall be constructed as required for a minimum 1-hour fire-resistance. This construction shall extend vertically from the roof to a point 10 feet (3048 mm) above the roof forming the exit passageway enclosure.

**Reason:** To clarify the code regarding the need to provide a fire resistance rating for portions of exit enclosures that are not exposed by exterior elements of the building.

Buildings of Type IIB, IIIB, and VB construction and roofs meeting the requirements of Footnote c. of Table 601 are not required to be fire resistance rated. Requiring the ceiling or roof/ceiling assembly forming the top of an exit passageway to be protected imposes a requirement to fireproof a small section of a structure's roof, without improving the safety of the enclosure.

This new requirement would be similar to the allowances of Section 1020.1.4 for exit enclosures.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E145-06/07

### 1022.1, 1022.4 (IFC [B] 1022.1, [B] 1022.4)

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

#### Revise as follows:

**1022.1 Horizontal exits.** 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 width 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. At least 6 square feet (0.6 m<sup>2</sup>) of accessible space per occupant shall be provided on each side of the horizontal exit for the total number of people in adjoining compartments.

~~Every fire compartment for which credit is allowed in connection with a horizontal exit shall not be required to have a stairway or door leading directly outside, provided the adjoining fire compartments have stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.~~

~~The area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant capacity imposed by persons entering it through horizontal exits from another area. At least one of its exits shall lead directly to the exterior or to an exit enclosure.~~

**1022.4 Capacity of refuge area.** The refuge area of a horizontal exit shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment shall be based on the capacity of the horizontal exit doors entering the refuge area. The capacity of the refuge area shall be computed based on a net floor area allowance of 3 square feet (0.2787 m<sup>2</sup>) for each occupant to be accommodated therein.

**Exception:** The net floor area allowable per occupant shall be as follows for the indicated occupancies:

1. Six square feet (0.6 m<sup>2</sup>) per occupant for occupancies in Group I-3.
2. Fifteen square feet (1.4 m<sup>2</sup>) per occupant for ambulatory occupancies in Group I-2.
3. Thirty square feet (2.8 m<sup>2</sup>) per occupant for nonambulatory occupancies in Group I-2.

The refuge area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant load imposed by persons entering it through horizontal exits from other areas. At least one refuge area exit shall lead directly to the exterior or to an exit enclosure.

**Reason:** The second paragraph of Section 1022.1 is confusing and out of context. It references a fire compartment credit concept that is not recognized anywhere in Chapter 10. Additionally, it represents an exception to an apparent requirement. If it is felt that this provision has any technical pertinence, it should be placed in context at the proper section and formatted as an exception to a fundamental requirement.

The third paragraph of Section 1022.1 has been relocated to Section 1022.4. That provision deals with the design of the means of egress from the refuge area and is more appropriately located in the latter section. Approval of this proposal will clarify the intent of the code and assist users in the proper determination of horizontal exit technical requirements.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

## E146-06/07

### 1022.4 (New) [IFC [B] 1022.4 (New)]

**Proponent:** Dennis Richardson, City of San Jose, CA Building Division, representing Tri-Chapter Code Committee (Peninsula, East Bay and Monterey Chapters of ICC)

**Add new text as follows:**

**1022.4 Ducts and air transfer openings, Ducts and air transfer openings through fire walls or fire barriers, forming a horizontal exit, shall be designed and protected in accordance with Section 716 in order to afford safety from both fire and smoke in the refuge area. All ducts and air transfer openings shall be protected by listed combination fire/smoke dampers.**

**Reason:** The purpose of the code change is to provide code language that implements the intent of Section 1002.1, definition of Horizontal Exit. Horizontal exits are intended to afford safety from both fire **and smoke**.

No code provisions specifically require duct and air transfer openings in horizontal exit walls to be designed and protected in order to afford safety from both fire and smoke in the refuge area.

Section 1022.2 Separation, refers to sections 705 and 706 which refer to 716.5.1 and 716.5.2 There are no provisions in 716.5.1 Fire walls, and 716.5.2 Fire barriers, requiring ducts and air transfer openings in horizontal exit walls to be protected by anything other than fire dampers.

**Cost Impact:** The code change proposal will not increase the cost of construction as the definition of Horizontal Exit is very clear. It is currently the intent of the code to provide protection from smoke in addition to fire for horizontal exits. It appears the lack of such implementing code language is an oversight in the current code.

**Analysis:** If approved, would this section conflict with duct and transfer opening requirements for fire walls Section 705.10 or fire barrier in Section 706.10?

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

## E147-06/07

### 1023.2 (IFC [B] 1023.2)

**Proponent:** Tim Pate, City and County of Broomfield, Colorado Building Department, representing Colorado Chapter ICC

**Revise as follows:**

**1023.2 Use in a means of egress.** Exterior exit ~~ramps and~~ stairways shall not be used as an element of a required means of egress for Group I-2 occupancies. For occupancies in other than Group I-2, exterior exit ramps and stairways shall be permitted as an element of a required means of egress for buildings not exceeding six stories above grade plane or having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

**Reason:** This proposal will delete the requirement that does not allow an exterior exit ramp to be used as a part of the means of egress (exit discharge) for an I-2 occupancy. The code would allow an exit ramp to be used within the building to access the exit so it does not make sense to not allow the same type of exit ramp to be used at the exterior discharge. The ramp would be constructed with the proper maximum slope, handrails, edge protection, etc. so that it would be just as safe on the exterior as it is on interior. The code also regulates outdoor conditions as per Section 1010.7.2 which would make sure water would not accumulate on the walking surface.

The change that put this in – E60/02, was adding ‘ramps and’ to multiple sections that addressed ‘stairways’. The reason states “This proposal is to recognize that exterior exit elements can also include ramps. The same protection criteria applied to stairways is also applicable to ramps when used as part of the exit system.” It appears this change, especially when a high percentage of the people could be in wheelchairs or even in beds, inadvertently resulted in a prohibition for exterior ramps for Group I-2 occupancies.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## **E148–06/07**

**1023 (New), 1003.7, 1017.1, [F] 2702.20(New) [IFC [B] 1023 (New), [B] 1003.7, [B] 1017.1, 604.2.20 (New)]**

**Proponent:** Jeffrey Tubbs, ARUP Fire, representing himself

### **1. Add new text as follows:**

#### **SECTION 1023** **ELEVATOR EVACUATION SYSTEM**

**1023.1 General.** When approved and substantiated by the life safety evaluation, an elevator evacuation system shall be permitted as a portion of the means of egress system. An elevator evacuation system shall be in accordance with Sections 1023.1 through 1023.19, Section 1007 and Chapter 30. Normal use of elevators within an elevator evacuation system shall not constitute an interference with its function as a means of egress in accordance with Section 1017.1.

**1023.2 Exit width.** An elevator evacuation system shall be permitted to serve as a part of the exit width as required by Section 1005.

**1023.3 Required exit.** An elevator evacuation system shall not be considered when determining the number of required exits in accordance with Section 1015.

**1023.4 Fire command center.** Buildings using an elevator evacuation system shall be required to have a fire command center in accordance with Section 911 (IFC 509).

**1023.5 Life safety evaluation.** A life safety evaluation complying with NFPA 101 Section 12.4.1 shall be performed for buildings using an elevator evacuation system as part of the means of egress.

**1023.5.1 Timed egress analysis.** A timed egress analysis shall be performed to review evacuation times for a full building evacuation. This analysis should include pre-movement time and account for a certain percentage of wheelchair users in accordance with Section 1007.6.1. The analysis shall assume that phase I recall has not occurred. At least Fifty percent of elevators within an evacuation elevator system and the dedicated fire fighter elevator shall not be considered available when calculating the egress times. The calculated time for full building evacuation shall be less than or equal that required when elevators are not used as part of the means of egress. Egress width as determined by Section 1005 of this code will be used to determine the required egress width.

**1023.6 Emergency communication.** Elevators and associated lobbies used as part of an elevator evacuation system shall be provided with a two-way voice communication system. The voice communication system shall be capable of providing independent messages to each elevator and elevator lobby used in the system from the fire command center.

**1023.7 Video surveillance.** Evacuation elevators and the associated elevator lobbies shall be provided with a video surveillance system with associated video monitoring equipment located within the fire command center to allow emergency responders to view all areas of the lobby and each evacuation elevator.

**1023.8 Controls.** Elevators used as part of an elevator evacuation system shall be provided with controls appropriate to the evacuation plan. Controls shall also be provided within the fire command center to allow independent control of each elevator.

**1023.9 Sprinkler protection.** Evacuation elevators shall be permitted only in buildings protected throughout by an automatic sprinkler system in accordance with Section 903.3.1.1.

**1023.10 Exit enclosures.** In other than high-rise buildings, at least fifty percent of required exit enclosures within buildings using an elevator evacuation system shall be designed as smoke proof enclosures in accordance with Section 909.20. High-rise buildings shall be in accordance with Section 403.13.

**1023.11 Water protection.** Means shall be provided to protect elevators and elevator machine rooms used as part of an elevator evacuation system from the sprinkler system and other sources of water.

**1023.12 Overheating protection.** Elevator machine rooms serving an elevator evacuation system shall be provided with means to prevent overheating.

**1023.13 Emergency power.** Evacuation elevators used as part of an elevator evacuation system shall be provided with emergency power in accordance with Chapter 27. Other elevators shall be provided with emergency power as required elsewhere in this code.

**1023.14 Fire resistance.** The required fire resistance separation for shafts and elevator lobbies shall be in accordance with Section 1023.14.1 and 1023.14.2

**1023.14.1 Elevator shaft separation.** Elevators shafts shall be enclosed with fire barriers or horizontal assemblies with a fire resistance rating of not less than 2 hours.

**Exception.** Where approved by the authority having jurisdiction and where substantiated by the life safety analysis and timed egress analysis, the elevator shafts used as part of an elevator evacuation system shall be permitted to be reduced to one-hour fire resistance rated fire barriers or smoke barriers.

**1023.14.2 Elevator lobbies.** Elevator lobbies used as part of an elevator evacuation system shall be protected with a 2 hour fire barrier.

**Exception.** Where approved by the authority having jurisdiction and where substantiated by the life safety analysis and timed egress analysis, the elevator lobbies used as part of an elevator evacuation system shall be permitted to be reduced to one-hour fire resistance rated fire barriers or smoke barriers.

**1023.15 Smoke control.** Elevator lobbies and elevator shafts used as part of an elevator evacuation system shall be provided with a pressurization system in accordance with Section 909.

**1023.16 Earthquake protection.** Elevators used as part of an elevator evacuation system shall be provided with earthquake protection in accordance with ASME A17.1.

**1023.17 Special signage.** Approved special signage shall be provided to instruct occupants on the use of the elevator evacuation system.

**1023.18 Fire fighter elevator.** All elevators shall comply with Section 3003.2 for Phase I and Phase II recall. In buildings provided with an elevator evacuation system, at least one elevator shall be provided as an independent fire fighter elevator in accordance with Sections 1023.18.1 through 1023.18.8.

**1023.18.1 Water protection.** Means shall be provided to protect the fire fighter elevator and elevator machine room from the sprinkler system and other sources of water.

**1023.18.2 Overheating protection.** The elevator machine room serving the fire fighter elevator shall be provided with means to prevent overheating.

**1023.18.3 Emergency Power.** Fire fighter elevators shall be provided with emergency power in accordance with Chapter 27. Other elevators shall be provided with emergency power as required elsewhere in this code.

**1023.18.4 Elevator shaft construction.** The elevator shaft shall be constructed in accordance with Section 1023.14.1

**1023.18.5 Elevator lobby construction.** An independent elevator lobby shall be provided in accordance with Section 1023.14.2

**1023.18.6 Smoke control.** An independent pressurization system shall be provided in accordance with Section 909.

**1023.18.7 Earthquake protection.** Earthquake protection shall be provided in accordance with ASME A17.1.

**1023.18.8 Special signage.** Approved special signage shall be provided to instruct occupants that the fire fighters elevators shall not be used during an emergency.

**1023.19 Elevator lobbies.** Elevator lobbies serving evacuation elevators shall meet the requirements of areas of refuge in accordance with Section 1007. Elevator lobbies serving evacuation elevators shall be designed to accommodate persons using wheel chairs, along with other elevator users.

**2. Revise text as follows:**

**1003.7 Elevators, escalators and moving walks.** Elevators, escalators and moving walks shall not be used as a component of a required means of egress from any other part of the building.

**Exceptions:**

1. Elevators used as an accessible means of egress in accordance with Section 1007.4
2. Elevators used as an exit in accordance with Section 1023.

**1017.1 General.** Exits shall comply with Sections 1017 through ~~4022~~ 1023 and the applicable requirements of Sections 1003 through 1012.

**3. Add new text as follows:**

**[F] 2702.20 (IFC 604.2.20) Elevator evacuation system.** Emergency power shall be provided for all elevators used within an Elevator Evacuation System in accordance with Section 1023.7.

**Reason:** The purpose of the proposed change is to allow elevators under certain conditions to be counted as part of the means of egress width.

An elevator evacuation system should be permitted to be used as coordinated life safety program as long as various checks and balances are provided. Elevators work normally prior to phase I recall. If phase I recall occurs that means smoke is in the elevator lobby or shaft. The provisions of this section provide more substantial elevator lobby protection be in place to allow the use of elevators for egress width for longer periods of time. These redundancies make the protection of the elevator more substantial and increase the likelihood of elevator availability. This section also tries to recognize the needs of the fire service by providing a dedicated elevator for their use. This is especially important if the elevators will continue to run during a fire event. Additional protection is provided for the fire service elevators, and these elevators are required to be located in separate lobbies.

This proposal provides a more universal method of design for evacuation wheelchair users. Section 1007 is geared towards assisted evacuation by emergency responders utilizing elevators. The approach proposed would allow such occupants to self evacuate as soon as an alarm was sounded or displayed.

This code change requires a study of the egress time. The criteria require a review of a full building evacuation. It should be noted that the code does not require buildings to be designed for full building evacuation. This analysis is a method of setting a baseline of performance.

This proposal has drawn from several of the WTC recommendations for the use of elevators during egress.

**Cost Impact:** The code change proposal is an elective provision and therefore will not increase the cost of construction.

**Analysis:** The action on the proposed new Section 2702.20 is dependent on the decision of the Means of Egress Committee to the remainder of the proposal, therefore, for consistency, the MEO Committee will make the determination for this section instead of the IFC Committee.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## **E149-06/07**

**1018.1, 1024.1, 1015.2, 1020.1.7.1 (IFC [B] 1018.1, [B] 1024.1, [B] 1015.2, [B] 1020.1.7.1)**

**Proponent:** Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

**Revise as follows:**

**1018.1 General.** Exits shall comply with Sections 1018 through 1023 and the applicable requirements of Sections 1003 through 1013. An exit shall not be used for any purpose that interferes with its function as a means of egress. Exits shall discharge directly to the exterior of the building. Required exits shall be located in a manner that makes their availability obvious. Exits shall be unobstructed at all times. Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge.

**Exceptions:**

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
  - 1.1. Such exit enclosures egress to a free and unobstructed way to the exterior of the building, which way is readily visible and identifiable from the point of termination of the exit enclosure.
  - 1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
  - 1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected 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 exits.

2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
  - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating for the exit 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 construction providing protection at least the equivalent of approved wired glass in steel frames.
  - 2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge

**1024.1 General.** Exits shall discharge directly to the exterior of the building. The exit discharge arrangement shall comply with this section and the applicable requirements of Sections 1003 through 1012. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building.

**Exceptions:**

- ~~1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:~~
  - ~~1.1. Such exit enclosures egress to a free and unobstructed way to the exterior of the building, which way is readily visible and identifiable from the point of termination of the exit enclosure.~~
  - ~~1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.~~
  - ~~1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected 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 exits.~~
- ~~2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:~~
  - ~~2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating for the exit 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 construction providing protection at least the equivalent of approved wired glass in steel frames.~~
  - ~~2.4. The area is used only for means of egress and exits directly to the outside.~~
- ~~3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge~~

**1015.2 Exit or exit access doorway arrangement.** ~~Required exits shall be located in a manner that makes their availability obvious. Exits shall be unobstructed at all times.~~ Exit and exit access doorways shall be arranged in accordance with Sections 1015.2.1 and 1015.2.2.

**1020.1.7.1 Enclosure exit.** A smokeproof enclosure or pressurized stairway shall exit into a public way or into an exit passageway, yard or open space having direct access to a public way. The exit passageway shall be without other openings and shall be separated from the remainder of the building by 2-hour fire-resistance-rated construction.

**Exceptions:**

1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.
2. Openings in the exit passageway serving a pressurized stairway are permitted where the exit passageway is protected and pressurized in the same manner as the pressurized stairway.
3. A smokeproof enclosure or pressurized stairway shall be permitted to egress through areas on the level of discharge or vestibules as permitted by Section ~~4024~~ 1018.1.

**Reason:** The purpose of this proposal is to centralize and clarify design requirements for the exit portion of the means of egress system. Obviously, Section 1018 is titled "EXITS" and is intended to serve as the primary location for key provisions peculiar to the exit portion of the means of egress system. Indeed, the first sentence of Section 1018.1 states that, "Exits shall comply with Sections 1018 through 1023.

Currently, several exit provisions are mislocated. For example, Section 1024.1 (exit discharge), contains the requirement for exits to discharge to the exterior of the building. The proper relocation of this provision to Section 1018.1 also necessitates the relocation of the current Section 1024.1

exceptions to the same section. These exceptions are attendant to the requirements for exits to discharge directly to the exterior of the building and should follow that particular technical requirements. Additionally, Section 1015.2 (exit access) contains exit specific design requirements. These exit recognition and unobstruction requirements should be properly located in Section 1018.1 where they will likely not be overlooked by code users.

Approval of this proposal will clarify current code provisions and assist in the proper determination of exit design requirements.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E150-06/07

### 1024.1 (IFC [B] 1024.1)

**Proponent:** Jason T. Thompson, National Concrete Masonry Alliance (NCMA), representing Masonry Alliance for Codes and Standards (MACS)

**Revise as follows:**

**1024.1 General.** Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building.

**Exceptions:**

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
  - 1.1. Such exit enclosures egress to a free and unobstructed way to the exterior of the building, which way is readily visible and identifiable from the point of termination of the exit enclosure.
  - 1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
  - 1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected 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 exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
  - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating for the exit 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 construction providing protection at least the equivalent of approved wired glass in steel frames.
  - 2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

**Reason:** This proposed code change corrects an oversight in the International Building Code (IBC). A horizontal exit complying with Section 1022 is a unique type of exit that is located generally within the middle of a story. It subdivides the story into separate areas by 2-hour fire-resistive wall construction to create refuge areas on either side of the horizontal exit wall. The code allows the doors in the horizontal exit to serve as one of the required exits provided there is at least one exit stairway or exterior exit door on each side of the horizontal exit. This allows for the occupants to eventually discharge to the exterior of the building without having to pass through another horizontal exit. Obviously, horizontal exits cannot discharge directly to the exterior of the building by virtue of their design. Yet they are recognized as acceptable exits by the code.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E151-06/07

### 1024.6, 1007.6.3, [F] 2702.2.7(New) [IFC [B] 1024.6, [B] 1007.6.3, 604.2.7(New)]

**Proponent:** William Andrews, City of Richmond, VA, Fire Prevention, representing VFPA

**Revise as follows:**

**1024.6 Access to a public way.** The exit discharge shall provide a direct and unobstructed access to a public way.

**Exception:** Where access to a public way cannot be provided, a safe dispersal area shall be provided where all of the following are met:

1. The area shall be of a size to accommodate at least 5 7 square feet for each person.
2. The area shall be located on the same lot at least 50 feet away from the building requiring egress. Overhead shielding, to protect people from falling debris, shall be provided where the area is within ½ the height of the tallest building involved.
3. The area shall be permanently maintained and identified as a safe dispersal area
4. The area shall be provided with a safe and unobstructed path of travel from the building.
5. The area shall be provided with a two-way communication system or device to enable occupants to contact local emergency services or a central control point responsible for building's emergencies. The two-way communication system shall include both audible and visible signals and be equipped with standby power in accordance with Section 2702.2.7.
6. Instructions shall be provided to inform occupants about the area, safety provisions and procedures for reasonable accommodations until able to escape.

**1007.6.3 Two-way communication.** Areas of refuge shall be provided with a two-way communication system between the area of refuge and a central control point. If the central control point is not constantly attended, the area of refuge shall also have controlled access to a public telephone system. Location of the central control point shall be approved by the fire department. The two-way communication system shall include both audible and visible signals and be equipped with standby power in accordance with Section 2702.2.7.

**[F] 2702.2.7 (IFC 604.2.7) Two-way communication systems.** Standby power shall be provided for two-way communication systems that are part of a means of egress in accordance with Sections 1007.6.3 and 1024.6.

**Reason:** Codes prior to 2000 required means of egress complete to public way. 2003 IBC section 1002.1's definition of "means of egress" as "...to a public way." The 2000 edition of NFPA 101 defines means of egress as to a public way or an area of refuge. 1996 B.O.C.A. section 1006.3 required exit discharge "... to provide all occupants with a safe access to a public way." Current (2003 edition as used in Virginia) exception's "safe dispersal area" should have similar safety as an "area of refuge." Section 1006 requires lighting (including outside until public way) and 1023.4 requires ventilation, to ease smoke concerns. More occupants might use the exits which lead only to "safe dispersal area" than architects designed and some could be injured, unable to stand, thus requiring more than the minimum 5 square feet per person. Conditional overhead shelters are needed because falling debris can endanger people far beyond 50 feet from a high-rise building. Details of shelter should depend upon construction of building, typical winds, and related factors. For most situations, half the height of building should be safe distance from debris falling from the building. People trapped in area should be informed resources and procedures for their safety until able to complete escape (which may take hours). Changes are needed in both the building and fire codes for appropriate protection of people who are unable to escape to a public way.

**Cost Impact:** The code change proposal will increase the cost only where the exception is used near very tall buildings and safe dispersal area located less than half the height of the tallest building involved.

**Analysis:** The proposed addition of Section 2702.2.7 is simply a cross-reference provided in the code for standby power requirements, therefore the new provision for Section 2702.2.7 will be part of the Means of Egress committee consideration, rather than the Fire Code committee.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E152-06/07

**1025.1, 1025.2, 1025.3, 1025.9, 1010.2, 1012.5, 1014.3 (IFC [B]1025.1, [B]1025.2, [B]1025.3, [B]1025.9, [B]1010.2, [B]1012.5, [B]1014.3)**

**Proponent:** Arlan Smith, Idaho Division of Building Safety, representing Idaho Association of Building Officials

**Revise as follows:**

**1025.1 General.** Occupancies in Group A and assembly occupancies accessory to Group E which contain seats, tables, displays, equipment or other material shall comply with this section.

**1025.2 Assembly main exit.** Group A occupancies and assembly occupancies accessory to Group E occupancies that have an occupant load of greater than 300 shall be provided with a main exit. The main exit shall be of sufficient width to accommodate not less than one-half of the occupant load, but such width shall not be less than the total required width of all means of egress leading to the exit. Where the building is classified as a Group A occupancy, the main exit shall front on at least one street or an unoccupied space of not less than 10 feet (3048 mm) in width that adjoins a street or public way.

**Exception:** In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building provided that the total width of egress is not less than 100 percent of the required width.

**1025.3 Assembly other exits.** In addition to having access to a main exit, each level in a Group A or assembly occupancies accessory to Group E occupancies ~~occupancy~~ having an occupant load greater than 300 shall be

provided with additional means of egress that shall provide an egress capacity for at least one-half of the total occupant load served by that level and comply with Section 1015.2.

**Exception:** In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building, provided that the total width of egress is not less than 100 percent of the required width.

**1025.9 Assembly aisles are required.** Every occupied portion of any occupancy in Group A or assembly occupancies accessory to Group E that contains seats, tables, displays, similar fixtures or equipment shall be provided with aisles leading to exits or exit access doorways in accordance with this section. Aisle accessways for tables and seating shall comply with Section 1014.4.3.

**1010.2 Slope.** Ramps used as part of a means of egress shall have a running slope not steeper than one unit vertical in 12 units horizontal (8-percent slope). The slope of other pedestrian ramps shall not be steeper than one unit vertical in eight units horizontal (12.5-percent slope).

**Exception:** Aisle ramp slope in occupancies of Group A or assembly occupancies accessory to Group E occupancies shall comply with Section 1025.11.

**1012.5 Handrail extensions.** Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight or ramp run. At stairways where handrails are not continuous between flights, the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom ramps.

**Exceptions:**

1. Handrails within a dwelling unit that is not required to be accessible need extend only from the top riser to the bottom riser.
2. Aisle handrails in Group A and E occupancies in accordance with Section 1025.13.

**1014.3 Common path of egress travel.** In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In Group H-1, H-2, and H-3 occupancies, the common path of egress travel shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies and assembly occupancies accessory to Group E occupancies having fixed seating, see Section 1025.8.

**Exceptions:**

1. The length of a common path of egress travel in Group B, F and S occupancies shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).
3. The length of a common path of egress travel in a Group I-3 occupancy shall not be more than 100 feet (30 480 mm).
4. The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

**Reason:** Without this change we are left with no provisions to govern assembly seating as found in school auditoriums, cafeterias and gymnasiums. These areas are not Group A Occupancies because they are specifically Group E occupancies as per IBC Section 302.2.1 and 303.1.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E153-06/07

### 1025.4 (IFC [B] 1025.4)

**Proponent:** Gene Boecker, Code Consultants, Inc.

**Revise as follows:**

**1025.4 Foyers and lobbies.** In Group A-1 occupancies, where persons are admitted to the building at times when seats are not available ~~and~~ are allowed to wait in a lobby or similar space, provided such ~~use of~~ lobby or similar space

shall not encroach upon the required clear width of the means of egress. ~~Such waiting areas shall be separated from the required means of egress by substantial permanent partitions or by fixed rigid railings not less than 42 inches (1067 mm) high.~~ Such foyer, if not directly connected to a public street by all the main entrances or exits, shall have a straight and unobstructed corridor or path of travel to every such main entrance or exit.

**Reason:** To eliminate an unnecessary code requirement from the IBC.

This provision does not address egress but the use of the space. It does not belong in the code. The only time that the separation is needed is when there is no emergency in the theater. In practice, these railed separations are unnecessary. The means of egress from a lobby must take into consideration the queuing population, making this requirement redundant.

It is a misunderstanding, therefore, to consider persons in waiting areas as potential obstructions to egress. Whether queuing or seated, these persons are occupants, and must be accommodated by the means of egress. Unfortunately, this requirement is widely interpreted to require rails or partitions, even when (as the code requires) the waiting load is already accommodated by the means of egress.

In addition, these rails or partitions can themselves constitute obstructions to egress.

As an example, a theater has 1,000 seats, 50 employees and a queuing (waiting) load of 300. This results in a total occupant load of 1,350. Egress capacity from the entire occupancy must at least equal this occupant load. More importantly to this proposal, the egress capacity of the main exit from the lobby must accommodate ½ of this load (675). The queuing load is already included in this calculation, and the egress width required to serve the queuing population as well as the theater occupants leaving the seating areas would be required by the code to be accommodated by the main exit and other exits from the occupancy.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E154-04/05

### 1025.4 (IFC [B] 1025.4)

**Proponent:** Curtis Kasefang, Theatre Consultants Collaborative, LLC, Raleigh, NC

**Revise as follows:**

**1025.4 Foyers and lobbies.** In Group A-1 occupancies, where persons are admitted to the building at times when seats are ~~not available~~ occupied and are allowed to wait in a lobby or similar space, such use of lobby or similar space shall not encroach upon the required clear width of the means of egress for persons occupying the seats. ~~Such~~ Under such concurrent occupancy conditions, waiting areas of lobbies or similar spaces shall be separated from the required means of egress by substantial permanent partitions or by fixed rigid railings not less than 42 inches (1067 mm) high. ~~Such foyer lobby or similar space,~~ if not directly connected to a public street by all the main entrances or exits from that lobby or similar space, shall have a straight and unobstructed corridor or path of travel to every such main entrance or exit from that lobby or similar space.

**Reason:** The purpose of the change is to clarify the code. The intent of the code appears to be attempting to address the situation where an audience is in a theatre and a second audience is waiting in the lobby potentially blocking the required means of egress for the audience in the theatre. This situation often occurs in planetariums, amusement facilities, and movie theatres. It does not regularly occur in live entertainment venues.

We have found that the phrase "seats are not available" may be misinterpreted to mean that they are unoccupied, but the audience has yet to be admitted. The result is that the Authority Having Jurisdiction requires additional lobby space to be created unnecessarily.

Also the final sentence can be misinterpreted as requiring buildings with multiple lobbies to interconnect the lobbies resulting in large unnecessary corridors.

**Cost Impact:** The proposed change will either not increase the cost of construction, or in the case of live entertainment facilities, will decrease the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E155-06/07

### 1025.5, 1025.5.1, 1020.1 (IFC [B] 1025.5, [B] 1025.5.1, [B] 1020.1)

**Proponent:** Tom Wandrie, ICC 300 Development Committee

**Revise as follows:**

**1025.5 Interior balcony, and gallery and press box means of egress.** For balconies, ~~or~~ galleries or press boxes having a seating capacity of 50 or more located in Group A occupancies, at least two means of egress shall be provided, with one from each side of every balcony, ~~or~~ gallery or press boxes and at least one leading directly to an exit.

**1025.5.1 Enclosure of balcony openings.** Interior stairways and other vertical openings shall be enclosed in an exit enclosure as provided in Section 1020.1, except that stairways are permitted to be open between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, ~~and~~

auditoriums and sports facilities. At least one accessible means of egress is required from a balcony, ~~or gallery or~~ press boxes level containing accessible seating locations in accordance with Section 1007.3 or 1007.4.

**1020.1 Enclosures required.** Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit 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 exit enclosure shall include any basements but not any mezzanines. An exit enclosure shall not be used for any purpose other than means of egress.

**Exceptions:**

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
  - 1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
  - 1.2. The stairway is open to not more than one story below the story at the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.
5. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
6. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
7. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
8. Means of egress stairways from balconies, galleries an press boxes as provided for in Section 1025.5.1, are not required to be enclosed.
- ~~8.~~ 9. In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.

**Reason:** The intent of this proposal is to clarify when press boxes can use a single means of egress. Open stairways are permitted between the press box and the main floor or ground similar to balconies. Changes to Section 1020.1 are for coordination only. If the committee decision is that press boxes do not need to be included, the exception for open exit stairways at balconies and galleries should still be referenced in Section 1020.1.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E156-06/07

**1025.6.1, 1025.6.2, Table 1025.6.2, 1025.6.3, Table 1025.6.3 (New) [IFC [B]1025.6.1, [B]1025.6.2, [B]Table 1025.6.2, [B]1025.6.3, [B]Table 1025.6.3 (New)]**

**Proponent:** Tom Wandrie, ICC 300 Development Committee

**1. Revise as follows:**

**1025.6.1 Without smoke protection.** The clear width of the means of egress shall provide sufficient capacity in accordance with all of the following, as applicable:

1. At least 0.3 inch (7.6 mm) of width for each occupant served shall be provided on stairs having riser heights 7 Inches (178 mm) or less and tread depths 11 inches (279 mm) or greater, measured horizontally between tread nosings.
2. At least 0.005 inch (0.127 mm) of additional stair width for each occupant shall be provided for each 0.10 inch (2.5mm) of riser height above 7 inches (178 mm).
3. Where egress requires stair descent, at least 0.075 inch (1.9 mm) of additional width for each occupant shall be provided on those portions of stair width having no handrail within a horizontal distance of 30 inches (762 mm).
4. Ramped means of egress, where slopes are steeper than one unit vertical in ~~42~~ 10 units horizontal (~~8-percent slope~~), shall have at least 0.22 inch (5.6 mm) of clear width for each occupant served. Level or ramped means of egress, where slopes are not steeper than one unit vertical in ~~42~~ 10 units horizontal (~~8-percent slope~~), shall have at least 0.20 inch (5.1 mm) of clear width for each occupant served.

**1025.6.2 Indoor Smoke-protected seating.** The clear width of the means of egress for indoor smoke-protected assembly seating shall not be less than the occupant load served by the egress element multiplied by the appropriate factor in Table 1025.6.2. The total number of seats specified shall be those within the space exposed to the same smoke-protected environment. Interpolation is permitted between the specific values shown. A life safety evaluation, complying with NFPA 101, shall be done for a facility utilizing the reduced width requirements of Table 1025.6.2 for smoke-protected assembly seating.

~~**Exception:** For an outdoor smoke-protected assembly with an occupant load not greater than 18,000, the clear width shall be determined using the factors in Section 1025.6.3.~~

**TABLE 1025.6.2  
WIDTH OF AISLES FOR INDOOR SMOKE-PROTECTED ASSEMBLY SEATING**

TOTAL NUMBER OF SEATS IN THE INDOOR SMOKE-PROTECTED ASSEMBLY OCCUPANCY	INCHES OF CLEAR WIDTH PER SEAT SERVED			
	Stairs and aisle steps with handrails within 30 inches	Stairs and aisle steps without handrails within 30 inches	Passageways, doorways and ramps not steeper than in 1:10 slope	Ramps steeper than in 1:10 slope

(Portions of table not shown do not change)

~~**1025.6.3 Width of means of egress for outdoor smoke-protected seating assembly.** The clear width in inches (mm) of aisles and other means of egress shall be not less than the total occupant load served by the egress element multiplied by 0.08 (2.0 mm) where egress is by aisles and stairs and multiplied by 0.06 (1.52 mm) where egress is by ramps, corridors, tunnels or vomitories.~~

~~**Exception:** The clear width in inches (mm) of aisles and other means of egress shall be permitted to comply with Section 1025.6.2 for the number of seats in the outdoor smoke-protected assembly where Section 1025.6.2 permits less width. The clear width of the means of egress for outdoor smoke-protected assembly seating shall not be less than the occupant load served by the egress element multiplied by the appropriate factor in Table 1025.6.3. The total number of seats specified shall be those within the space exposed to the same smoke-protected environment. Interpolation is permitted between the specific values shown. A life safety evaluation, complying with NFPA 101, shall be done for a facility utilizing the reduced width requirements of Table 1025.6.3 for smoke-protected assembly seating.~~

2. Add new table as follows:

**TABLE 1025.6.3  
WIDTH OF AISLES AND MEANS OF EGRESS FOR OUTDOOR SMOKE-PROTECTED ASSEMBLY SEATING**

TOTAL NUMBER OF SEATS IN THE OUTDOOR SMOKE-PROTECTED ASSEMBLY OCCUPANCY	INCHES OF CLEAR WIDTH PER SEAT SERVED			
	Stairs and aisle steps with handrails within 30 inches	Stairs and aisle steps without handrails within 30 inches	Passageways, doorways and ramps not steeper than in 1:10 slope	Ramps steeper than in 1:10 slope
Equal to or less than 15,000	0.080	0.100	0.060	0.066
20,000	0.076	0.095	0.056	0.062
Equal to or greater than 25,000	0.060	0.075	0.044	0.048

**Reason:** The intent of this proposal to Section 1025.6.3 is to coordinate with the ICC 300 for outdoor smoke-protected seating. The change for the ramp slope from 1:12 to 1:10 in Section 1025.6.1 and Table 1025.6.3 is to be consistent with Table 1025.6.2 and the proposals to the ICC 300. The change to the title and headings in Table 1025.6.2 is to clarify when each table should be utilized. The exception for Section 1025.6.2 was originally proposed by E65-00 to avoid a possible conflict with Section 1025.6.3.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

# E157-06/07

## 1025.9.5, 1025.8.1 (IFC [B] 1025.9.5, [B] 1025.8.1)

**Proponent:** Arlan Smith, Idaho Division of Building Safety, representing Idaho Association of Building Officials

**Revise as follows:**

**1025.9.5 Assembly aisle termination.** Each end of an aisle shall terminate at cross aisle, foyer, doorway, vomitory or concourse having access to an exit.

- Exceptions:** ~~1. Dead-end aisles shall not be greater than 20 feet (6096 mm) in length that comply with Section 1025.8.~~  
~~2. Dead-end aisles longer than 20 feet (6096 mm) are permitted where seats beyond the 20 foot (6096 mm) dead-end aisle are no more than 24 seats from another aisle, measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row.~~  
~~3. For smoke protected assembly seating, the dead end aisle length of vertical aisles shall not exceed a distance of 21 rows.~~  
~~4. For smoke protected assembly seating, a longer dead end aisle is permitted where seats beyond the 21 row dead end aisle are not more than 40 seats from another aisle, measured along a row of seats having an aisle accessway with a minimum clear width of 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row.~~

**1025.8.1 Path through adjacent row.** Where one of the two paths of travel is across the aisle through a row of seats to another aisle, there shall be not more than 24 seats between the two aisles, and the minimum clear width between rows for the row between the two aisles shall be 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row between aisles.

**Exception:** For smoke-protected assembly seating there shall not be more than 40 seats between the two aisles and the minimum clear width shall be 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row between aisles.

**Reason:** The situation the code addresses in Sections 1025.9.5 exceptions and 1025.8.1 is the same. Both address the predicament of people needing to find an alternate path to exit the seating. They both permit this to be accomplished by moving through a row of seats to an alternate aisle. There is no need for two code sections governing the same condition with almost the same requirements unless it is for obscurity. The requirements of Section 1025.8 will be more restrictive than the exceptions to Section 1025.9.5 anywhere the seat rows are longer than 10 feet.

The seven seat reference in the exception to Section 1024.8.1 appears to have been inadvertently omitted. This reference is consistent with Sections 1025.8.1, and exceptions 2 and 3 to Section 1025.9.5 before this change to those exceptions.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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# E158-06/07

## 1025.10 (IFC [B] 1025.10)

**Proponent:** Ed Roether, HOK SVE

**Add new text as follows:**

**1025.10 Clear width of aisle accessways serving seating.** Where seating rows have 14 or fewer seats, the minimum clear aisle accessway width shall not be less than 12 inches (305 mm) measured as the clear horizontal distance from the back of the row ahead and the nearest projection of the row behind. Where chairs have automatic or self-rising seats, the measurement shall be made with seats in the raised position. Where any chair in the row does not have an automatic or self-rising seat, the measurements shall be made with the seat in the down position. For seats with folding tablet arms, row spacing shall be determined with the tablet arm down in the used position.

**Exception:** For seats with folding tablet arms, row spacing is permitted to be determined with the tablet arm in the stored position where the tablet arm when raised manually to vertical position in one motion automatically returns to the stored position by force of gravity.

**Reason:** The current language is not clear if the arm is in the used position or folded down on the side. Means of egress should be evaluated using the most conservative approach for aisle accessway width.

**Cost Impact:** The code change proposal will not increase the cost of construction.



## E159–06/07

### 1025.11.1 (IFC [B] 1025.11.1)

**Proponent:** Gene Boecker, Code Consultants, Inc., representing National Association of Theater Owners (NATO)

**Revise as follows:**

**1025.11.1 Treads.** Tread depths shall be a minimum of 11 inches (279 mm) and shall have dimensional uniformity.

**Exceptions:**

1. The tolerance between adjacent treads shall not exceed 0.188 inch (4.8 mm).
2. Where a single riser is provided between seating tiers, the maximum tread depth shall not exceed 18 inches (457.2 mm).

**Reason:** Current code text results in provisions that can create a tripping hazard at each level where a tread can project past the width of a seat in a seating row. This change will limit the depth of treads to prevent the creation of a tripping hazard at the point where seating rows meet aisles.

Seats in assembly occupancies are generally 18 inches in depth, and are located on tiers 36 inches in depth. Where rows are designed with depths greater than 36 inches, seats retain the 18 inch depth, but legroom and walking room are increased. Providing treads with dimensional uniformity results in the tread projecting past the depth of the seat into the width of the aisle accessway. This creates a tripping hazard at the end of each seating row, since the tread will be deeper than the aisle accessway. This change will assure that aisle accessways are designed such that the aisle accessway depth is uniform to the point where travel upwards or downwards can begin.

**Cost Impact:** The code change proposal will not increase the cost of construction.

## E160–06/07

### 1025.14.2 (IFC [B] 1025.14.2)

**Proponent:** Tom Wandrie, ICC 300 Development Committee

**Revise as follows:**

**1025.14.2 Sightline-constrained guard heights.** Unless subject to the requirements of Section 1025.14.3, a fascia or railing system in accordance with the guard requirements of Section 1013 and having a minimum height of 26 inches (660 mm) shall be provided where the floor or footboard elevation is more than 30 inches (762 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of immediately adjacent seating. At bleachers, a guard must be provided ~~where the floor or footboard elevation is more than 24 inches (610 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of the immediately adjacent seating~~ where required by ICC 300.

**Reason:** Code change E73-02 which added this language into the IBC was approved as a coordination item with ICC 300. This 24" drop off requirement is not in the ICC 300 Section 408.1 which deals with guards.

**Cost Impact:** The code change proposal will not increase the cost of construction.

## E161–06/07

### 1025.14.2 (IFC [B] 1025.14.2)

**Proponent:** Arlan Smith, Idaho Division of Building Safety, representing Idaho Association of Building Officials

**Revise as follows:**

**1025.14.2 Sightline-constrained guard heights.** Unless subject to the requirements of Section 1025.14.3, a fascia or railing system in accordance with the guard requirements of Section 1013 and having a minimum height of 26 inches (660 mm) shall be provided where the floor or footboard elevation is more than 30 inches (762 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of immediately adjacent seating. At

bleachers, a guard must be provided where the floor or footboard elevation is more than 24 inches (610 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of the immediately adjacent seating.

**Reason:** As per IBC Section 1025.1.1, this section does not apply to bleachers. This is in ICC 300 Section 503.1.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E162-06/07

### 1026.6 (New) [IFC [B] 1026.6 (New)]; IRC R310.1.5 (New)

**Proponent:** James McMullen, The McMullen Company, Inc., representing Pearl Protected

**THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS COMMITTEE AND THE IRC BUILDING/ENERGY COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR BOTH COMMITTEES**

#### PART I – IBC

**Add new text as follows:**

**1026.6 Emergency escape ladders.** Emergency escape and rescue openings located above the first story in Group R-3 occupancies shall be provided with an approved permanently mounted emergency escape ladder.

#### PART II – IRC

**Add new text as follows:**

**R310.1.5 Emergency escape ladders.** Emergency escape and rescue openings located above the first story shall be provided with an approved permanently mounted emergency escape ladder.

**Reason:** While there is a requirement for an approved permanently affixed ladder or steps for window wells with a vertical depth of more than 44 in. located below the adjacent ground level, there are no such requirements for upper floor emergency escape and rescue openings that are located on the second or third story of the structure. This forces many trapped people in a fire on the upper floors to wait for the fire department to arrive and place rescue ladders to the windows, jump as much as 24 feet to the ground, or navigate through the smoke and fire for another means of escape, all of which can cause serious injury or death.

In order to truly be called an emergency escape and rescue opening, people must be able to safely escape from the opening as well as being rescued from the opening. Presently, this is only true if the emergency escape and rescue openings are within easy reach of the exterior grade level. Such emergency escape and rescue openings on the second and third floors of a home are obviously not within easy reach of the exterior grade level without the use of an emergency escape ladder. This is a serious shortcoming of the code.

This proposal will substantially improve the code by also requiring an approved permanently affixed ladder on the upper stories of a Group R-3 occupancy in addition to the approved permanently affixed ladder already required for window wells with a vertical depth of more than 44 in. located below the adjacent ground level.

#### Statistics on Residential Fires (2004)

- 410,500 residential fires, accounting for 78.0% of all structure fires.
- Of the residential structure fires, 301,500 occurred in one-and two-family dwellings, accounting for 57.3% of all structure fires.
- A residential fire occurs every 77 seconds.
- About 82% of all fire deaths (3,190 civilian fire deaths) occurred in the home.

Source: "Fire Loss in the United States during 2004", Michael J. Karter, Jr., Fire Analysis and Research Division, National Fire Protection Association, September 2005

- More than half (57%) of the people injured (but not killed) in home fires were trying to fight the fire or rescue someone when they were injured.
- The leading factor for fatal victims was fire blocked the exit.
- One quarter (26%) of fire fatalities are fatally injured while trying to escape.
- Six times as many people died because they were trapped above the fire than those that were trapped below the fire.

Source: "Characteristics of Home Fire Victims", John R. Hall, Jr., Fire Analysis and Research Division, National Fire Protection Association, July 2005

#### **Home Fire Escape Planning**

*"If your home has two floors, every family member (including children) must be able to escape from the second floor rooms. Escape ladders can be placed in or near windows to provide an additional escape route. Review the manufacturer's instructions carefully so you'll be able to use a safety ladder in an emergency." "You don't want to have to search for it during a fire."*

**Source:** NFPA's "Basic Fire Escape Planning"

#### **Flashover in Homes vs. Arrival Time for Fire Department**

##### **Flashover in Homes – Tests Conducted by NIST**

Flashover is the transition of a fire to the point at which all of the fuels in the room are fully involved, where heat fluxes and temperatures are at a maximum throughout the room.

The Building and Fire Research Laboratory at NIST has taken video footage from actual large scale fire tests that clearly show the growth of fires in furnished rooms from ignition to flashover. The tests by NIST show that flashover can occur in a typical residential living room in as little as 3-4 minutes.

**Source:** NIST (news letter/summer 2001/page 2)

NIST also did fire tests with smoke alarms and a two story house and discovered that "For example, average times for untenable conditions for flaming tests was 3 minutes compared to 17 min in the prior work."

**Source:** NIST Technical Note 1455

#### **Arrival Time for Fire Department**

According to the **Commission on Fire Accreditation International, Inc. (CFAI)** "For 90 percent of all incidents, the first-due unit shall arrive within six minutes total reflex time (call receipt to wheels stop on scene). The first-due unit shall be capable of advancing the first line for fire control or starting rescue or providing basic life support for medical incidents.

**Source:** CFAI Standard of Response Coverage, 4<sup>th</sup> Edition

It is clear that even if the fire department could arrive within six (6) minutes of receipt of the call, it could well arrive after flashover. It should be noted that many fire departments cannot meet the national standard of six (6) minutes arrival time from receipt of the call 90% of the time.

As we have seen all too often on TV and in our newspapers, people are being forced to jump from upper floor home emergency escape and rescue opening windows because they can no longer wait for the fire department to rescue them. This is due, in large part, to the fact that rooms become untenable for human survival at 212 degrees Fahrenheit, long before flashover. For those that choose to stay and not jump, and seek some other means of escape through the smoke and fire, serious injury or death often occurs.

The most cost-effective solution to this very real problem is to require that emergency escape and rescue openings have a permanent escape ladder so that people can easily and quickly egress the upper floors of their homes should normal exiting become impossible.

The problem exists and the solution is now available. It is our responsibility to provide people with adequate continuous emergency exiting from the number one occupancy with the most fire deaths, our homes.

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

#### **PART I - IBC**

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

#### **PART II - IRC**

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## **E163-06/07**

### **Chapter 35**

**Proponent:** Tom Wandrie, ICC 300 Development Committee

**Revise standard as follows:**

#### **ICC**

ICC 300 – ~~02~~ 06 Standard on Bleachers, Folding and Telescopic Seating and Grandstands

**Reason:** The work plan for the bleacher standard should result in a completed document before the September hearings.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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# E164-06/07

## Chapter 35

**Proponent:** Standards writing organizations as listed below.

**Revise standards as follows:**

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<b>BHMA</b>	Builders Hardware Manufacturers Association 355 Lexington Avenue, 17 <sup>th</sup> Floor New York, NY 10017-6603
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Standard  
reference  
number

Title

A 156.10-~~2005~~ 1999

Power Operated Pedestrian Doors

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**NFPA**

National Fire Protection Association  
1 Batterymarch Park  
Quincy, MA 02269-9101

Standard  
reference  
number

Title

101-~~06~~ 03

Life Safety Code

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**Reason:** The ICC Code Development Process for the International Codes (Procedures) Section 4.5\* requires the updating of referenced standards to be accomplished administratively, and be processed as a Code Proposal. In May 2005, a letter was sent to each developer of standards that are referenced in the I-Codes, asking them to provide ICC with a list of their standards in order to update to the current edition. Above is the list received of the referenced standards under the maintenance responsibility of the IBC Means of Egress Committee.

\* **4.5 Updating Standards:** The updating of standards referenced by the Codes shall be accomplished administratively by the appropriate code development committee in accordance with these full procedures except that multiple standards to be updated may be included in a single proposal.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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# E165-06/07

## 1103.2.3

**Proponent:** Ed Roether, HOK SVE

**Revise as follows:**

**1103.2.3 Employee work areas.** Spaces and elements within employee work areas shall only be required to comply with Sections 907.9.1.2, 1007 and 1104.3.1 and shall be designed and constructed so that individuals with disabilities can approach, enter and exit the work area. Work areas, or portions of work areas, other than raised courtroom stations, that are less than ~~150~~ 300 square feet (~~14~~ 30 m<sup>2</sup>) in area and elevated 7 inches (178 mm) or more above the ground or finish floor where the elevation is essential to the function of the space shall be exempt from all requirements.

**Reason:** The purpose of this proposed change is twofold, first to clarify that raised courtroom stations are to be accessible and second to amend the allowance for the area of raised work areas in order to coordinate with ADAAG revised July 2004. Without this proposed change raised courtroom stations might typically be exempt even though it is questionable whether such elevation is essential to the function and raised platforms greater than 150 square feet but less than 300 would be required to be accessible even though they would not by ADAAG.

The question at hand is what degree of accessibility is appropriate for raised courtroom stations and raised platforms in general. ADAAG is recognized for establishing such limits. As such, the requirements of ADAAG regarding this issue should be reflected in IBC. However, ADAAG would permit the accessible route to be installed at a later date. This proposal would not given a previous action by the means of egress committee which rejected a proposal to permit courtroom stations to be "adaptable" consistent with ADAAG because of concerns regarding enforceability.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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# E166-06/07

## 1103.2.6

**Proponent:** Janet Reed, Development Services Department, City of Phoenix, AZ

**Revise as follows:**

**1103.2.6 Construction sites.** Structures, sites and equipment directly associated with the actual processes of construction including, but not limited to, scaffolding, bridging, materials hoists, materials storage or construction trailers are not required to be accessible. The public portions of temporary sales offices/trailers are required to be accessible. There shall be accessible parking provided in accordance with Table 1016.1, and an accessible route from the accessible parking aisle to the sales office/trailer and throughout the public portion of the sales office/trailer, including the design center. Accessible toilet rooms shall be provided in accordance with this Chapter and the International Plumbing Code.

**Reason:** The purpose of this proposal is to provide requirements for temporary sales offices/trailers. Due to the temporary nature of the building some have mistakenly believed they are exempt. They are not exempt from the requirements of the Americans with Disabilities Act. This proposal was recommended by City of Phoenix Development Services Department Accessibility Committee.

**Bibliography:** Americans with Disabilities Act

**Cost Impact:** The code change proposal will increase the cost of construction, at times.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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**E167-06/07**  
**1103.2.12**

**Proponent:** Janet Reed, Development Services Department, City of Phoenix, AZ

**Revise as follows:**

**1103.2.12 Day care facilities-Home occupations.** Home occupations as defined in the local zoning ordinance are not required to be accessible. Where a day care facility (Groups A-3, E, I-4 and R-3) is part of a dwelling unit, only the portion of the structure utilized for the day care facility is required to be accessible. For other combinations of Group B or M occupancies that are part of a dwelling unit, the business or mercantile portion shall be accessible and shall include a minimum of one accessible toilet room and an accessible route from the business or mercantile portion to the accessible toilet room, accessible parking space and public sidewalk.

**Reason:** The purpose of this proposal is to provide requirements for mixed-use occupancies of residential and commercial and to exempt home occupancies such as Avon sales from the requirements for commercial occupancies. With the exception of Home Occupancies, commercial occupancies, although adjacent to residential occupancies, are not exempt from the American with Disabilities Act. This proposal was recommended by City of Phoenix Development Services Department Accessibility Committee.

**Bibliography:** Americans with Disabilities Act

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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**E168-06/07**  
**1103.2.14**

**Proponent:** Bill Conner, Bill Conner Associates LLC, representing himself

**Revise as follows:**

**1109.14 4403.2.14 Fuel-dispensing systems.** Fuel-dispensing systems ~~The operable parts on fuel-dispensing devices shall comply with ICC A117.1, Section 308.2.1 or 308.3.1.~~

**Reason:** Technical provisions specific for accessibility for fuel dispensing systems are addressed in ICC A117.1. There is no reason to repeat the technical requirements/limitations in the IBC. As proposed, this requirement is no longer an exception (Section 1103.2, General Exceptions), so the section should be relocated to Section 1109, Other Features and Facilities. The proposed language also coordinates the provisions in the IBC with the latest ADAAG requirements.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E169-06/07

### 1104.3, 1108.2.4

**Proponent:** Ed Roether, HOK SVE

**Revise as follows:**

**1104.3 Connected spaces.** When a building or portion of a building is required to be accessible, an accessible route shall be provided to each portion of the building, to accessible building entrances connecting accessible pedestrian walkways and the public way.

**Exception:** In assembly areas with fixed seating ~~required to be accessible~~, an accessible route shall not be required to serve ~~fixed seating levels~~ where wheelchair spaces or ~~designated aisle seats required to be on an accessible route~~ are not provided.

**1108.2.4 Designated aisle seats.** At least 5 percent, but not less than one, of the total number of aisle seats provided shall be designated aisle seats and shall be the aisle seats located closest to accessible routes.

**Exception:** Designated aisle seats are not required in team or player seating serving areas of sport activity.

**Reason:** The purpose of this proposed change is to coordinate with the revised ADAAG issued July 2004. Designated aisle seats are not required on an accessible route by the new ADAAG. Therefore, the proposed language is necessary to coordinate with the revised ADAAG.

The applicable provision in the new ADAAG states: "At least 5 percent of the total number of aisle seats provided shall comply with 802.4 and shall be the aisle seats located closest to accessible routes." Without the proposed revisions, the designated aisle seats could be located up or down a series of steps, which would make their purpose much less effective. This proposed change would coordinate IBC with the new ADAAG.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E170-06/07

### 1104.4

**Proponent:** Dave Frable, U.S. General Services Administration

**Revise as follows:**

**1104.4 Multilevel buildings and facilities.** At least one accessible route shall connect each accessible level, including mezzanines, in multilevel buildings and facilities.

**Exceptions:**

1. An accessible route is not required to stories and mezzanines above and below accessible levels that have an aggregate area of not more than 3,000 square feet (278.7 m<sup>2</sup>). This exception shall not apply to:
  - 1.1. Multiple tenant facilities of Group M occupancies containing five or more tenant spaces;
  - 1.2. Levels containing offices of health care providers (Group B or I); or
  - 1.3. Passenger transportation facilities and airports (Group A-3 or B).
2. ~~In Group A, I, R and S occupancies~~, levels that do not contain accessible elements or other spaces required by Section 1107 or 1108 are not required to be served by an accessible route from an accessible level.
3. In air traffic control towers, an accessible route is not required to serve the cab and the floor immediately below the cab.
4. Where a two-story building or facility has one story with an occupant load of five or fewer persons that does not contain public use space, that story shall not be required to be connected by an accessible route to the story above or below.
5. The vertical portion of the accessible route to elevated employee work stations within a courtroom is not required at the time of initial construction, provided a ramp, lift or elevator complying with ICC A117.1 can be installed without requiring reconfiguration or extension of the courtroom or extension of the electrical system.

**Reason:** We believe that the IBC requirements for accessible route to elevated workstations in a courtroom do not need to be more restrictive than the Federal ADA/ABA guidelines. While requiring access in a single courtroom building would be a good idea, requiring the installation of a platform lift or ramp in all courtrooms in a multi-courtroom building would be cost-prohibitive. The proposed language is consistent with the Federal ADA/ABA guidelines. Please note that the exception does not apply to elevated courtroom areas that are likely to be used by members of the public who are not employees of the court such as jury areas, attorney areas, or witness stands. In addition, GSA as well as other Federal agencies adhere to the Federal ADA/ABA guidelines and having the IBC accessibility requirements in courtrooms being more restrictive than the Federal ADA/ABA guidelines will lead to confusion among architects designing Federal Courthouses.

The revision to Exception 2 is editorial in nature. Groups A and S are addressed in Section 1108. Groups I and R are addressed in Section 1107. This exception has currently been misinterpreted as a general exception to all Group A, I, R and S occupancies, especially in jurisdictions that had exceptions for storage levels in previous accessibility requirements. A straight reference to Sections 1107 and 1108 would allow the same exception without the confusion.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E171-06/07

### 1104.4

**Proponent:** James Lee Koleszar, AIA, representing Fairview Baptist Church

#### Revise as follows:

**1104.4 Multilevel buildings and facilities.** At least one accessible route shall connect each accessible level, including mezzanines, in multilevel buildings and facilities.

#### Exceptions:

1. An accessible route is not required to stories and mezzanines above and below accessible levels that have an aggregate area of not more than 3,000 square feet (278.7 m<sup>2</sup>). This exception shall not apply to:
  - 1.1. Multiple tenant facilities of Group M occupancies containing five or more tenant spaces;
  - 1.2. Levels containing offices of health care providers (Group B or I); or
  - 1.3. Passenger transportation facilities and airports (Group A-3 or B).
2. In Group A, I, R and S occupancies, levels that do not contain accessible elements or other spaces required by Section 1107 or 1108 are not required to be served by an accessible route from an accessible level.
3. In air traffic control towers, an accessible route is not required to serve the cab and the floor immediately below the cab.
4. Where a two-story building or facility has one story with an occupant load of five or fewer persons that does not contain public use space, that story shall not be required to be connected by an accessible route to the story above or below.
5. In places of religious worship an accessible route need not be provided to areas or levels, including mezzanines, of less than 10 percent of the floor area from the room which it is accessed from, or less than 2,000 square feet in area.

**Reason:** The purpose of the proposed change is alleviate undue cost and hardships of minor floor areas requiring accessibility and the relative disproportional cost of ramps, floor areas required, lifts/elevators, etc. Plus many church chancel areas of raised floors are multi-leveled (i.e., baptismal pools, dressing rooms, etc.).

**Cost Impact:** There would be a savings to the owners of a minimum of \$20,000 and this does not include the hardship of landing areas, floor areas, (square feet), etc.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E172-06/07

### 1106.2, 1106.2.1 through 1106.2.3 (New)

**Proponent:** Lawrence G. Perry, AIA, representing himself

#### 1. Revise as follows:

~~1106.2 Groups R-2 and R-3. Where parking is provided for occupancies in Groups R-2 and R-3, accessible parking spaces shall be provided in accordance with Sections 1106.2.1 through 1106.2.3. Two percent, but not less than one, of each type of parking space provided for occupancies in Groups R-2 and R-3, which are required to have Accessible, Type A or Type B dwelling or sleeping units, shall be accessible. Where parking is provided within or beneath a building, accessible parking spaces shall also be provided within or beneath the building.~~

#### 2. Add new text as follows:

1106.2.1 Accessible units and Type A units. Where parking is provided for occupancies in Groups R-2 and R-3 that are required to have Accessible Units or Type A units, at least one accessible parking space shall be provided for each Accessible Unit or Type A unit.

**1106.2.2 Type B units.** Where parking is provided for occupancies in Groups R-2 and R-3 that are required to have Type B units, at least 2 percent, but not less than one, of each type of parking space provided shall be accessible.

**Exception:** Accessible parking spaces are not required within private garages that are attached and directly serving individual dwelling units.

**1106.2.3 Dispersion.** Where accessible parking spaces are required, and parking is provided within or beneath buildings, accessible parking spaces shall also be provided within or beneath buildings.

**Reason:** This proposal attempts to provide clearer scoping requirements for accessible parking spaces for occupancies in Groups R-2 and R-3.

The proposal increases the total number of accessible parking spaces, by adding a separate scoping requirement for accessible parking spaces equal to the number of Type A or Accessible Units required. The exception to Type B units for private garage is intended to coordinate with HUD's interpretation for accessible parking requirements for private garages as stated in the Fair Housing Accessibility Guidelines, Q & A, Question 20.

These issues were raised during task group work of the ICC/ANSI A117 Committee. Although this proposal is not submitted on behalf of the A117 Committee or any of its task groups, its purpose is to allow this issue to be addressed during the current ICC Code Development Cycle.

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

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E173-06/07

**1106.2, 1106.3, 1106.4**

**Proponent:** Philip Brazil, Reid Middleton, Inc., representing himself

**Revise as follows:**

**1106.2 Groups R-2 and R-3.** At least two percent, but not less than one, of each type of parking space provided for occupancies in Groups R-2 and R-3, which are required to have Accessible, Type A or Type B dwelling or sleeping units, shall be accessible. Where parking is provided within or beneath a building, accessible parking spaces shall also be provided within or beneath the building.

**1106.3 Hospital outpatient facilities.** At least ten percent, but not less than one, of patient and visitor parking spaces provided to serve hospital outpatient facilities shall be accessible.

**1106.4 Rehabilitation facilities and outpatient physical therapy facilities.** At least twenty percent, but not less than one, of the portion of patient and visitor parking spaces serving rehabilitation facilities specializing in treating conditions that affect mobility and outpatient physical therapy facilities shall be accessible.

**Reason:** The purpose of this proposal is to clarify the requirements for minimum numbers of accessible parking spaces in Groups R-2 and R-3 occupancies, and at hospital outpatient, rehabilitation and outpatient physical therapy facilities. It is also being done for consistency with similar language in Sections 1106.5, 1107.5.1.1, 1107.5.2.1, 1107.5.3.1, 1107.5.5.1, 1107.6.2.1.1, 1107.6.4.1. There is the impression that a threshold of 2 percent, for example, is reached when the number of parking spaces reaches 76, which is not the intent. A second parking space is required when the number of parking spaces reaches 51.

In Section 1106.3, the phrase "but not less than one" is inserted for consistency with Sections 1106.2 and 1106.4 on accessible parking spaces, and for consistency with similar provisions in Sections 1107.5.1.1, 1107.5.2.1, 1107.5.3.1, 1107.5.5.1 and 1107.6.2.1.1. Without the added phrase, code users may conclude that an accessible parking space is not required until the number of parking spaces reaches 5.

In Section 1106.4, the phrase "specializing in treating conditions that affect mobility" is inserted for consistency with the current ADAAG provisions. Refer to Section 208.2.2 of the 2004 ADA "Accessibility Guidelines for Buildings and Facilities." Note that the editorial corrections to these provisions published in the Federal Register, Vol.70, No. 150 (August 5, 2005) do not affect Section 208.2.2 as published in the 2004 Guidelines.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
Assembly: ASF AMF DF

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## E174-06/07

**1106.7.4 (New)**

**Proponent:** Linda Volpe, United Spinal Association

**Add new text as follows:**

**1106.7.4 Mechanical access parking garages.** Mechanical access parking garages shall provide at least one passenger loading zone at vehicle drop-off and vehicle pick-up areas.



**Reason:** Mechanical access parking garages provide services similar to valet parking arrangements, which are required to be provided with a passenger loading zone. In addition, this new requirement would coordinate IBC with Section 209.5 of ADAAG.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E175-06/07

### 1107.2

**Proponent:** Dominic Marinelli, United Spinal Association

**Revise as follows:**

**1107.2 Design.** Dwelling units and sleeping units that are required to be Accessible units, Type A units and Type B units shall comply with the applicable portions of Chapter 10 of ICC A117.1. Units required to be Type A units are permitted to be designed and constructed as Accessible units. Units required to be Type B units are permitted to be designed and constructed as Accessible units or as Type A units.

**Exception:** Universal units are permitted in lieu of Type A and Type B units.

**Reason:** The purpose of the proposed change is to provide an option that would clarify accessibility/adaptability requirements for the most essential features within dwelling units for people with disabilities while maintaining "safe harbor" with the Fair Housing Amendments Act and its accessibility guidelines.

The proposal has been developed to provide an option to avoid confusing Type A & Type B requirements for builders and designers by introducing simple requirements that provide for the basic needs for people with disabilities (usable bathroom and doors).

The "Universal Unit" is introduced as an option to replace Type A Unit and its additional and more costly features in bathrooms and kitchens. As such, the code change proposal will not increase the cost of construction. The "Universal Unit" is essentially a Type B Unit with two additional features:

1. One adaptable bathroom based on ICC A117.1 – 1998, Type A requirements, and;
2. Maneuvering Clearances at doors (although required as part of this proposal, this feature is often negated by doors that open into bedrooms and other spaces within dwelling units that do not provide closers.

The Building Code of New York State has required Type B Units in existing buildings since 2002.

The following has been proposed to the ICC A117.1 Development committee as the technical criteria for Universal units. We have proposed scoping to the IBC with the hope that this technical information will be in the 2008 edition of the ICC A117.1.

#### **SECTION 1006**

#### **UNIVERSAL UNITS**

**1006.1 General.** Universal units shall comply with Section 1006.

**1006.2 Primary entrance.** The primary entrance shall be accessible and on an accessible route from public and common areas.

**1006.3 Accessible route.** Accessible routes within units shall comply with Section 1006.3.

**1006.3.1 Location.** At least one accessible route shall connect all spaces and elements that are a part of the unit.

**Exceptions:**

1. An accessible route is not required to unfinished attics and unfinished basements that are part of the unit.
2. One of the following is not required to be on an accessible route:
  - 2.1. A raised floor area in a portion of a living, dining, or sleeping room; or
  - 2.2. A sunken floor area in a portion of a living, dining, or sleeping room;
  - 2.3. A mezzanine that does not have plumbing fixtures or an enclosed habitable space.

**1006.3.2 Components.** Accessible routes shall consist of one or more of the following elements: walking surfaces with a slope not steeper than 1:20, doors and doorways, ramps, elevators, and platform lifts.

**1006.4 Walking surfaces.** Walking surfaces that are part of an accessible route shall comply with Section 1006.4.

**1006.4.1 Width.** Clear width of an accessible route shall comply with Section 403.5.

**1006.4.2 Changes in level.** Changes in level shall comply with Section 303.

**Exception:** Where exterior deck, patio or balcony surface materials are impervious, the finished exterior impervious surface shall be 4 inches (100 mm) maximum below the floor level of the adjacent interior spaces of the unit.

**1006.5 Doors and Doorways.** All doors and doorways intended for user passage, shall comply with Section 404.

**Exceptions:**

1. Thresholds at exterior sliding doors shall be permitted to be 3/4 inch (19mm) maximum in height, provided they are beveled with a slope not greater than 1:
2. In toilet rooms and bathrooms not required to comply with Section 1006.11, maneuvering clearances required by Section 404.2.3 are not required on the toilet room or bathroom side of the door.
3. In walk-in closets, pantries, mechanical rooms, laundry rooms and storage spaces, maneuvering clearances required by Section 404.2.3 are not required on the room side of the door.

**1006.6 Ramps.** Ramps shall comply with Section 405.

**1006.7 Elevators.** Elevators within the unit shall comply with Section 407, 408, or 409.

**1006.8 Platform lifts.** Platform lifts within the unit shall comply with Section 410.

**1006.9 Operable parts.** Lighting controls, electrical switches and receptacle outlets, environmental controls, and user controls for security or intercom systems shall comply with Sections 309.2 and 309.3.

**Exceptions:**

1. Receptacle outlets serving a dedicated use.
2. One receptacle outlet is not required to comply with Sections 309.2 and 309.3 where all of the following conditions are met:
  - 2.1. The receptacle outlet is above a length of countertop that is uninterrupted by a sink or appliance; and
  - 2.2. At least one receptacle outlet complying with Section 1004.9 is provided for that length of countertop; and
  - 2.3. All other receptacle outlets provided for that length of countertop comply with Section 1004.9.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Controls or switches mounted on appliances.
7. Plumbing fixture controls.

**1006.10 Laundry equipment.** Washing machines and clothes dryers shall comply with Section 1006.10.

**1006.10.1 Clear floor space.** A clear floor space complying with Section 305.3, positioned for parallel approach, shall be provided.

**1006.11 Toilet and bathing facilities.** All toilet and bathing fixtures shall comply with Section 1006.11.1. At least one toilet and bathing room shall comply with Section 1006.11.2. At least one lavatory, one water closet and either a bathtub or shower within the unit shall comply with Section 1006.11. The accessible toilet and bathing facilities shall be in a single toilet/bathing area, such that travel between fixtures does not require travel through other parts of the unit.

**1006.11.1 Reinforcement.** Reinforcement shall be provided for the future installation of grab bars, and shower seats at water closets, bathtubs, and shower compartments. Where walls are located to permit the installation of grab bars and seats, complying with sections 604.5, 607.4, 608.3, and 608.4, reinforcement shall be provided for the future installation of grab bars and seats meeting these requirements.

**Exception:** Reinforcement is not required in a room containing only a lavatory and a water closet, providing the room does not contain the only lavatory or water closet on the accessible level of the unit.

**1006.11.2 Doors.** Doors shall not swing into the clear floor or ground space or clearance for any fixture.

**Exception:** Where a clear floor or ground space complying with Section 305.3 is provided within the room, beyond the arc of the door swing.

**1006.11.3 Overlap.** Clear floor or ground spaces, clearances, and wheelchair turning spaces are permitted to overlap.

**1006.11.3 Lavatory.** Lavatories shall comply with Section 606.

**Exception:** Cabinetry shall be permitted to be added under the lavatory, provided such cabinetry can be removed without removal or replacement of the lavatory, and provided the finish floor extends under such cabinetry.

**1006.11.4 Mirrors.** Mirrors above lavatories shall have the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the floor or ground.

**1006.11.5 Water closet.** Water closets shall comply with Sections 1003.11.7 through 1003.11.7.5.

**1006.11.5.1 Location.** The water closet shall be positioned with a wall to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum and 18 inches (455 mm) maximum from the side wall.

**1006.11.5.2 Clearance.** Clearance around the water closet shall comply with Sections 1003.11.7.2.

**1006.11.5.3 Height.** The top of the toilet seat shall be 15 inches (380 mm) minimum and 19 inches (485 mm) maximum above the floor or ground.

**1006.11.5.4 Grab Bars.** Grab bars complying with Section 604.5 shall be provided.

**Exception:** Where reinforcement has been provided in walls to permit the installation of such grab bars.

**1006.11.5.5 Flush controls.** Hand-operated flush controls shall comply with Section 1003.11.7.5

**1006.11.6 Bathtub.** Bathtubs shall comply with Section 607.

**1006.11.6.1 Clearance.** Clearance in front of bathtubs shall extend the length of the bathtub and shall be 30 inches (760 mm) wide minimum. A lavatory complying with Section 606 shall be permitted at the foot end of the clearance. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend a minimum of 12 inches (305 mm) beyond the wall at the head end of the bathtub

**Exception:** Grab bars are not required, provided reinforcement has been provided in walls to permit the installation of grab bars complying with Section 607.4.

**1006.11.7 Shower.** Showers shall comply with Section 608.

**Exceptions:**

1. A shower seat shall not be required in transfer-type showers, provided reinforcement has been provided in a wall to permit the installation of a seat complying with Section 608.4
2. Grab bars are not required, provided reinforcement has been provided in walls to permit the installation of grab bars complying with Section 608.3.1.3

**Exception:** Fixtures on levels not required to be accessible.

**1006.11.7.1 Clear floor space.** Clear floor space required by Section 1004.11.3.1 or 1004.11.3.2 shall comply with Sections 1004.11.1 and 305.3.

**1006.11.7.2 Doors.** Doors shall not swing into the clear floor space for any fixture.

**Exception:** Where a clear floor space complying with Section 305.3, excluding knee and toe clearances under elements, is provided within the room beyond the arc of the door swing.

**1006.11.7.3 Knee and toe clearance.** Clear floor space at fixtures shall be permitted to include knee and toe clearances complying with Section 306.

**1006.11.7.4 Overlap.** Clear floor spaces shall be permitted to overlap.

**1006.11.7.5 Reinforcement.** Reinforcement shall be provided for the future installation of grab bars and shower seats at water closets, bathtubs, and shower compartments. Where walls are located to permit the installation of grab bars and seats complying with Sections 604.5, 607.4, 608.3 and 608.4, reinforcement shall be provided for the future installation of grab bars and seats meeting those requirements.

**Exception:** Reinforcement is not required in a room containing only a lavatory and a water closet, provided the room does not contain the only lavatory or water closet on the accessible level of the unit.

**1006.12 Kitchens.** Kitchens shall comply with Section 1006.12.

**1006.12.1 Clearance.** Clearance complying with Section 1004.12.1 shall be provided.

**1006.12.1.1 Minimum clearance.** Clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015 mm) minimum.

**1006.12.1.2 U-Shaped Kitchens.** In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

**1006.12.2 Clear floor space.** Clear floor space at appliances shall comply with Sections 1006.12.2 and 305.3.

**1006.12.2.1 Sink.** A clear floor space, positioned for a parallel approach to the sink, shall be provided. The clear floor space shall be centered on the sink bowl.

**Exception:** Sinks complying with Section 606 shall be permitted to have a clear floor space positioned for a parallel or forward approach.

**1006.12.2.2 Dishwasher.** A clear floor space, positioned for a parallel or forward approach to the dishwasher, shall be provided. The clear floor space shall be positioned beyond the swing of the dishwasher door.

**1006.12.2.3 Cooktop.** A clear floor space, positioned for a parallel or forward approach to the cooktop, shall be provided. The centerline of the clear floor space shall align with the centerline of the cooktop. Where the clear floor space is positioned for a forward approach, knee and toe clearance complying with Section 306 shall be provided. Where knee and toe space is provided, the underside of the range or cooktop shall be insulated or otherwise configured to prevent burns, abrasions, or electrical shock.

**1006.12.2.4 Oven.** A clear floor space, positioned for a parallel or forward approach to the oven, shall be provided.

**1006.12.2.5 Refrigerator/Freezer.** A clear floor space, positioned for a parallel or forward approach to the refrigerator/freezer, shall be provided.

**1006.12.2.6 Trash compactor.** A clear floor space, positioned for a parallel or forward approach to the trash compactor, shall be provided.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

## E176-06/07

### Table 1107.6.1.1

**Proponents:** Joe Reich, New York State Commission on Quality of Care and Advocacy for Persons with Disabilities; Dominic Marinelli, United Spinal Association

**Revise table as follows:**

**TABLE 1107.6.1.1  
 ACCESSIBLE DWELLING AND SLEEPING UNITS**

TOTAL NUMBER OF UNITS PROVIDED	MINIMUM REQUIRED NUMBER OF ACCESSIBLE UNITS WITHOUT ROLL-IN SHOWERS	MINIMUM REQUIRED NUMBER OF ACCESSIBLE UNITS ASSOCIATED WITH ROLL-IN SHOWERS	TOTAL NUMBER OF REQUIRED ACCESSIBLE UNITS
1 to 25	1	0	1
26 to 50	2	0	2
51 to 75	3	1	4
76 to 100	4	1	5
101 to 150	5	2	7
151 to 200	6	2	8
201 to 300	7	3	10
301 to 400	8	4	12
401 to 500	9	4	13
501 to 1,000	2% of total	1% of total	3% of total
Over 1, 001	20, plus 1 for each 100, or fraction thereof, over 1000	10 plus 1 for each 100, or fraction thereof, over 1,000	30 plus 2 for each 100, or fraction thereof, over 1,000

**Reason:** This proposed modification will clarify and ensure, that the accessible units will offer the same bathing options, as found in the standard rooms.

This change also meets the intent of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) Section 9.1.4 (1) which requires these facilities to offer persons with disabilities a range of options equivalent to those available to other persons served by the facility. Finally, the modified table is identical to the ADA Draft, "Table 224.2 Guest Rooms with Mobility Features". This draft, published July 23, 2004 awaits final approval from the Department of Justice.

The current IBC Table 1107.6.1.1 uses the term "MINIMUM" when referring to the number of rooms associated with roll-in showers. Minimums can always be surpassed, thus allowing roll-in showers to be incorporated in all the accessible units. Some design professionals and hotel chains have done just that, in the belief that roll-in showers were favored by the disabled population. Nothing could be further from the truth. CHOICE and options equivalent to those available without disabilities is the basic premise found in the ADA.

Roll-in showers were never intended to replace transfer showers or tubs in accessible rooms. Once again, this is made clear under 9.1.4 (1) of ADA Title III.

In order to provide persons with disabilities a range of options equivalent to those available to other persons served by the facility, .....it continues.

"Factors to be considered include room size, cost, amenities provided and the number of beds."

If the standard rooms have tubs, then the accessible rooms would also have tubs, with a small percentage of rooms incorporated roll-in showers. The same would hold true if all the standard rooms had transfer showers, the accessible rooms would have transfer showers, with a small percentage of rooms having roll-in showers.

Providing roll-in showers in all the accessible rooms is problematic for persons who do not weight-bear or have poor sitting balance, yet are independent. Roll-in showers, do not provide the same protection as a 36" x 36" transfer shower stall. Roll-in showers do not have grab bars positioned to prevent a person from falling forward, as found in the transfer shower stall. Tubs provide 360° protection once seated, and is preferred by many people with mobility impairments for both security when sitting and the therapeutic relief from a warm bath.

The proposed modification of IBC Table 1107.6.1.1 provides for both roll-in showers and bathing fixtures equivalent to those offered in standard rooms be incorporated in the accessible rooms. The proposed table meets the intent of ADAAG section 9.1.4 in providing equal amenities, and is identical to the table found in the ADA draft, currently being reviewed by the Department of Justice.

#### **Bibliography:**

28 CFR Part 36 Section 9.1.4

Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines July 23, 2004 Table 224.2 Guest Rooms with Mobility features

**Cost Impact:** The code change proposal will not increase the cost of construction. The bathing fixtures placed in the accessible room are the same fixtures found in the standard rooms.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## **E177-06/07**

### **1107.7.2**

**Proponent:** Jeff Inks, National Association of Home Builders

#### **Revise as follows:**

**1107.7.2 Multistory units.** A multistory dwelling or sleeping unit which is not provided with elevator service is not required to be a Type A or Type B unit. Where a multistory unit is provided with external elevator service to only one floor, the floor provided with elevator service shall be the primary entry to the unit, shall comply with the requirements for a Type B unit and a toilet facility shall be provided on that floor.

**Reason:** The original primary intent of this general exception is to exclude R-2 multistory dwelling units from the accessibility requirements of this chapter. However when this exception was drafted, focus was on the multistory exceptions included under Fair Housing and the inclusion of Type A units was therefore overlooked. The intent of the proposal is to exempt multistory townhouse style dwelling units when they fall into Group R-2 from Type A requirements. This would be consistent with Fair Housing requirements..

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## **E178-06/07**

### **1108.2**

**Proponent:** Robert B. Bush, Code Source P.C.

#### **Revise as follows:**

**1108.2 Assembly area seating.** Assembly areas with fixed seating shall comply with Sections 1108.2.1 through ~~4408.2.7~~ 1108.2.4. Lawn seating shall comply with Section 1108.2.5. Assistive listening systems shall comply with Section 1108.2.6. Performance areas shall comply with Section 1108.2.7. Dining areas shall comply with Section 1108.2.8. In addition, lawn seating shall comply with Section 1108.2.5.

**Reason:** Section 1108.2 needs to be changed in order to coordinate with the ADA Accessibility Guidelines (ADAAG) for both the current 1991 & 2004 ADAAG (the currently published 2004 ADAAG is proposed to be adopted by the various federal agencies in the near future and now

represents the “state-of-the art” requirements for accessibility). It has been the intent of the IBC code to be consistent with the ADA Accessibility Guidelines since the federal requirement is the “law of the land” in regards to accessibility. But, since the federal government does not have the enforceability as does the building codes in terms of plan reviews and code enforcement for building construction inspections, it is very desirable to make these requirements consistent with the federal ADA requirements.

Both the assistive listening and the barrier free access to performance areas are not triggered only by a fixed seating area, but is scoped by Sections 1108.2.6 and 1108.2.7 only regardless if it has fixed or portable seating. In other words, in terms of scoping the requirement, these sections “stand on its’ own” without the fixed seating scoping requirement of Section 1108.2. As currently written, some jurisdictions have a legitimate claim that when only fixed seating is provided, both Sections 1108.2.6 and 1108.2.7 would apply since Section 1108.2 currently states that assembly areas with **fixed seating** shall comply with Sections 1108.2.1 through 1108.2.7. Both the assistive listening and the performance areas fall within the range of these section numbers for fixed seating. But, this is wrong and the IBC requirements conflict with the ADAAG requirements. A code change is needed to fix this.

For evidence of the ADAAG requirements that the assistive listening system and accessible route access to a performance area from the seating area are both not triggered by fixed seating only, see the 2004 ADAAG scoping Sections 219.2 and 206.2.6 respectively issued herewith.

**Bibliography:**

2004 ADAAG, Section 206.2.6 – Scoping Section  
2004 ADAAG, Section 219.2– Scoping Section

**Cost Impact:** This is a cost increase from the current code to provide accessibility for assistive listening system and to a performance level from an area without fixed seating.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E179–06/07

### 1108.2.3 (New)

**Proponent:** Bill Conner, Bill Conner Associates LLC, representing American Society of Theatre Consultants

**Add new text as follows:**

**1108.2.3 Companion seats.** At least one companion seat complying with ICC A117.1 shall be provided for each wheelchair space required by Section 1108.2.2.1 through 1108.2.2.3.

**Reason:** This was deleted from the 2003 IBC in the last cycle, based at least partially on the same requirement being included in ICC A117.1. Requiring a companion seat is in fact a scoping requirement, not a technical requirement. In keeping with the approach of including scoping in the IBC, similar to Table 1108.2.2.1 for number of wheelchair spaces and Section 1108.2.4 for number of designated aisle seats, the scoping requirement for one companion seats adjacent to each wheelchair space should be in the IBC. ICC A117.1 will still include the technical details for this seat.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E180–06/07

### 1108.2.3

**Proponent:** Bill Conner, Bill Conner Associates LLC, representing American Society of Theater Consultants

**Revise as follows:**

**1108.2.3 Dispersion of wheelchair spaces in multilevel assembly seating areas.** Wheelchair space shall be dispersed in accordance with ICC A117.1, Section 802. In multilevel assembly seating areas, wheelchair spaces shall be provided on the main floor level and on one of each two additional floor or mezzanine levels. Wheelchair spaces shall be provided in each luxury box, club box and suite within assembly facilities.

**Exceptions:**

- ~~1. In multilevel assembly spaces utilized for worship services where the second floor or mezzanine level contains 25 percent or less of the total seating capacity, wheelchair spaces shall be permitted to all be located on the main level.~~
- ~~2. In multilevel assembly seating where the second floor or mezzanine level provides 25 percent or less of the total seating capacity and 300 or fewer seats, all wheelchair spaces shall be permitted to be located on the main level.~~
- ~~3. Wheelchair spaces in team or player seating serving areas of sport activity are not required to be dispersed.~~

**Reason:** The purpose of the change is to consolidate the technical requirements of dispersion of wheelchair spaces in assembly occupancies with fixed seating in ICC A117.1 rather than divide it between the standard and the IBC. ICC A117.1 2003, already has requirement proving sufficient and clear criteria for dispersion.

The deleted text regarding levels was a part of a complete group of requirements for dispersion developed (in significant measure by me) for the BCMC report on accessibility and further developed in the federal review advisory task group on assembly occupancies. This multi-level requirements does not work on it's own without the portions of the "package" removed in 2002. The technical requirements for dispersion are better put in one place and worked on by one committee or group rather than be divided. The current dispersion requirements in ICC A117.1 were put together by a special assembly committee and address dispersion for side to side and front to back within a seating arrangement, line of site, and dispersion by type. This adequately addresses dispersion across levels. The requirement for luxury boxes, club boxes and suite, has the number required in Section 1108.2.2.2 and is covered in ICC A117.1 under dispersion by type.

While it could be argued that the exceptions are not currently addressed in 2003 ICC A117.1, a proposal is planned to address these specific items as part of the current development process for the 2008 edition. The exception for dispersion for team and player seating is not required because dispersion is not required until more than 150 spaces are required (ICC A117.1 Table 802.10). Team and player seating does not typically contain that many seats.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E181-06/07

### 1108.2.8.1

**Proponent:** Ed Roether, HOK SVE

**Revise as follows:**

**1108.2.8.1 Dining surfaces.** Where dining surfaces for the consumption of food or drink are provided, at least 5 percent, but not less than one, of the ~~seating and standing spaces at the dining surfaces~~ for the seating and standing spaces shall be accessible and be distributed throughout the facility.

**Reason:** The purpose of this proposed change is to clarify that dining surfaces are to be accessible since the seating and standing spaces are not fixed elements. The proposed language puts the emphasis on the dining surface rather than the seating and standing spaces. Without this change the only thing required to be accessible could be the seating and standing surfaces and not their related dining surface.

There is confusion regarding which is required to be accessible. The only thing determining whether the dining area is accessible is the dining surface itself since the seating and standing spaces may not have any identifying demarcation.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E182-06/07

### 1108.2.8.1

**Proponent:** Ed Roether, HOK SVE

**Revise as follows:**

**1108.2.8.1 Dining surfaces.** Where dining surfaces for the consumption of food or drink are provided, at least 5 percent, but not less than one, of the seating and standing spaces at the dining surfaces shall be accessible, ~~and~~ be distributed throughout the facility and located on a level accessed by an accessible route.

**Reason:** The purpose of this proposed change is to clarify that accessible dining surfaces are not required to be located in spaces that are not required to have an accessible route. There are several limited locations where an accessible route is not required in the building code that would have dining surfaces. Not providing accessible dining surfaces in these limited locations would not diminish accessibility since these spaces are not provided an accessible route.

Specifically, Section 1108 would not require an accessible route to a mezzanine seating area, provided that the mezzanine contains less than 25 percent of the total area and the same services are provided in the accessible area. These limited applications would also not require an accessible route in the new ADAAG issued July 2004. Therefore, accessibility is not diminished regardless of how dining surfaces are provided these limited locations.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

# E183-06/07

## 1108.4.1 (New)

Proponent: Ed Roether, HOK SVE

### 1. Revise as follows:

**1108.4.1 Courtrooms.** Each courtroom shall be accessible and comply with Sections 1108.4.1.1 through 1108.4.1.5.

### 2. Add new text as follows:

**1108.4.1.1 Jury box.** A wheelchair space complying with ICC A117.1 shall be provided within the jury box.

Exception: An adjacent companion seating is not required.

**1108.4.1.2 Gallery seating.** Wheelchair spaces complying with ICC A117.1 shall be provided in accordance with Table 1108.2.2.1. Designated aisle seats shall be provided in accordance with Section 1108.2.4.

**1108.4.1.3 Assistive listening systems.** An assistive listening system must be provided. Receivers shall be provided for the assistive listening system in accordance with Section 1108.2.6.1.

**1108.4.1.4 Employee work stations.** The judges' bench, clerks' station, bailiffs' station, deputy clerk's station, and court reporter's station shall be located on an accessible route. The vertical portion of the accessible route to elevated employee work stations within a courtroom is not required at the time of initial construction, provided a ramp, lift or elevator complying with ICC A117.1 can be installed without requiring reconfiguration or extension of the courtroom or extension of the electrical system.

**1108.4.1.5 Other work stations.** The litigant's and counsel stations, including the lectern, shall be accessible in accordance with ICC A117.1.

**Reason:** The intent of the proposal is to provide specifics to comply with the accessibility provisions for courtrooms.

Jury boxes are a unique form of fixed seating in assembly spaces and should be addressed separately. The intent is consistent with the ADA/ABA Guidelines. The exception is necessary to over ride the current ICC A117.1 requirement for an adjacent companion seat to all wheelchair spaces.

Gallery seating is addressed the same as any fixed seating arrangements. All courtrooms are required to have assistive listening systems. This is consistent with the ADA/ABA Guidelines.

The proposed language for employee work areas is consistent with the intent in the ADA/ABA Guidelines, Sections 231 and 808. The ADA/ABA guidelines allow for planning for the accessible route to raised employee work areas within courtrooms. In the public comment phase of the 2004/2005 code change cycle, the membership decided that there should not be a generic exception for the raised employee work stations within courtrooms (E141-04/05). While this is understandable in a single courtroom in a courthouse situation, this is an undue burden for the taxpayers when more than one courtroom of the different types (e.g., panel courtroom, jury courtroom and no jury courtroom) are provided.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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# E184-06/07

## 1109.2

Proponent: Janet Reed, Development Services Department, City of Phoenix, AZ

### Revise as follows:

**1109.2 Toilet and bathing facilities.** Toilet rooms and bathing facilities shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing facilities provided within the facility shall not be located on the inaccessible floor. At least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing facility shall be accessible. A paraphernalia shelf shall be provided at all accessible toilets. The shelf shall be located adjacent to or integral with, the toilet paper dispenser. The shelf shall be located a minimum of 15 inches (381 mm) above the finished floor with a minimum clearance of 6 inches (153 mm) below the grab bar. It shall be a minimum 8 inches (203 mm) wide and 5 inches (127 mm) deep. If adjacent to the toilet paper dispenser, it shall be located on the side of the dispenser closest to the toilet.

### Exceptions:

1. In toilet rooms or bathing facilities accessed only through a private office, not for common or public use and intended for use by a single occupant, any of the following alternatives are allowed:

- 1.1. Doors are permitted to swing into the clear floor space, provided the door swing can be reversed to meet the requirements in ICC A117.1;
- 1.2. The height requirements for the water closet in ICC A117.1 are not applicable;
- 1.3. Grab bars are not required to be installed in a toilet room, provided that reinforcement has been installed in the walls and located so as to permit the installation of such grab bars; and
- 1.4. The requirement for height, knee and toe clearance shall not apply to a lavatory.
2. This section is not applicable to toilet and bathing facilities that serve dwelling units or sleeping units that are not required to be accessible by Section 1107.
3. Where multiple single-user toilet rooms or bathing facilities are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be accessible.
4. Where no more than one urinal is provided in a toilet room or bathing facility, the urinal is not required to be accessible.
5. Toilet rooms that are part of critical care or intensive care patient sleeping rooms are not required to be accessible.

**Reason:** The shelf can be used for medical supplies such as those used by diabetics. This shelf, although not required by the Americans with Disabilities Act, can be used by everyone.

This text was recommended by the City of Phoenix Development Services Department Accessibility Committee.

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

Public Hearing: Committee: AS AM D  
 Assembly: ASF AMF DF

## E185-06/07

**1109.2.1 through 1109.2.1.7, [P] 2902.1.1 (IPC 403.1.1), 3409.8.9 (IEBC [B] 308.8.9, 605.1.9), 3409.9.4 (IEBC [B] 308.9.4, 1104.1.4)**

**Proponent:** David Viola, Plumbing Manufacturers Institute

**Revise as follows:**

**1109.2.1 Unisex Family or assisted-use toilet and bathing rooms.** In assembly and mercantile occupancies, an accessible ~~unisex~~ family or assisted-use toilet room shall be provided where an aggregate of six or more male and female water closets is required. In buildings of mixed occupancy, only those water closets required for the assembly or mercantile occupancy shall be used to determine the ~~unisex~~ family or assisted-use toilet room requirement. In recreational facilities where separate-sex bathing rooms are provided, an accessible ~~unisex~~ family or assisted-use bathing room shall be provided. Fixtures located within ~~unisex~~ family or assisted-use toilet and bathing rooms shall be included in determining the number of fixtures provided in an occupancy.

**Exception:** Where each separate-sex bathing room has only one shower or bathtub fixture, a ~~unisex~~ family or assisted-use bathing room is not required.

**1109.2.1.1 Standard.** ~~Unisex~~ Family or assisted-use toilet and bathing rooms shall comply with Sections 1109.2.1.2 through 1109.2.1.7 and ICC A117.1.

**1109.2.1.2 Unisex Family or assisted-use toilet rooms.** ~~Unisex~~ Family or assisted-use toilet rooms shall include only one water closet and only one lavatory. A ~~unisex~~ family or assisted-use bathing room in accordance with Section 1109.2.1.3 shall be considered a ~~unisex~~ family or assisted-use toilet room.

**Exception:** A urinal is permitted to be provided in addition to the water closet in a ~~unisex~~ family or assisted-use toilet room.

**1109.2.1.3 Unisex Family or assisted-use bathing rooms.** ~~Unisex~~ Family or assisted-use bathing rooms shall include only one shower or bathtub fixture. ~~Unisex~~ Family or assisted-use bathing rooms shall also include one water closet and one lavatory. Where storage facilities are provided for separate-sex bathing rooms, accessible storage facilities shall be provided for ~~unisex~~ family or assisted-use bathing rooms.

**1109.2.1.4 Location.** ~~Unisex~~ Family or assisted-use toilet and bathing rooms shall be located on an accessible route. ~~Unisex~~ Family or assisted-use toilet rooms shall be located not more than one story above or below separate-sex toilet rooms. The accessible route from any separate-sex toilet room to a ~~unisex~~ family or assisted-use toilet room shall not exceed 500 feet (152 m).

**1109.2.1.5 Prohibited location.** In passenger transportation facilities and airports, the accessible route from separate-sex toilet rooms to a ~~unisex~~ family or assisted-use toilet room shall not pass through security checkpoints.



**1109.2.1.6 Clear floor space.** Where doors swing into a unisex family or assisted-use toilet or bathing room, a clear floor space not less than 30 inches by 48 inches (762 mm by 1219 mm) shall be provided, within the room, beyond the area of the door swing.

**1109.2.1.7 Privacy.** Doors to unisex family or assisted-use toilet and bathing rooms shall be securable from within the room.

**[P] 2902.1.1 (IPC 403.1.1) Unisex Family or assisted-use toilet and bath fixtures.** Fixtures located within unisex family or assisted-use toilet bathing rooms complying with Section 1109.2.1 ~~404 of the International Plumbing Code~~ are permitted to be included in determining the minimum required number of fixtures for assembly and mercantile occupancies.

**3409.8.9 (IEBC [B]308.8.9, 605.1.9) Toilet rooms.** Where it is technically infeasible to alter existing toilet and bathing facilities to be accessible, an accessible unisex family or assisted-use toilet or bathing facility constructed in accordance with Section 1109.2.1 is permitted. The unisex family or assisted-use facility shall be located on the same floor and in the same area as the existing facilities.

**3409.9.4 (IEBC [B]308.9.4, 1104.1.4) Toilet and bathing facilities.** Where toilet rooms are provided, at least one accessible family or assisted-use toilet room complying with Section 1109.2.1 shall be provided.

**Reason:** The "unisex" room required in large mercantile and assembly spaces by IBC Section 1109.2.1 is confused with the unisex toilet room permitted in tenants with fewer than 15 occupants as permitted by the IPC. The change in the name to 'Family' or 'Assisted Use' will make the original intent for this facility clear. A reference to Section 1109.2.1 of the IBC in the plumbing and existing building sections will clarify what toilet/bathing room requirements are expected within this room.

In addition, the new ADA uses the term "Unisex/Single-Use or Family" differently than IBC. The new ADA refers to toilet rooms with two water closets or a water closet and a urinal as a 'unisex' toilet room. The change in terminology should keep them separated.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** The action on the proposed change to Sections 2902.1.1, 3409.8.9 and 3409.9.4 (as well as the associated IPC and IEBC) is dependent on the decision of the Means of Egress Committee to the remainder of the proposal, therefore, for consistency, the MEO Committee will make the determination for these section instead of the General, IPC and IEBC Committees.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E186-06/07

### 1109.3

**Proponent:** Janet Reed, Development Services Department, City of Phoenix, AZ

**Revise as follows:**

**1109.3 Sinks.** Where sinks are provided, at least 5 percent but not less than one, provided in accessible spaces shall comply with ICC A117.1.

**Exceptions:**

1. Mop or service sinks are not required to be accessible.
2. Manufacturing process sinks.
3. Commercial sinks in kitchens, other than hand sinks

**Reason:** The purpose of this proposal is to include additional exceptions for sinks that are exempt by the Americans with Disabilities Act. This text was recommended by the City of Phoenix Development Services Department Accessibility Committee.

**Bibliography:** Americans With Disabilities Act

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

## E187-06/07 1109.10

**Proponent:** Ed Roether, HOK SVE

### Delete without substitution:

~~**1109.10 Assembly area seating.** Assembly areas with fixed seating shall comply with Section 1108.2 for accessible seating and assistive listening devices.~~

**Reason:** This section is redundant and is unnecessary. It should be removed. Section 1108.2 already covers any assembly seating with fixed seats.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E188-06/07 1109.11.1

**Proponent:** Ed Roether, HOK SVE

### Revise as follows:

**1109.11.1 Dispersion.** Accessible fixed or built-in seating at tables, counters or work surfaces shall be distributed throughout the space or facility containing such elements and located on a level accessed by an accessible route.

**Reason:** The purpose of this proposed change is to clarify that accessible tables, counters or work surfaces are not required to be located in spaces that are not required to have an accessible route. There are several limited locations where an accessible route is not required in the building code that would have tables, counters or work surfaces. Not providing accessible tables, counters or work surfaces in these limited locations would not diminish accessibility since these spaces are not provided an accessible route.

Specifically, Section 1108 would not require an accessible route to a mezzanine seating area, provided that the mezzanine contains less than 25 percent of the total area and the same services are provided in the accessible area. There are other similar limited applications where an accessible route is not required yet could have tables, counters or work surfaces, such as the cab in an air traffic control tower. These limited applications would also not require an accessible route in the new ADAAG issued July 2004. Therefore, accessibility is not diminished regardless of how tables, counters or work surfaces are provided these limited locations.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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## E189-06/07 1109.13.1

**Proponent:** Tim Pate, City and County of Broomfield, Colorado Building Department, representing himself

### Delete without substitution:

~~**1109.13.1 Operable windows.** Where operable windows are provided in rooms that are required to be accessible in accordance with Sections 1107.5.1.1, 1107.5.2.1, 1107.5.3.1, 1107.5.4, 1107.6.1.1, 1107.6.2.2.1, and 1107.7.6.4.1, at least one window in each room shall be accessible and each required operable window shall be accessible.~~

~~**Exception:** Accessible windows are not required in bathrooms and kitchens.~~

**Reason:** This section does not need to exist in the body of the IBC since there are specific technical requirements for when operable windows need to be accessible in ICC A117.1-2003, Sections 1002.13 and 1003.13.

I have also written up an alternative proposal to add in a reference to Section 1107.6.2.1 (i.e. Group R-2, Type A units) to this section. Deleting the section entirely would be the preferable option. This would be consistent with technical criteria for the dwelling units and sleeping units being located in ICC A117.1. However, if the committee does not like this option approval of the other change would at least match the requirements in ICC A117.1.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

## E190-06/07

### 1109.13.1

**Proponent:** Tim Pate, City and County of Broomfield, Colorado Building Department, representing himself

**Revise as follows:**

**1109.13.1 Operable Windows.** Where operable windows are provided in rooms that are required to be accessible in accordance with Sections 1107.5.1.1, 1107.5.2.1, 1107.5.3.1, 1107.5.4, 1107.6.1.1, 1107.6.2.1.1, 1107.6.2.2.1, and 1107.7.6.4.1, at least one window in each room shall be accessible and each required operable window shall be accessible.

**Exception:** Accessible windows are not required in bathrooms and kitchens.

**Reason:** The ICC Code Correlating Committee added all the individual section numbers to Section 1109.13.1 and failed to include Section 1107.6.2.1.1. IBC Section 1107.6.2.1 requires that all apartment houses, monasteries, and convents have the minimum number of Type A units as listed in this section. The IBC then requires all Type A units to be constructed as per ICC A117.1. The 2003 edition of ICC A117.1, Section 1003.13 requires that "Where operable windows are provided, at least one window in each sleeping, living, or dining space shall have operable parts complying with Section 1003.9." The intent of the IBC is to tell us when things need to be accessible and the ICC A117.1 Standard is to be used to tell us how to build things to be accessible. Therefore adding Section 1107.6.2.1.1 to Section 1109.13.1 would help reduce any confusion as to when operable windows would need to be accessible.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

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## E191-06/07

### Appendix E104.4 (New)

**Proponent:** Joseph L. Brown, Abescon, New Jersey, representing himself

**Add new text as follows:**

**E104.4 Bed clearance.** At least one side of one bed in accessible dwelling units and sleeping units shall provide vertical clearance under the bed for the full length and width of the bed, excluding legs and supports. Clearance shall be 6 1/2 inches (163 mm) high minimum measured from the finish floor to the underside of the bed frame.

**Reason:** Under title III of the ADA, See Section 303 of 28 CFR Part 36 at all public accommodations, including hotels, must provide auxiliary aids and services unless the provision of such auxiliary aids and services would result in a fundamental alteration of the nature of the goods, services, facilities, privileges, advantages, or accommodations being offered or would result in an undue burden. I believe that hotels should provide open framed beds as an auxiliary aid.

Beds that are on a pedestal or box makes using a patient lift impossible and therefore unable to use the bed.

**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

