

Code Technology Committee

Area of Study – Unenclosed Exits

2009/2012 Cycle

Code changes related to the CTC area of study noted above

The following are code changes related to the CTC Unenclosed exits that will be considered at the 2009/2012 Code Development Hearings in Baltimore.

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E2–09/10

1002.1 (IFC [B] 1002.1)

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

Revise as follows:

1002.1 (IFC [B] 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.

CORRIDOR. An enclosed exit access component that defines and provides a path of egress travel ~~to an exit~~.

Reason: The current definition of “CORRIDOR” is somewhat misleading. Obviously, there are two types of corridors: Fire-resistance rated and non-fire-resistance rated. Section 1018.6 states, “~~Fire-resistance-rated~~ corridors shall be continuous from the point of entry to an exit...” This provision supports the philosophy that once a given level of protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge. With the non-fire-resistance rated corridor, however, there is no inherent level of protection. It is not uncommon in building design for non-rated corridors to connect open office areas without leading to an exit. The proposed language will correlate with the definition of ‘aisle’ in declaring that unprotected exit access components provide a path of egress travel, but not necessarily directly to an exit. This proposal eliminates potential confusion created by the current definition and lets the technical requirements of Section 1018.6 stand on their own merit. Approval of this proposal will resolve a potential conflict in stated intent for commonly used corridor provisions.

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

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

ICCFILENAME:Keith-E2-1002.1-Corridor

E3–09/10

1002.1 (IFC [B] 1002.1)

Proponent: David S. Collins, FAIA, The Preview Group, Inc., representing The American Institute of Architects

Revise as follows:

1002.1 (IFC [B] 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 or public way. ~~Exits include exterior exit doors at the level of exit~~

~~discharge, vertical exit enclosures, exit passageways, horizontal exits, exterior exit stairways, exterior exit ramps and horizontal exits.~~

Reason: The current definition of "EXIT" contains several technical inaccuracies. The definition of exit includes absolute, universal criteria for an exit that describe protection and fire resistance that isn't required on all exit components. Obviously, exterior exit stairways and exterior exit ramps are not interior spaces nor are they necessarily constructed with fire-resistance rated construction and opening protectives. This proposal also acknowledges that some exit components (i.e. an exterior exit door at the level of discharge) may lead directly to the public way. This change simplifies the definition by removing the absolutes and limiting it to describing what part an exit plays in the more general term and application of "means of egress."

The laundry list of "exterior exit doors at the level of exit discharge, vertical exit enclosures, exit passageways, horizontal exits, exterior exit stairways, and exterior exit ramps and horizontal exits" should also be removed, as they are not a definition, but a list of elements that the code includes as part of the "exit." Specific sections elsewhere in the code determine that the "components" are or are not acceptable as exits, such as the allowance for exit access on open stairways in exceptions 3 and 4 in Section 1016.1, which are permitted to be counted as exits from a floor by exceptions in Section 1021.1. This is already a convoluted procedure for determining what is an exit. Additional confusion caused by a list that is not inclusive is only an added burden to understanding exits. This list in the definition is at least incomplete or incorrect since it doesn't include the allowed exceptions. The proposed language will eliminate confusion and misunderstanding of what the code intends.

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

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

ICCFILENAME:Collins-E5-1002.1

E4-09/10 1002.1 (IFC [B] 1002.1)

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

Revise as follows:

1002.1 (IFC [B] 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 or public way. Exits components include exterior exit doors at the level of exit discharge, ~~vertical~~ exit enclosures, exit passageways, horizontal exits, exterior exit stairways, and exterior exit ramps ~~and horizontal exits~~.

Reason: The current definition of "EXIT" contains several technical inaccuracies. It contains some absolute information that is not necessarily applicable to all exit components. Obviously, exterior exit stairways and exterior exit ramps are not interior spaces nor are they necessarily constructed of fire-resistance rated construction and opening protectives. Accordingly, this specific language has been removed from the definition. This proposal also acknowledges that some exit components (i.e. an exterior exit door at the level of discharge) may lead directly to the public way. The term exit "component" was added to the definition of exit so as to be consistent with numerous other means of egress provisions. (Please see the definition of "EXIT ENCLOSURE" and "EXIT PASSAGEWAY.") Additionally, the title of Section 1022 was changed from "vertical exit enclosures" to "exit enclosures" in the 2009 Edition of the IBC. The term "vertical" has been removed from the proposed definition so as to be consistent with current terminology. The definition of "EXIT" is fundamental to proper means of egress system design. It is imperative that it be informative and precise. The proposed language will eliminate confusion and misunderstanding as to what the IBC intends.

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

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

ICCFILENAME: Keith-E1-1001.1-Exit

E5-09/10

403, 408, 410, 414, 415, 705, 707, 708, 709, 712, 715, 716, 803, 804, [F]909, 1002, 1006, 1007, 1009, 1010, 1015, 1016, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1110, 2606, 3007, 3008; (IFC 909, 914.3.1.1, [B]1002, [B]1006, [B]1007, [B]1009, [B]1010, [B]1015, [B]1016, [B]1021, [B]1022, [B]1023, [B]1024, [B]1025, [B]1026, [B]1027, [B]1028, 1803.12.1.2, 2705.4.4); (IMC [F] 513.5)

Proponent: Paul K. Heilstedt, PE, FAIA, Chair, representing ICC Code Technology Committee (CTC)

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IBC MEANS OF EGRESS COMMITTEE AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THIS COMMITTEE.

PART I – IBC MEANS OF EGRESS

Revise as follows:

SECTION 1002 (IFC [B] 1002) DEFINITIONS

1002.1 (IFC [B] 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 components include exterior exit doors at the level of exit discharge, vertical exit enclosures interior exit stairways, interior exit ramps, exit passageways, horizontal exits, exterior exit stairways, and exterior exit ramps and horizontal exits.~~

EXIT ACCESS DOORWAY. A door or access point along the path of egress travel from an occupied room, area or space where the path of egress enters an intervening room, corridor, ~~unenclosed~~ exit access stair or ~~unenclosed~~ exit access ramp.

EXIT ACCESS RAMP. An interior ramp that is not a required interior exit ramp.

EXIT ACCESS STAIRWAY. An interior stairway that is not a required interior exit stairway.

EXIT ENCLOSURE. ~~An exit component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a vertical or horizontal direction to the exit discharge or the public way.~~

INTERIOR EXIT RAMP. An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way.

INTERIOR EXIT STAIRWAY. An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way.

SECTION 1009 (IFC [B] 1009) STAIRWAYS

1009.1 (IFC [B] 1009.1) General. Stairways serving occupied portions of a building shall comply with the requirements of this section.

1009.2 (IFC [B] 1009.2) Interior exit stairways. Interior exit stairways shall lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section

1023, except as permitted in Section 1027.1.

1009.2.1 (IFC [B] 1009.2.1) Where required. Interior exit stairways shall be included, as necessary, to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance.

1009.2.2 (IFC [B] 1009.2.2) Enclosure. All interior exit stairways shall be enclosed in accordance with the provisions of Section 1022.

1009.3 (IFC [B] 1009.3) Exit access stairways. Floor openings between stories created by exit access stairways shall be enclosed.

Exceptions:

1. In other than Group I-2 and I-3 occupancies, exit access stairways that serve, or atmospherically communicate between, only two stories, are not required to be enclosed.
2. Exit access 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.
3. In buildings with only Group B or M occupancies, exit access stairway openings are not required to be enclosed provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the area of the floor opening between stories does not exceed twice the horizontal projected area of the exit access stairway, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.
4. In other than Groups B and M occupancies, exit access stairway openings are not required to be enclosed provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the floor opening does not connect more than four stories, the area of the floor opening between stories does not exceed twice the horizontal projected area of the exit access stairway, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.
5. Exit access stairways within an atrium complying with the provisions of Section 404 are not required to be enclosed.
6. Exit access stairways and ramps in open parking garages that serve only the parking garage are not required to be enclosed.
7. Stairways serving outdoor facilities where all portions of the means of egress are essentially open to the outside are not required to be enclosed.
8. Exit access stairways serving stages complying with Section 410.5.3.1 and 1015.6 are not required to be enclosed.
9. 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, auditoriums and sports facilities.
10. In Group I-3 occupancies, exit access stairways constructed in accordance with Section 408.5 are not required to be enclosed.

1009.3.1 (IFC [B] 1009.3.1) Construction. Where required, enclosures for exit access stairways shall be constructed in accordance with this section. Exit access stairway enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies in accordance with Section 712, or both.

1009.3.1.1 (IFC [B] 1009.3.1.1) Materials. Exit access stairway enclosures shall be of materials permitted by the building type of construction.

1009.3.1.2 (IFC [B] 1009.3.1.2) Fire-resistance rating. Exit access stairway 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 access stairway enclosures shall include any basements, but not any mezzanines. Exit access stairway enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.

1009.3.1.3 (IFC [B] 1009.3.1.3) Continuity. Exit access stairway enclosures shall have continuity in accordance with Section 707.5 for fire barriers or Section 712.4 for horizontal assemblies as applicable.

1009.3.1.4 (IFC [B] 1009.3.1.4) Openings. Openings in an exit access stairway enclosure shall be protected in

accordance with Section 715 as required for fire barriers. Doors shall be self- or automatic-closing by smoke detection in accordance with Section 715.4.8.3.

1009.3.1.4.1 (IFC [B] 1009.3.1.4.1) Prohibited openings. Openings other than those necessary for the purpose of the exit access stairway enclosure shall not be permitted in exit access stairway enclosures.

1009.3.1.5 (IFC [B] 1009.3.1.5) Penetrations. Penetrations in an exit access stairway enclosure shall be protected in accordance with Section 713 as required for fire barriers.

1009.3.1.5.1 (IFC [B] 1009.3.1.5.1) Prohibited penetrations. Penetrations other than those necessary for the purpose of the exit access stairway enclosure shall not be permitted in exit access stairway enclosures.

1009.3.1.6 (IFC [B] 1009.3.1.6) Joints. Joints in an exit access stairway enclosure shall comply with Section 714.

1009.3.1.7 (IFC [B] 1009.3.1.7) Ducts and air transfer openings. Penetrations of an exit access stairway enclosure by ducts and air transfer openings shall comply with Section 716.

1009.3.1.8 (IFC [B] 1009.3.1.8) Exterior walls. Where exterior walls serve as a part of an exit access stairway enclosure, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure requirements shall not apply.

1009.4 1009.4 (IFC [B] 1009.4 1009.4) Stairway width. *(No change to text)*

(Renumber subsequent sections)

SECTION 1010 RAMPS

1010.2 (IFC [B] 1010.2) Enclosure. All interior exit ramps shall be enclosed in accordance with the applicable provisions of Section 1022. Exit access ramps shall be enclosed in accordance with the provisions of Section 1009.3 for enclosure of stairways.

(Renumber subsequent sections)

~~**1010.7 1010.8 (IFC [B] 1010.7 1010.8) Ramp construction.** All ramps shall be built of materials consistent with the types permitted for the type of construction of the building, except that wood handrails shall be permitted for all types of construction. Ramps used as an exit shall conform to the applicable requirements of Sections 1022.1 through 1022.6 for exit enclosures.~~

SECTION 1016 (IFC [B] 1016) EXIT ACCESS TRAVEL DISTANCE

~~**1016.1 (IFC [B] 1016.1) General Travel distance limitations.** Travel distance within the exit access portion of the means of egress system shall be in accordance with this section. 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 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 stairway or an exterior exit ramp shall not exceed the distances given in Table 1016.1.~~

Exceptions:

- ~~1. Travel distance in open parking garages is permitted to be measured to the closest riser of open exit stairways.~~
- ~~2. In outdoor facilities with open exit access components and open exterior exit stairways or exit ramps, travel distance is permitted to be measured to the closest riser of an exit stairway or the closest slope of the exit ramp.~~
- ~~3. 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 using unenclosed exit access stairways or ramps when connecting a maximum of two 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.

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 using unenclosed exit access stairways or ramps in the first and second stories above grade plane in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The first and second stories above grade plane shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories.~~
5. ~~Where applicable, travel distance on unenclosed exit access stairways or ramps 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.~~

1016.2 (IFC [B] 1016.2) Limitations. Exit access travel distance shall not exceed the values given in Table 1016.2.

**TABLE ~~1016.1~~ 1016.2 (IFC [B] TABLE ~~1016.1~~ 1016.2)
EXIT ACCESS TRAVEL DISTANCE^a**

(Portions of table not shown remain unchanged)

1016.2 1016.2.1 (IFC [B] 1016.2 1016.2.1) Exterior egress balcony increase. Exit access travel distances specified in ~~Section 1016.1~~ Table 1016.2 shall be increased up to an additional 100 feet (30 480 mm) provided the last portion of the exit access leading to the exit occurs on an exterior egress balcony constructed in accordance with Section 1019. The length of such balcony shall not be less than the amount of the increase taken.

1016.3 (IFC [B] 1016.3) Measurement. Exit access travel distance shall be measured from the most remote point within a story along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit.

Exceptions:

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

1016.3.1 (IFC [B] 1016.3.1) Exit access stairways and ramps. Travel distance on exit access stairways or ramps shall be included in the exit access travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stair and landings. The measurement along ramps shall be made on the walking surface in the center of the ramp and landings.

**SECTION 1021(IFC [B] 1021)
NUMBER OF EXITS AND CONTINUITY EXIT CONFIGURATION**

1021.1 (IFC [B] 1021.1) General. Each story and occupied roof shall have the minimum number of exits, or access to exits, as specified in this section. The required number of exits, or exit access stairways or ramps providing access to exits, from any story shall be maintained until arrival at grade or a public way. Exits or access to exits from any story shall be configured in accordance with this section. Each story above the second story of a building shall have a minimum of one interior or exterior exit stairway, or interior or exterior exit ramp. At each story above the second story that requires a minimum of three or more exits, or access to exits, a minimum of 50% of the required exits shall be interior or exterior exit stairways, or interior or exterior exit ramps.

Exceptions:

1. Interior exit stairways and interior exit ramps are not required in open parking garages where the means of egress serves only the open parking garage.
2. Interior exit stairways and interior exit ramps are not required in outdoor facilities where all portions of the means of egress are essentially open to the outside.

~~**1021.1 (IFC [B] 1021.1) Exits from stories.** All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1021.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories.~~

Exceptions:

1. As modified by Section 403.15 (Additional exit stairway).
2. As modified by Section 1021.2.
3. Exit access stairways and ramps that comply with Exception 3 or 4 of Section 1016.1 shall be permitted to provide the minimum number of approved independent exits required by Table 1021 on each story.
4. 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 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
5. Within a story, rooms and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit.

The required number of exits from any story shall be maintained until arrival at grade or the public way.

**TABLE 1021.1 (IFC [B] TABLE 1021.1)
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

1021.1.2 (IFC [B] 1021.1.2) Parking structures. Parking structures shall not have less than two exits from each parking tier, except that only one exit is required where vehicles are mechanically parked. Unenclosed vehicle ramps shall not be considered as required exits unless pedestrian facilities are provided.

1021.1.3 (IFC [B] 1021.1.3) 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 m²) in area, the second means of egress is permitted to be a fire escape, alternating tread device or ladder leading to the floor below.

1021.2 (IFC [B] 1021.2) Number of exits Single exits. Only one exit shall be required from Group R-3 occupancy buildings or from stories of other buildings as indicated in Table 1021.2. Occupancies shall be permitted to have a single exit in buildings otherwise required to have more than one exit if the areas served by the single exit do not exceed the limitations of Table 1021.2. Mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1021.2 for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. Basements with a single exit shall not be located more than one story below grade plane. Two exits, or exit access stairways or ramps providing access to exits, from any story or occupied roof shall be provided where one of the following conditions exists:

1. The occupant load exceeds one of the values in Table 1021.2.
2. The exit access travel distance exceeds that specified in Table 1021.2 as determined in accordance with the provisions of Section 1016.1.
3. Helistop landing areas located on buildings or structures shall be provided with two exits, or exit access stairways or ramps providing access to exits.

Exceptions:

1. Rooms, areas and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit.
2. Group R-3 occupancy buildings shall be permitted to have a one exit.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one exit.
4. Air traffic control towers shall be provided with the minimum number of exits specified in Section 412.3.
5. Individual dwelling units with a maximum occupant load of 20 in Group R-2 and R-3 occupancies shall be permitted to one exit.
6. Group R-3 and R-4 congregate residences shall be permitted to have one exit.

Where one exit, or exit access stairway or ramp providing access to exits at other stories, is permitted to serve individual stories, mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1021.2 for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. Basements with one exit shall not be located more than one story below grade plane.

**TABLE 1021.2 (IFC [B] TABLE 1021.2)
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT**

STORY	OCCUPANCY	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR STORY	AND MAXIMUM EXIT ACCESS TRAVEL DISTANCE
First story or basement	A, B ^{b, d} , E ^{c, e} , F ^{b, d} , M, U, S ^{b, d}	49 occupants and	75 feet
	H-2, H-3	3 occupants and	25 feet
	H-4, H-5, I, R	10 occupants and	75 feet
	S	29 occupants and	100 feet
Second story	B ^b , F, M, S ^a	29 occupants and	75 feet
	R-2	4 dwelling units and	50 feet
Third story	R-2 ^{a, e}	4 dwelling units and	50 feet
Fourth story and above	NP	NA	NA

For SI: 1 foot = 3048 mm

NP = Not Permitted

NA = Not Applicable

a- For the required number of exits for parking structures, see Section 1021.1.2.

b- For the required number of exits for air traffic control towers, see Section 412.3.

c- a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1026.

d- b. 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- c. Day care occupancies shall have a maximum occupant load of 10.

1021.2.1 (IFC [B] 1021.2.1) Three or more exits. Three exits, or exit access stairways or ramps providing access to exits at other stories, shall be provided from any story or occupied roof with an occupant load of 501-1,000. Four exits, or exit access stairways or ramps providing access to exits at other stories, shall be provided from any story or occupied roof with an occupant load greater than 1,000.

1021.2.2 (IFC [B] 1021.2.2) Additional exits. In buildings over 420 feet in height, additional exits shall be provided in accordance with Section 403.5.2.

1021.3 (IFC [B] 1021.3) Exit configuration continuity. Exits, or exit access stairways or ramps providing access to exits at other stories, shall be arranged in accordance with the provisions of Section 1015.2 through 1015.2.2. Exits shall be continuous from the point of entry into the exit to the exit discharge.

1021.3.1 (IFC [B] 1021.3.1) Access to exits at adjacent levels. Access to exits at other levels shall be by stairways or ramps. Where access to exits occurs from adjacent building levels, the horizontal and vertical exit access travel distance to the closest exit shall not exceed that specified in Section 1016.1. Access to exits at other levels shall be from an adjacent story.

Exception: Landing platforms or roof areas for helistops that are less than 60 feet (18 288 mm) long, or less than 2,000 square feet (186 m²) in area, shall be permitted to access the second exit by a fire escape, alternating tread device or ladder leading to the story or level below.

1021.4 (IFC [B] 1021.4) Vehicular ramps. Vehicular ramps shall not be considered as an exit access ramp unless pedestrian facilities are provided.

~~1021.4 (IFC [B] 1021.4) Exit door arrangement.~~ Exit door arrangement shall meet the requirements of Sections 1015.2 through 1015.2.2.

SECTION 1022 (IFC [B] 1022) **EXIT ENCLOSURES INTERIOR EXIT STAIRWAYS AND RAMPS**

1022.1 (IFC [B] 1022.1) General. Interior exit stairways and interior exit ramps serving as an exit component in a means of egress system shall comply with the requirements of this section. Interior exit stairways and ramps shall lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1023, except as permitted in Section 1027.1. An interior exit stairway or ramp shall not be used for any purpose other than as a means of egress.

~~1022.1~~ **1022.2 (IFC [B] 1022.2) Enclosures required Construction.** Enclosures for interior exit stairways and interior exit ramps shall be enclosed with constructed as fire barriers in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both. Interior exit stairway and ramp 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 interior exit stairways or ramps exit enclosure shall include any basements, but not any mezzanines. Interior exit stairways and ramps exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. Exit enclosures shall lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1023, except as permitted in Section 1027.1. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions-Exception: Interior exit stairways and ramps in Group I-3 occupancies in accordance with the provisions of Section 408.3.8.

1. In all occupancies, other than Groups 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 its level of exit discharge; or
 - 1.2 The stairway is open to not more than one story below its 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 in open parking structures that serve only the parking structure are not required to be enclosed.
5. Stairways in Group I-3 occupancies, as provided for in Section 408.3.8, are not required to be enclosed.
6. Means of egress stairways as required by Sections 410.5.3 and 1015.6.1 are not required to be enclosed.
7. Means of egress stairways from balconies, galleries and press boxes as provided for in Section 1028.5.1, are not required to be enclosed.

1022.2 1022.3 (IFC [B] 1022.2 1022.3) Termination. Exit enclosures Interior exit stairways and ramps shall terminate at an exit discharge or a public way.

Exception: An exit enclosures Interior exit stairways and ramps shall be permitted to terminate at an exit passageway complying with Section 1023, provided the exit passageway terminates at an exit discharge or a public way.

~~1022.2.4~~ **1022.3.1 (IFC [B] 1022.2.4 1022.3.1) Extension.** Where an exit enclosures interior exit stairways and ramps are is extended to an exit discharge or a public way by an exit passageway, the exit enclosure interior exit stairway and ramp shall be separated from the exit passageway by a fire barrier constructed in accordance with Section 707 or a horizontal assembly constructed in accordance with Section 712, or both. The fire-resistance rating shall be at least equal to that required for the exit enclosure interior exit stairway and ramp. A fire door assembly complying with Section 715.4 shall be installed in the fire barrier to provide a means of egress from the exit enclosure interior exit stairway and ramp to the exit passageway. Openings in the fire barrier other than the fire door assembly are

prohibited. Penetrations of the fire barrier are prohibited.

Exception: Penetrations of the fire barrier in accordance with Section 1022.4 shall be permitted.

4022-3 1022.4 (IFC [B] 4022-3 1022.4) Openings and penetrations. ~~Exit enclosure~~ Interior exit stairway and ramp opening protectives shall be in accordance with the requirements of Section 715.

Openings ~~in exit enclosures~~ interior exit stairways and ramps other than unprotected exterior openings shall be limited to those necessary for exit access to the enclosure from normally occupied spaces and for egress from the enclosure.

Elevators shall not open into ~~an exit enclosure~~ Interior exit stairways and ramps.

4022-4 1022.5 (IFC [B] 4022-4 1022.5) Penetrations. Penetrations into and openings through ~~an exit enclosure~~ Interior exit stairways and ramps are prohibited except for required exit doors, equipment and ductwork necessary for independent ventilation or pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication systems and electrical raceway serving the ~~exit enclosure~~ interior exit stairway and ramp and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 713. There shall be no penetrations or communication openings, whether protected or not, between adjacent ~~exit enclosures~~ interior exit stairways and ramps.

4022-5 1022.6 (IFC [B] 4022-5 1022.6) Ventilation. Equipment and ductwork for ~~exit enclosure~~ interior exit stairway and ramp ventilation as permitted by Section 1022.4 shall comply with one of the following items:

1. Such equipment and ductwork shall be located exterior to the building and shall be directly connected to the ~~exit enclosure~~ interior exit stairway and ramp by ductwork enclosed in construction as required for shafts.
2. Where such equipment and ductwork is located within the ~~exit enclosure~~ interior exit stairway and ramp, the intake air shall be taken directly from the outdoors and the exhaust air shall be discharged directly to the outdoors, or such air shall be conveyed through ducts enclosed in construction as required for shafts.
3. Where located within the building, such equipment and ductwork shall be separated from the remainder of the building, including other mechanical equipment, with construction as required for shafts.

In each case, openings into the fire-resistance-rated construction shall be limited to those needed for maintenance and operation and shall be protected by opening protectives in accordance with Section 715 for shaft enclosures.

The ~~Exit enclosure~~ interior exit stairway and ramp ventilation systems shall be independent of other building ventilation systems.

4022-6 1022.7 (IFC [B] 4022-6 1022.7) Exit enclosure Interior exit stairway and ramp exterior walls. Exterior walls of ~~the an exit enclosure~~ interior exit stairway and ramp shall comply with the requirements of Section 705 for exterior walls. Where nonrated walls or unprotected openings enclose the exterior of the stairway and the walls or openings are 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 wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than ¾ hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or to the roof line, whichever is lower.

4022-7 1022.8 (IFC [B] 4022-7 1022.8) Discharge identification. ~~A stairway in an exit enclosure~~ An interior exit stairway and ramp shall not continue below its level of exit discharge unless an approved barrier is provided at the level of exit discharge to prevent persons from unintentionally continuing into levels below. Directional exit signs shall be provided as specified in Section 1011.

4022-8 1022.9 (IFC [B] 4022-8 1022.9) Floor identification signs. A sign shall be provided at each floor landing in ~~exit enclosures~~ an interior exit stairway and ramp connecting more than three stories designating the floor level, the terminus of the top and bottom of the ~~exit enclosure~~ interior exit stairway and ramp 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 ~~enclosure~~ interior exit stairway and ramp 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 shall be located at each floor

level landing adjacent to the door leading from the ~~enclosure~~ interior exit stairway and ramp into the corridor to identify the floor level.

~~4022.8.4~~ **1022.9.1 (IFC [B] 4022.8.4 1022.9.1) 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~~ interior exit stairway and ramp 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 (25 mm) in height.
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.
6. When signs required by Section 1022.8 are installed in ~~interior exit enclosures~~ the interior exit stairways and ramps of buildings subject to Section 1024, the signs shall be made of the same materials as required by Section 1024.4.

~~4022.9~~ **1022.10 (IFC [B] 4022.9 1022.10) Smokeproof enclosures and pressurized stairways and ramps.** In buildings required to comply with Section 403 or 405, each of the ~~exit enclosures~~ interior exit stairways and ramps serving a story with a floor surface located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the finished floor of a level of exit discharge serving such stories shall be a smokeproof enclosure or pressurized stairway or ramp in accordance with Section 909.20.

SECTION 403 HIGH-RISE BUILDINGS

403.2.3 Structural integrity of interior exit stairways ~~exit enclosures~~ and elevator hoistway enclosures. For high-rise buildings of occupancy category III or IV in accordance with Section 1604.5, and for all buildings that are more than 420 feet (128 000 mm) in building height, ~~enclosures for interior exit stairways~~ exit enclosures and elevator hoistway enclosures shall comply with Sections 403.2.3.1 through 403.2.3.4.

403.2.3.1 Wall assembly. The wall assemblies making up the ~~enclosures for interior exit stairways~~ exit enclosures and elevator hoistway enclosures shall meet or exceed Soft Body Impact Classification Level 2 as measured by the test method described in ASTM C 1629/C 1629M.

403.2.3.2 Wall assembly materials. The face of the wall assemblies making up the ~~enclosures for interior exit stairways~~ exit enclosures and elevator hoistway enclosures that are not exposed to the interior of the ~~enclosures for interior exit stairways~~ exit enclosures or elevator hoistway enclosure shall be constructed in accordance with one of the following methods:

1. The wall assembly shall incorporate not less than two layers of impact-resistant construction board each of which meets or exceeds Hard Body Impact Classification Level 2 as measured by the test method described in ASTM C 1629/C 1629M.
2. The wall assembly shall incorporate not less than one layer of impact-resistant construction material that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C 1629/C 1629M.
3. The wall assembly incorporates multiple layers of any material, tested in tandem, that meet or exceed Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C 1629/C 1629M.

403.5.1 Remoteness of interior exit stairways enclosures. ~~The~~ Required interior exit stairway ~~stairways~~ enclosures shall be separated by a distance not less than 30 feet (9144 mm) or not less than one-fourth of the length of the maximum overall diagonal dimension of the building or area to be served, whichever is less. The distance shall be measured in a straight line between the nearest points of the ~~exit stairway enclosures~~ interior exit stairways. In buildings with three or more interior exit stairway enclosures, at least two of the interior exit stairway enclosures shall comply with this section. Interlocking or scissor stairs shall be counted as one interior exit stairway.

403.5.4 Smokeproof ~~exit enclosures~~. Every required exit stairway serving floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with Sections 909.20 and 1022.9.

**SECTION 408
GROUP I-3**

408.3.8 Interior exit stairway and ramp construction enclosures. One of the required interior exit stairway or ramp exit enclosures in each building shall be permitted to have glazing installed in doors and interior walls at each landing level providing access to the enclosure interior exit stairway or ramp, provided that the following conditions are met:

1. The interior exit stairway or ramp exit enclosures shall not serve more than four floor levels.
2. Exit doors shall not be less than 3/4-hour fire door assemblies complying with Section 715.4
3. The total area of glazing at each floor level shall not exceed 5,000 square inches (3m²) and individual panels of glazing shall not exceed 1,296 square inches (0.84 m²).
4. The glazing shall be protected on both sides by an automatic sprinkler system. The sprinkler system shall be designed to wet completely the entire surface of any glazing affected by fire when actuated.
5. The glazing shall be in a gasketed frame and installed in such a manner that the framing system will deflect without breaking (loading) the glass before the sprinkler system operates.
6. Obstructions, such as curtain rods, drapery traverse rods, curtains, drapes or similar materials shall not be installed between the automatic sprinklers and the glazing.

**SECTION 410
STAGES AND PLATFORMS**

410.5.3.1 Stairway and ramp enclosure. Exit access stairways and ramps serving the stage are not required to be enclosed. Exit access stairways serving the lighting and access catwalks, galleries and gridirons are not required to be enclosed.

**SECTION 705
EXTERIOR WALLS**

705.2 Projections. Cornices, eave overhangs, exterior balconies and similar projections extending beyond the exterior wall shall conform to the requirements of this section and Section 1406. Exterior egress balconies and exterior exit stairways and ramps shall also comply with Sections 1019 and 1026, respectively. Projections shall not extend beyond the distance determined by the following three methods, whichever results in the lesser projection:

1. A point one-third the distance from the exterior face of the wall to the lot line where protected openings or a combination of protected and unprotected openings are required in the exterior wall.
2. A point one-half the distance from the exterior face of the wall to the lot line where all openings in the exterior wall are permitted to be unprotected or the building is equipped throughout with an automatic sprinkler system installed under the provisions of Section 705.8.2.
3. More than 12 inches (305 mm) into areas where openings are prohibited.

Buildings on the same lot and considered as portions of one building in accordance with Section 705.3 are not required to comply with this section.

**SECTION 707
FIRE BARRIERS**

707.3.2 Interior exit stairway and ramp construction enclosures. The fire-resistance rating of the fire barrier separating building areas from an interior exit stairway or ramp shall comply with Section 1022.1.

707.3.3 Enclosures for exit access stairways. The fire-resistance rating of the fire barrier separating building areas from an exit access stairway or ramp shall comply with Section 1009.3.1.2.

707.4 Exterior walls. Where exterior walls serve as a part of a required fire-resistance-rated shaft or stairway or ramp exit enclosure, or separation, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure or separation requirements shall not apply.

Exception: Exterior walls required to be fire-resistance rated in accordance with Section 1019 for exterior egress

balconies, Section ~~1022.6~~ 1022.7 for interior exit stairways and ramps enclosures and Section 1026.6 for exterior exit stairways and ramps ~~and stairways~~.

707.5.1 Supporting construction. The supporting construction for fire barriers shall be protected to afford the required fire-resistance rating of the fire barrier supported. Hollow vertical spaces within a fire barrier shall be fireblocked in accordance with Section 717.2 at every floor level.

Exceptions:

1. The maximum required fire-resistance rating for assemblies supporting fire barriers separating tank storage as provided in Section 415.6.2.1 shall be 2 hours, but not less than required by Table 601 for the building construction type.
2. Shaft enclosures shall be permitted to terminate at a top enclosure complying with Section 707.12.
3. Supporting construction for 1-hour fire barriers required by Table 508.2.5 in buildings of Type IIB, IIIB and VB construction is not required to be fire-resistance rated unless required by other sections of this code.
4. Interior exit stairway and ramp enclosures required by Section 1022.2 and exit access stairway and ramp enclosures required by Section 1009.3 shall be permitted to terminate at a top enclosure complying with Section 707.12.

707.6 Openings. Openings in a fire barrier shall be protected in accordance with Section 715. Openings shall be limited to a maximum aggregate width of 25 percent of the length of the wall, and the maximum area of any single opening shall not exceed 156 square feet (15 m²). Openings in enclosures for exit access stairways and ramps, interior

exit stairways and ramps ~~exit enclosures~~ and exit passageways shall also comply with Sections 1022.3 and 1023.5, respectively.

Exceptions:

1. Openings shall not be limited to 156 square feet (15 m²) where adjoining floor areas are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Openings shall not be limited to 156 square feet (15 m²) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door serving an enclosures for exit access stairways, exit access ramps, interior exit stairways and interior exit ramps ~~exit enclosures~~.
3. Openings shall not be limited to 156 square feet (15 m²) or an aggregate width of 25 percent of the length of the wall where the opening protective has been tested in accordance with ASTM E 119 or UL263 and has a minimum fire-resistance rating not less than the fire-resistance rating of the wall.
4. Fire window assemblies permitted in atrium separation walls shall not be limited to a maximum aggregate width of 25 percent of the length of the wall.
5. Openings shall not be limited to 156 square feet (15 m²) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door assembly in a fire barrier separating an enclosures for exit access stairways, exit access ramps, interior exit stairways and interior exit ramps ~~exit enclosures~~ from an exit passageway in accordance with Section 1022.2.1.

707.7.1 Prohibited penetrations. Penetrations into an enclosures for exit access stairways, exit access ramps, interior exit stairways, interior exit ramps ~~exit enclosures~~ or an exit passageway shall be allowed only when permitted by Section 1009.3.1.5, ~~1022.4~~ 1022.5 or 1023.6, respectively.

SECTION 708 SHAFT ENCLOSURES

708.1 General. The provisions of this section shall apply to shafts required to protect openings and penetrations through floor/ceiling and roof/ceiling assemblies. Exit access stairways and exit access ramps shall be protected in accordance with the applicable provisions of Section 1009. Interior exit stairways and interior exit ramps shall be protected in accordance with the requirements of Section 1022. ~~Shaft enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies in accordance with Section 712, or both.~~

708.2 Shaft enclosure required. Openings through a floor/ceiling assembly shall be protected by a shaft enclosure complying with this section.

Exceptions:

1. A shaft enclosure is not required for openings totally within an individual residential dwelling unit and connecting four stories or less.
2. A shaft enclosure is not required in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 for an escalator opening ~~or stairway that is not a portion of the means of egress~~ protected according to Item 2.1 or 2.2.
 - 2.1. Where the area of the floor opening between stories does not exceed twice the horizontal projected area of the escalator ~~or stairway~~ and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Groups B and M, this application is limited to openings that do not connect more than four stories.
 - 2.2. Where the opening is protected by approved power-operated automatic shutters at every penetrated floor. The shutters shall be of noncombustible construction and have a fire-resistance rating of not less than 1.5 hours. The shutter shall be so constructed as to close immediately upon the actuation of a smoke detector installed in accordance with Section 907.3 and shall completely shut off the well opening. Escalators shall cease operation when the shutter begins to close. The shutter shall operate at a speed of not more than 30 feet per minute (152.4 mm/s) and shall be equipped with a sensitive leading edge to arrest its progress where in contact with any obstacle, and to continue its progress on release therefrom.
3. A shaft enclosure is not required for penetrations by pipe, tube, conduit, wire, cable and vents protected in accordance with Section 713.4.
4. A shaft enclosure is not required for penetrations by ducts protected in accordance with Section 716.6. Grease ducts shall be protected in accordance with the International Mechanical Code.
5. In other than Group H occupancies, a shaft enclosure is not required for floor openings complying with the provisions for atriums in Section 404.
6. A shaft enclosure is not required for approved masonry chimneys where annular space is fireblocked at each floor level in accordance with Section 717.2.5.
7. In other than Groups I-2 and I-3, a shaft enclosure is not required for a floor opening or an air transfer opening that complies with the following:
 - 7.1. Does not connect more than two stories.
 - ~~7.2. Is not part of the required means of egress system.~~
 - 7.3. Is not concealed within the construction of a wall or a floor/ceiling assembly.
 - 7.4. Is not open to a corridor in Group I and R occupancies.
 - 7.5. Is not open to a corridor on nonsprinklered floors in any occupancy.
 - 7.6. Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures.
 - 7.7. Is limited to the same smoke compartment.
8. A shaft enclosure is not required for automobile ramps in open and enclosed parking garages constructed in accordance with Sections 406.3 and 406.4, respectively.
9. A shaft enclosure is not required for floor openings between a mezzanine and the floor below.
10. A shaft enclosure is not required for joints protected by a fire-resistant joint system in accordance with Section 714.
- ~~11. A shaft enclosure shall not be required for floor openings created by unenclosed stairs or ramps in accordance with Exception 3 or 4 in Section 1016.1.~~
- ~~1142. Floor openings protected by floor fire doors in accordance with Section 712.8.~~
- ~~13. In Group I-3 occupancies, a shaft enclosure is not required for floor openings in accordance with Section 408.5.~~
- ~~1244. A shaft enclosure is not required for elevator hoistways in open or enclosed parking garages that serve only the parking garage.~~
- ~~1345. In open or enclosed parking garages a shaft enclosure is not required to enclose mechanical exhaust or supply duct systems when such duct system is contained within and serves only the parking garage.~~
- ~~1446. Where permitted by other sections of this code.~~

708.3 Construction. Shaft enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies in accordance with Section 712, or both.

708.3 708.4 Materials. (No change to text)

708.4 708.5 Fire-resistance rating. (No change to text)

708.5 708.6 Continuity. (No change to text)

708.6 708.7 Exterior walls. Where exterior walls serve as a part of a required shaft enclosure, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure requirements shall not apply.

Exception: Exterior walls required to be fire-resistance rated in accordance with Section 1019.2 for exterior egress balconies, Section ~~1022.6~~ 1022.7 for interior exit stairways and ramps ~~exit enclosures~~ and Section 1026.6 for exterior exit stairways and ramps ~~and stairways~~.

(Renumber subsequent sections)

SECTION 709 FIRE PARTITIONS

709.5 Exterior walls. Where exterior walls serve as a part of a required fire-resistance-rated separation, such walls shall comply with the requirements of Section 705 for exterior walls, and the fire-resistance-rated separation requirements shall not apply.

Exception: Exterior walls required to be fire-resistance rated in accordance with Section 1019.2 for exterior egress balconies, Section 1022.6 for interior exit stairways and ramps ~~exit enclosures~~ and Section 1026.6 for exterior exit stairways and ramps ~~and stairways~~.

SECTION 712 HORIZONTAL ASSEMBLIES

712.4 Continuity. Assemblies shall be continuous without openings, penetrations or joints except as permitted by this section and Sections 708.2, 713.4, 714, 1009.3 and 1022.1. Skylights and other penetrations through a fire-resistance-rated roof deck or slab are permitted to be unprotected, provided that the structural integrity of the fire-resistance-rated roof assembly is maintained. Unprotected skylights shall not be permitted in roof assemblies required to be fire-resistance rated in accordance with Section 704.10. The supporting construction shall be protected to afford the required fire-resistance rating of the horizontal assembly supported.

Exception: In buildings of Type IIB, IIIB or VB construction, the construction supporting the horizontal assembly is not required to be fire-resistance-rated at the following:

1. Horizontal assemblies at the separations of incidental uses as specified by Table 508.2.5, provided the required fire-resistance rating does not exceed 1 hour.
2. Horizontal assemblies at the separations of dwelling units and sleeping units as required by Section 420.3.
3. Horizontal assemblies at smoke barriers constructed in accordance with Section 710.

SECTION 715 OPENING PROTECTIVES

TABLE 715.4
FIRE DOOR AND FIRE SHUTTER FIRE PROTECTION RATINGS

TYPE OF ASSEMBLY	REQUIRED ASSEMBLY RATING (hours)	MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (hours)
Fire barriers having a required fire-resistance rating of 1 hour: Shaft, exit Enclosures for shafts, exit access stairways, exit access ramps, <u>interior exit stairways, interior exit ramps and exit passageway walls</u>	1	1
Other fire barriers	1	3/4

(Portions of table not shown remain unchanged)

715.4.4 Doors in ~~exit enclosures~~ interior exit stairways and ramps and exit passageways. Fire door assemblies in interior exit stairways and ramps ~~exit enclosures~~ and exit passageways shall have a maximum transmitted temperature end point of not more than 450°F (250°C) above ambient at the end of 30 minutes of standard fire test exposure.

Exception: The maximum transmitted temperature rise is not required in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

715.4.6.1 Fire door labeling requirements. Fire doors shall be labeled showing the name of the manufacturer or other identification readily traceable back to the manufacturer, the name or trademark of the third-party inspection agency, the fire protection rating and, where required for fire doors in interior exit stairways and ramps ~~exit enclosures~~ and exit passageways by Section 715.4.4, the maximum transmitted temperature end point. Smoke and draft control doors complying with UL 1784 shall be labeled as such and shall also comply with Section 715.4.6.3. Labels shall be approved and permanently affixed. The label shall be applied at the factory or location where fabrication and assembly are performed.

715.4.7.2 ~~Exit and Elevator, stairway and ramp~~ protectives. Approved fire-protection-rated glazing used in fire door assemblies in elevator, stairways and ramps ~~exit enclosures~~ shall be so located as to furnish clear vision of the passageway or approach to the elevator, ~~ramp or stairway~~ or ramp.

**SECTION 716
DUCT AND TRANSFER OPENINGS**

716.5.2 Fire barriers. Ducts and air transfer openings of fire barriers shall be protected with approved fire dampers installed in accordance with their listing. Ducts and air transfer openings shall not penetrate ~~enclosures for stairways ramps exit enclosures~~ and exit passageways except as permitted by Sections 1022.4 and 1023.6, respectively.

Exception: Fire dampers are not required at penetrations of fire barriers where any of the following apply:

1. Penetrations are tested in accordance with ASTM E119 or UL 263 as part of the fire-resistance-rated assembly.
2. Ducts are used as part of an approved smoke control system in accordance with Section 909 and where the use of a fire damper would interfere with the operation of a smoke control system.
3. Such walls are penetrated by ducted HVAC systems, have a required fire-resistance rating of 1 hour or less, are in areas of other than Group Hand are in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. For the purposes of this exception, a ducted HVAC system shall be a duct system for conveying supply, return or exhaust air as part of the structure’s HVAC system. Such a duct system shall be constructed of sheet steel not less than No. 26 gage thickness and shall be continuous from the air-handling appliance or equipment to the air outlet and inlet terminals.

**SECTION 803
WALL AND CEILING FINISHES**

**TABLE 803.9
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY^k**

GROUP	SPRINKLERED ^l		NONSPRINKLERED		
	Interior exit stairways, interior exit ramps exit enclosures and exit passageways <small>a, b</small>	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces ^c	Interior exit stairways, interior exit ramps exit enclosures and exit passageways <small>a, b</small>	Corridors and enclosure for exit access stairways and exit access ramps

(Portions of table not shown remain unchanged)

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929m².

- a. Class C interior finish materials shall be permitted for wainscoting or paneling of not more than 1,000 square feet of applied surface area in the grade lobby where applied directly to a noncombustible base or over furring strips applied to a noncombustible base and fireblocked as required by Section 803.11.1.
- b. In other than Group I-3 occupancies, exit enclosures of in buildings less than three stories above grade plane of ~~other than Group I-3~~, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted in interior exit stairways and ramps.
- c. Requirements for rooms and enclosed spaces shall be based upon spaces enclosed by partitions. Where a fire-resistance rating is required for structural elements, the enclosing partitions shall extend from the floor to the ceiling. Partitions that do not comply with this shall be considered enclosing spaces and the rooms or spaces on both sides shall be considered one. In determining the applicable requirements for rooms and enclosed spaces, the specific occupancy thereof shall be the governing factor regardless of the group classification of the building or structure.
- d. Lobby areas in Group A-1, A-2 and A-3 occupancies shall not be less than Class B materials.
- e. Class C interior finish materials shall be permitted in places of assembly with an occupant load of 300 persons or less.
- f. For places of religious worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall be permitted.
- g. Class B material is required where the building exceeds two stories.
- h. Class C interior finish materials shall be permitted in administrative spaces.
- i. Class C interior finish materials shall be permitted in rooms with a capacity of four persons or less.
- j. Class B materials shall be permitted as wainscoting extending not more than 48 inches above the finished floor in corridors and exit access stairways and ramps.
- k. Finish materials as provided for in other sections of this code.
- l. Applies when ~~the exit enclosures, exit passageways, corridors or rooms and enclosed spaces are~~ protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

SECTION 804 INTERIOR FLOOR FINISH

804.4 Interior floor finish requirements. In all occupancies, interior floor finish and floor covering materials for interior exit stairways and ramps ~~exit enclosures~~, exit passageways, corridors and rooms or spaces not separated from corridors by full-height partitions extending from the floor to the underside of the ceiling shall withstand a minimum critical radiant flux as specified in Section 804.4.1.

804.4.1 Minimum critical radiant flux. Interior floor finish and floor covering materials in enclosures for stairways and ramp ~~exit enclosures~~, exit passageways and corridors shall not be less than Class I in Groups I-1, I-2 and I-3 and not less than Class II in Groups A, B, E, H, I-4, M, R-1, R-2 and S. In all areas, floor covering materials shall comply with the DOCFF-1 "pill test" (CPSC 16 CFR, Part 1630).

Exception: Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, Class II materials are permitted in any area where Class I materials are required, and materials complying with the DOC FF-1 "pill test" (CPSC 16 CFR, Part 1630) are permitted in any area where Class II Materials are required.

SECTION 1006 (IFC [B] 1006) MEANS OF EGRESS ILLUMINATION

1006.3 (IFC [B] 1006.3) Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply.

In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
2. Corridors, interior exit stairways and ramps ~~exit enclosures~~ and exit passageways in buildings required to have two or more exits.
3. Exterior egress components at other than their levels of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
4. Interior exit discharge elements, as permitted in Section 1027.1, in buildings required to have two or more exits.
5. Exterior landings as required by Section 1008.1.6 for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27.

SECTION 1007 (IFC [B] 1007) ACCESSIBLE MEANS OF EGRESS

1007.2 (IFC [B] 1007.2) Continuity and components. Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104.
2. Interior exit stairways complying with Sections 1007.3 and 1022.
3. Interior exit access stairways between two stories complying with Sections 1007.3 and 1009.3.
- ~~3.4~~ Exterior exit stairways complying with Sections 1007.3 and 1026.
- ~~4.5~~ Elevators complying with Section 1007.4.
- ~~5.6~~ Platform lifts complying with Section 1007.5.
- ~~6.7~~ Horizontal exits complying with Section 1025.
- ~~7.8~~ Ramps complying with Section 1010.
- ~~8.9~~ Areas of refuge complying with Section 1007.6.

Exceptions:

1. Where the exit discharge is not accessible, an exterior area for assisted rescue shall be provided in accordance with Section 1007.7.
2. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.7.

1007.3 (IFC [B] 1007.3) Stairways. In order to be considered part of an accessible means of egress, ~~an exit access stairway as permitted by Section 1016.1 or exit a stairway between stories~~ shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit. Exit access stairways that connect levels in the same story are not permitted as part an accessible means of egress.

Exceptions:

- ~~1. The area of refuge is not required at open exit access or exit stairways as permitted by Sections 1016.1 and 1022.1 in buildings that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~
- 1.2. The clear width of 48 inches (1219 mm) between handrails is not required ~~at exit access stairways as permitted by Section 1016.1 or exit stairways~~ in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
- 2.3. Areas of refuge are not required at ~~exit~~ stairways in buildings equipped throughout by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
- 3.4. The clear width of 48 inches (1219 mm) between handrails is not required for ~~exit~~ stairways accessed from a horizontal exit.
- 4.5. Areas of refuge are not required at ~~exit~~ stairways serving open parking garages.
- 5.6. Areas of refuge are not required for smoke protected seating areas complying with Section 1028.6.2.
- 6.7. The areas of refuge are not required in Group R-2 occupancies.

1007.6 (IFC [B] 1007.6) Areas of refuge. Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. The maximum travel distance from any accessible space to an area of refuge shall not exceed the travel distance permitted for the occupancy in accordance with Section 1016.1. Every required area of refuge shall have direct access to a stairway ~~within an exit enclosure~~ complying with Sections 1007.3 and ~~1022~~ or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with Section 1022.9 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

Exceptions:

1. ~~A stairway serving an area of refuge is not required to be enclosed where permitted in Sections 1016.4 and 1022.1.~~
2. ~~A smokeproof enclosure is not required for an elevator lobby used as an area of refuge where the elevator is not required to be enclosed.~~

1007.6.2 (IFC [B] 1007.6.2) Separation. Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 710 or a horizontal exit complying with Section 1025. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exception: Areas of refuge located within an ~~exit~~ enclosure for exit access stairways or interior exit stairways.

1007.7.2 (IFC [B] 1007.7.2) Exterior ~~exit~~ stairway. Exterior ~~exit~~ stairways that are part of the means of egress for the exterior area for assisted rescue shall provide a clear width of 48 inches (1219 mm) between handrails.

1007.8 (IFC [B] 1007.8) Two-way communication. A two-way communication system shall be provided at the elevator landing on each accessible floor that is one or more stories above or below the story of exit discharge complying with Sections 1007.8.1 and 1007.8.2.

Exceptions:

1. Two-way communication systems are not required at the elevator landing where the two-way communication system is provided within areas of refuge in accordance with Section 1007.6.3.
2. Two-way communication systems are not required on floors provided with ~~exit~~ ramps conforming to the provisions of Section 1010.

**SECTION 1015 (IFC [B] 1015)
EXIT AND EXIT ACCESS DOORWAYS**

1015.2.1 (IFC [B] 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~~ interior exit stairways 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 1018, 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.

**SECTION 1023 (IFC [B] 1023)
EXIT PASSAGEWAYS**

1023.3 (IFC [B] 1023.3) 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~~ interior exit stairway or ramp. Exit passageways shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.

1023.5 (IFC [B] 1023.5) Openings and penetrations. Exit passageway opening protectives shall be in accordance with the requirements of Section 715.

Except as permitted in Section 402.4.6, openings in exit passageways other than exterior openings shall be limited to those necessary for exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where an ~~exit enclosure~~ interior exit stairway or ramp is extended to an exit discharge or a public way by an exit passageway, the exit passageway shall also comply with Section 1022.2.1.

Elevators shall not open into an exit passageway.

SECTION 1024 (IFC [B] 1024) LUMINOUS EGRESS PATH MARKINGS

1024.2 (IFC [B] 1024.2) Markings within exit components enclosures. Egress path markings shall be provided in ~~exit enclosures, including vertical exit enclosures~~ interior exit stairways, interior exit ramps and exit passageways, in accordance with Sections 1024.2.1 through 1024.2.6.

1024.2.4 (IFC [B] 1024.2.4) Perimeter demarcation lines. Stair landings and other floor areas within ~~exit enclosures~~ interior exit stairways, interior exit ramps and exit passageways, with the exception of the sides of steps, shall be provided with solid and continuous demarcation lines on the floor or on the walls or a combination of both. The stripes shall be 1 to 2 inches (25mm to 51 mm) wide with interruptions not exceeding 4 inches (102 mm).

Exception: The minimum width of 1 inch (25 mm) shall not apply to outlining stripes listed in accordance with UL 1994.

1024.2.4.1 (IFC [B] 1024.2.4.1) Floor-mounted demarcation lines. Perimeter demarcation lines shall be placed within 4 inches (102 mm) of the wall and shall extend to within 2 inches (51 mm) of the markings on the leading edge of landings. The demarcation lines shall continue across the floor in front of all doors.

Exception: Demarcation lines shall not extend in front of exit discharge doors that lead out of an ~~exit enclosure~~ and through which occupants must travel to complete the exit path.

1024.2.4.2 (IFC [B] 1024.2.4.2) Wall-mounted demarcation lines. Perimeter demarcation lines shall be placed on the wall with the bottom edge of the stripe no more than 4 inches (102 mm) above the finished floor. At the top or bottom of the stairs, demarcation lines shall drop vertically to the floor within 2 inches (51 mm) of the step or landing edge. Demarcation lines on walls shall transition vertically to the floor and then extend across the floor where a line on the floor is the only practical method of outlining the path. Where the wall line is broken by a door, demarcation lines on walls shall continue across the face of the door or transition to the floor and extend across the floor in front of such door.

Exception: Demarcation lines shall not extend in front of exit discharge doors that lead out of an ~~exit enclosure~~ and through which occupants must travel to complete the exit path.

1024.2.6 (IFC [B] 1024.2.6) Doors within the exit path from exit enclosures. Doors through which occupants ~~within an exit enclosure~~ must pass in order to complete the exit path shall be provided with markings complying with Sections 1024.2.6.1 through 1024.2.6.3.

1024.3 (IFC [B] 1024.3) Uniformity. Placement and dimensions of markings shall be consistent and uniform throughout the same ~~exit enclosure~~.

1024.5 (IFC [B] 1024.5) Illumination. ~~Exit enclosures~~ Where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

SECTION 1025 (IFC [B] 1025) HORIZONTAL EXIT

1025.4 (IFC [B] 1025.4) 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 m²) 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 m²) per occupant for occupancies in Group I-3.
2. Fifteen square feet (1.4 m²) per occupant for ambulatory occupancies in Group I-2.
3. Thirty square feet (2.8 m²) 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 interior exit stairway or ramp exit enclosure.

Exception: The adjoining compartment shall not be required to have a stairway or door leading directly outside, provided the refuge area into which a horizontal exit leads as 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.

SECTION 1026 (IFC [B] 1026) **EXTERIOR EXIT RAMPS AND STAIRWAYS AND RAMPS**

1026.6 (IFC [B] 1026.6) Exterior ramps and stairway and ramp protection. Exterior exit ~~ramps and~~ stairways and ramps shall be separated from the interior of the building as required in Section 1022.1. Openings shall be limited to those necessary for egress from normally occupied spaces.

Exceptions:

1. Separation from the interior of the building is not required for occupancies, other than those in Group R-1 or R-2, in buildings that are no more than two stories above grade plane where a level of exit discharge serving such occupancies is the first story above grade plane.
2. Separation from the interior of the building is not required where the exterior ~~ramp or~~ stairway or ramp is served by an exterior ramp or balcony that connects two remote exterior stairways or other approved exits, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be a minimum of 50 percent of the height of the enclosing wall, with the top of the openings no less than 7 feet (2134 mm) above the top of the balcony.
3. Separation from the interior of the building is not required for an exterior ~~ramp or~~ stairway or ramp located in a building or structure that is permitted to have unenclosed ~~interior exit access~~ stairways in accordance with Section ~~1009.3~~ 1022.1.
4. Separation from the interior of the building is not required for exterior ~~ramps or~~ stairways or ramps connected to open-ended corridors, provided that Items 4.1 through 4.4 are met:
 - 4.1 The building, including corridors, ~~ramps or~~ stairways or ramps, shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 4.2 The open-ended corridors comply with Section 1018.
 - 4.3 The open-ended corridors are connected on each end to an exterior exit ~~ramp or~~ stairway or ramp complying with Section 1026.
5. At any location in an open-ended corridor where a change of direction exceeding 45 degrees (0.79 rad) occurs, a clear opening of not less than 35 square feet (3.3 m²) or an exterior ~~ramp or~~ stairway or ramp shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

SECTION 1027 (IFC [B] 1027) **EXIT DISCHARGE**

1027.1 (IFC [B] 1027.1) 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. The combined use of Exceptions 1 and 2 below shall not exceed 50 percent of the number and capacity of the required exits.

Exceptions:

1. A maximum of 50 percent of the number and capacity of ~~the exit enclosures~~ interior exit stairways and

- ramps 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 path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the ~~exit~~ enclosure.
 - 1.2 The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating for the ~~exit~~ enclosure.
 - 1.3 The egress path from the ~~exit enclosure~~ interior exit stairway and ramp on the level of exit discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of exit 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~~ interior exit stairways or ramps.
2. A maximum of 50 percent of the number and capacity of the ~~exit enclosures for interior exit stairways and ramps~~ ramps 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 1022.1, Exception 4, are permitted to egress through the open parking garage at their levels of exit discharge.~~
 4. Horizontal exits complying with Section 1025 shall not be required to discharge directly to the exterior of the building.

SECTION 1028 (IFC [B] 1028) ASSEMBLY

~~1028.5.1 (IFC [B] 1028.5.1) Enclosure of openings. Interior stairways and other vertical openings shall be enclosed in an exit enclosure in accordance with Section 1009, as provided in Section 1022.1, 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, auditoriums and sports facilities. At least one accessible means of egress is required from a balcony, gallery or press box level containing accessible seating locations in accordance with Section 1007.3 or 1007.4.~~

SECTION 1110 SIGNAGE

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

1. Each assembly area required to comply with Section 1108.2.7 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 area of refuge, an exterior area for assisted rescue, 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 Section 1007.11.
4. At exterior areas for assisted rescue, signage shall be provided in accordance with Section 1007.11.
5. At two-way communication systems, signage shall be provided in accordance with Section 1007.8.2.
6. Within ~~exit enclosures~~ interior exit stairways and ramps, signage shall be provided in accordance with Section 1022.8.

SECTION 2606 LIGHT-TRANSMITTING PLASTICS

2606.7 Light-diffusing systems. Unless the building is equipped throughout with an automatic sprinkler system in

accordance with Section 903.3.1.1, light-diffusing systems shall not be installed in the following occupancies and locations:

1. Group A with an occupant load of 1,000 or more.
2. Theaters with a stage and proscenium opening and an occupant load of 700 or more.
3. Group I-2.
4. Group I-3.
5. ~~Vertical exit enclosures~~ interior exit stairways and ramps and exit passageways.

SECTION 3007 FIRE SERVICE ACCESS ELEVATOR

3007.4.1 Access. The fire service access elevator lobby shall have direct access to an ~~exit enclosure~~ for an interior exit stairway.

3007.5 Standpipe hose connection. A Class I standpipe hose connection in accordance with Section 905 shall be provided in the ~~exit enclosure~~ interior exit stairway and ramp having direct access from the fire service access elevator lobby.

SECTION 3008 OCCUPANT EVACUATION ELEVATORS

3008.11.1 Access. The occupant evacuation elevator lobby shall have direct access to an ~~exit enclosure~~ interior exit stairway or ramp.

PART II – IFC

SECTION 403 HIGH-RISE BUILDINGS

[F] 403.3.1.1 (IFC 914.3.1.1.1) Riser location. Sprinkler risers shall be placed in interior exit stairways and ramps ~~exit enclosures~~ that are remotely located in accordance with Section 1015.2.

SECTION 414 HAZARDOUS MATERIALS

[F] 414.7.2 (IFC 2705.4.4) Dispensing, use and handling. Where hazardous materials having a hazard ranking of 3 or 4 in accordance with NFPA 704 are transported through corridors ~~or exit enclosures~~, interior exit stairways or ramps or exit passageways there shall be an emergency telephone system, a local manual alarm station or an approved alarm-initiating device at not more than 150-foot (45 720 mm) intervals and at each exit and exit access doorway throughout the transport route. The signal shall be relayed to an approved central, proprietary or remote station service or constantly attended on-site location and shall also initiate a local audible alarm.

SECTION 415 GROUPS H-1, H-2, H-3, H-4 AND H-5

[F] 415.8.4.6.2 (IFC 1803.12.1.2) Exit access Corridors and interior exit stairways and exit ramps enclosures. Emergency alarms for ~~exit access corridors and exit enclosures~~ interior exit stairways and ramps and exit passageways shall comply with Section 414.7.2.

SECTION 909 SMOKE CONTROL SYSTEMS

[F] 909.5 (IFC 909.5, IMC [F] 513.5) Smoke barrier construction. Smoke barriers shall comply with Section 710, and shall be constructed and sealed to limit leakage areas exclusive of protected openings. The maximum allowable leakage area shall be the aggregate area calculated using the following leakage area ratios:

1. Walls: $A/A_w = 0.00100$
2. Interior exit enclosures stairways and ramps and exit passageways: $A/A_w = 0.00035$
3. Enclosed exit access stairways and ramps and all other shafts: $A/A_w = 0.00150$
4. Floors and roofs: $A/A_f = 0.00050$

where:

- A = Total leakage area, square feet (m^2).
A_F = Unit floor or roof area of barrier, square feet (m^2).
A_w = Unit wall area of barrier, square feet (m^2).

The leakage area ratios shown do not include openings due to doors, operable windows or similar gaps. These shall be included in calculating the total leakage area.

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 in April/2005, the CTC has held seventeen meetings - all open to the public.

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

Scope: The current code allows limited use of unenclosed exit stairs. During the previous code development cycles, numerous code changes have been submitted to clarify the intent and application of the code provisions relative to issues such as: exit versus exit access; travel distance measurements; contribution to the minimum number of required exits; etc. Due to the inter-relationship of code provisions, this requires a comprehensive analysis in order to clarify the code requirements.

Objectives:

- A. The Unenclosed Interior Stairway Work Group will answer the following questions based on the current Means of Egress system that is composed of exit, exit access and exit discharge components:
 1. Can an unenclosed interior stairway qualify as an exit?
 2. If an un-enclosed interior stairway can qualify as an exit what is the entrance to the exit (where does the exit begin)?
 3. If an un-enclosed interior stairway can qualify as an exit where does the exit discharge begin (where does the exit end)?
 4. How is travel distance measured when an un-enclosed interior stairway is used as an element in a means of egress?
 5. Does the Minimum Number of Exits Section (1019.1 in the 2006 IBC) require entry to the required exits on each story?
- B. The Unenclosed Interior Stairway Work Group will draft recommend code changes, as determined necessary, to effectively communicate the code requirements based on the answers to the above questions.

(Note that all references to stairs in this reason statement are inclusive of ramps)

Preface: Over that last several code development cycles, there have been numerous proposals intended to address the technical relationships between unenclosed interior stairways, travel distance and the required numbers and location of exits. Through these various proposals, it became evident that there was considerable confusion and disagreement as to what the IBC actually requires or implies. Although some minor changes were approved over time, cumulatively, they did little to resolve the underlying technical question being what part of the three part means of egress system is an unenclosed stair between stories. More specifically: Are stairs that are required to meet means of egress design requirements such as number of exits or exit access travel distance but allowed to be unenclosed an exit or an exit access? Are stairs that are not required for means of egress and supplemental but required to be enclosed do to the number of stories connected required to be protected as a shaft or as an exit enclosure? How should travel distance be measured when unenclosed stairs are part of the path of travel? Can required exits per floor be on an adjacent floor and accessed through an open stair?

At the hearings in Palm Springs the ICC Means of Egress Code Development Committee determined that proper attention could not be provided to the issues in that forum and referred the dilemma to the ICC Code Technology Committee. The CTC agreed that the issue should be researched and assigned a study group to investigate the matter and develop a code change proposal to resolve the issues.

This proposal is based on the following concepts:

- All stairs within a building are elements of the means of egress system and must comply with chapter 10
- Unenclosed stairways are not exits
- All Exit Stairways, to qualify as an exit, must be enclosed with a fire rated enclosure consisting of exit stair shafts and passageways based on current exit enclosure provisions
- All stairways that are permitted to be open or are not required stairways for egress purposes are Exit Access Stairways
- Exit access stairways must be enclosed with fire rated enclosures based on shaft provisions or may be open in accordance exceptions based on the current exceptions;

- Exit access travel distance is measured to an entrance to an exit
- Exit access travel distance includes the travel distance on Exit access stairways
- Entrances to exits on each story are not mandatory and access to exits on other stories is permissible within certain limitations

The code change in general: All of the current exceptions that will allow for an unenclosed opening to accommodate a stairway in chapter 7 and 10 are being relocated to proposed section 1009.3 including current exceptions to sections 708,1016, and 1022. Section 708 for shaft enclosures is being modified to only address floor openings that do not contain a stairway. All enclosure requirements for stairways, exit or exit access, will originate in section 1009. All fire rated enclosure requirements for exit stairs will remain in chapter 10 and exit access stair enclosure requirements will be placed in proposed section 1009.3 based on current section 708 construction requirements. Ramps will be treated the same as stairways. The new formalized concept of Exit Access Stairway is codified in proposed section 1009.3. New definitions are proposed for Exit Access Stairway(ramp) and Interior Exit Stairway(Ramp).

Specific section change explanations:

- Modifications to current section 1002- The definition of Exit is proposed to be modified to remove the fire rated construction provisions from the definition because the construction requirements belong in the code text of section 1022. The definition should be focused on what the exit is, which is simply the component that is between the exit access and the exit discharge. The list of components that qualify as exits has been retained. Additionally "Exit Enclosure" is proposed to be replaced with new terms "Interior Exit Stairway" and "Interior Exit Ramp". This concept is that the exit stairway or ramp in its entirety comprises the exit component, not just the enclosure. New definitions are proposed for Exit Access Ramp and Stairway to support the new concept of their use in proposed section 1009.3. The concept is that all interior stairways and ramps that are not formal exits, whether they are required means of egress components or not, are exit access components.
- Modifications to current section 1009-In general, the concept with the changes to 1009 and companion changes to other sections is that 1009 is the point source for all requirements relating to interior stair code requirements including opening protection requirements. Figuratively speaking all stairs lead to section 1009. New sections 1009.1 through 1009.4 have been proposed for addition to current section 1009. 1009.1 establishes that all stairways serving occupied portions of a building must comply with section 1009, whether the stairs are required or not. 1009.2 establishes that exit stairs must lead out of the building directly or through an exit passageway or exit discharge component as is currently required. Section 1009.2.1 establishes the general requirement for when an exit stairway is required. Section 1009.2.2 directs the code user to section 1022 for detailed requirements for construction of the exit stairway including the current enclosure requirements. Proposed section 1009.3 is the new section established to regulate enclosure of exit access stairs. The base line is that all exit access stairs must be enclosed with exceptions to follow. All of the current exceptions in sections 708,1016, and 1022 have been moved to this section, as exceptions to the baseline requirement for enclosure because all open stairs are exit access stairs per this proposal. The exceptions either in text or concept are in 1009.3 with every attempt made to keep them as they are currently applied. New section 1009.3.1 and sub-sections are the construction requirements for enclosure of exit access stairs with the exit access stair would not qualify for one of the exceptions that would allow the stairway to be unenclosed. These requirements have been copied from section 708 Shaft enclosures because current code allows stairways that are not used as exits to meet shaft enclosure requirements of current section 708; current exit enclosure requirements of 1022 are only applicable to required exit stairs.
- New section 1010.2-This section is proposed as simply a cross reference for ramps so that they are designed for enclosure no differently than stairways.
- Modifications to current section 1016.1-The section is proposed for re-organization based on separation general provisions from specific design provisions. Exceptions 1 and 2 to 1016.1 were moved to proposed section 1016.3 do to conversion of existing section 1016.1 into a general section. Exceptions 3 and 4 to 1016.1 were deleted because the intended use of those exceptions is now captured in proposed modifications to current section 1021.1 and 1021.3.1.
- Modifications to current section 1016.1- Exit access added for consistency and the table reference was changed to 1016.2 because this proposal includes changing the table number and reference section.
- New section 1016.3- New section 1016.3 is proposed to separate the measurement requirements of exit access travel distance into a stand alone section for better clarity and order.
- Modifications to current section 1021.1-Changed the section to a general section. The first sentence proposed replacement is a mix of language clean and addition of the proposed new terms "exit and exit access stairways or ramps". The added second underlined text that proposes to require at least one exit stairway serving each story above the section is the relocation of the concept intended by current exceptions 3 and 4 to 1016.1 that have been proposed for deletion. Exceptions for open parking garages and outdoor facilities were relocated to this section. All of the specific provisions regarding required number of exits were moved from the proposed general section 1021.1 to a new section 1021.2.
- Modifications to current section 1021.2-The bulk of this sections changes are to improve the format and flow of the section in keeping with moving specific requirements out of the beginning General section and laying out the requirements for number of exits and configuration in a more logical format. Proposed section 1021.3.1 has a provision that limits the access of exits on another floor to an adjacent level.
- Modifications to current section 1022-The section title is proposed to be changed to the new term Interior Exit Stairways and Ramps. Some minor editorial changes have been made to the section and the new terms have been inserted into the text. The deleted last two sentences of 1022.1 (proposed 1022.2) were relocated to proposed section 1009.2.
- New Section 410.5.3.1- Based on deletion of current exception #6 to 1022.1 the allowance for open stairs serving stages and support areas has been relocated to chapter 4 under the current stage exit provisions in chapter 4. This is cross referenced in proposed 1009.3 Exception #7.
- New exception #3 to Section 706-Added cross-reference to top of shaft enclosure allowance in current section 707.12 to allow use for exit and exit access stair termination. This was done in conjunction with adding exit access stair enclosure requirements, modeled after shaft enclosure requirements, into section 1009.
- Modifications to current section 708-Added the sentence in general section 708.1 that removes stair openings from regulation by section 708 and directs the code user to section 1009 for all stair opening protection requirements. As a companion to the intent of that change current exceptions numbers 2 (stair part), 7.2, 11 and 13 that address permissible unenclosed floor openings for stairs have been proposed for deletion and to be moved to section 1009.3: current #2 to proposed 1009.3 Exception #3; current #7.2 and #11 to proposed 1009.3 Exception #1; current #13 to proposed 1009.3 Exception #9. See below for a comparison of the suggested revisions between the Open Stairway study group recommendations and the Vertical Openings committee.
- Proposed new section 708.3-Shaft enclosure construction provisions were moved out of the general section in 708.1 and into a new section titled Construction.

- Modifications to current section 708.3-In current sections 1002 and 1022 the term “Exit Enclosure” is proposed to be replaced with new terms “Interior Exit Stairway” and “Interior Exit Ramp”. This change is companion to that change in term.
- Modification to Sections following the main proposal are correlative items to match the proposed revisions to terminology and are not intended to change the scope of the code. Sections that were also reviewed for correlation, but are not proposed to be revised include 403, 408, 410, 414, 415, 705, 707, 708, 709, 712, 715, 716. 803, 804, 909, 1006, 1007, 1015, 1023, 1024, 1025, 1026, 1027, 1028, 1110, 2606, 3007, 3008.

Comparison of CTC proposals for open stairway and vertical openings:

This is a comparison between the overlapping portions of the proposals from the Vertical opening study group and the Open stairway study group. The text in the columns is to compare requirements that may be addressing the same type of provisions. The CTC committee did not feel that there were conflicts in these two proposals, however, in the interest of providing complete information to those participating in the code change process, this matrices should make reviewing for potential conflicts much easier. The first half is the exceptions currently in 708.2 and Section 1022 (exit access stairways). The 2nd half is the construction requirements.

Open Stairway Proposals	Vertical opening Proposals
	Section 708 Section 712
	Shaft Enclosures Vertical Openings
<p><i>For Stairways –</i> 1009.3 Exit access stairways. Floor openings between stories created by exit access stairways shall be enclosed. <u>Exceptions:</u> (See below)</p> <p><i>For Ramps –</i> 1010.2 Enclosure. All interior exit ramps shall be enclosed in accordance with the applicable provisions of Section 1022. Exit access ramps shall be enclosed in accordance with the applicable provisions of Section 1009.3.</p> <p>708.1 General. The provisions of this section shall apply to shafts required to protect openings and penetrations through floor/ceiling and roof/ceiling assemblies. Exit access stairways and ramps shall be protected in accordance with the applicable provisions of Section 1009. Interior exit stairways and ramps shall be protected in accordance with the requirements of Section 1022. Shaft enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies in accordance with Section 712, or both.</p>	<p>708.1 712.1 General. The provisions of this section shall apply to the vertical opening applications listed in Sections 712.1.1 through 712.1.18. shafts required to protect openings and penetrations through floor/ceiling and roof/ceiling assemblies. Shaft enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies in accordance with Section 712, or both.</p>
	<p>708.2 Shaft enclosure required. Openings through a floor/ceiling assembly shall be protected by a shaft enclosure complying with this Section. <u>Exceptions:</u></p>
	<p>712.1.1 Smoke compartments. Vertical openings contained entirely within a shaft enclosure complying with Section 709 shall be permitted.</p>
<p>1009.3 - 2. Exit access 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.</p>	<p>708.2-4, 712.1.2 Individual dwelling unit. A shaft enclosure is not required for Unconcealed vertical openings totally within an individual residential dwelling unit and connecting four stories or less shall be permitted.</p>
<p>708.2 – 2. A shaft enclosure is not required in a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 for an escalator opening or stairway that is not a portion of the means of egress protected according to Item 2.1 or 2.2;</p>	<p>708.2-2, 712.1.3 Escalator and Stairway Openings. A shaft enclosure is not required in Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 for an escalator opening or stairway that is not a portion of the means of egress shall be protected according to Item 2.1 or 2.2 712.1.3.1 or 712.1.3.2:</p>
<p>708.2 - 2.1. Where the area of the floor opening between stories does not exceed twice the horizontal projected area of the escalator or stairway and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Groups B and M, this application is limited to openings that do not connect more than four stories.</p>	<p>708.2-2.1, 712.1.3.1 Opening size. Where the area of the floor vertical opening between stories does not exceed twice the horizontal projected area of the escalator or stairway and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Groups B and M, this application is limited to openings that do not connect more than four stories.</p>
	<p>708.2-2.2, 712.1.3.2 Automatic shutters. Where the vertical opening is protected by approved power-operated automatic shutters at every penetrated floor. The shutters shall be of noncombustible construction and have a fire-resistance rating of not less than 1.5 hours. The shutter shall be so constructed as to close immediately upon the actuation of a smoke detector installed in accordance with Section 907.11 and shall completely shut off the well opening. Escalators shall cease operation when the shutter begins to close. The shutter shall operate at a speed of not more than 30 feet per minute (152.4 mm/s) and shall be equipped with a sensitive leading edge to arrest its progress where in contact with any obstacle, and to continue its progress on release there from.</p>
	<p>708.2-3, 712.1.4 Penetrations. A shaft enclosure is not required for penetrations by pipe, tube, conduit, wire, cable and vents shall be protected in accordance with Section 713.4-712.4.</p>

Open Stairway Proposals	Vertical opening Proposals
	708.2 – 4, 712.1.5 Ducts. A shaft enclosure is not required for Penetrations by ducts <u>shall be</u> protected in accordance with Section 716.6. Grease ducts shall be protected in accordance with the <i>International Mechanical Code</i> .
<u>1009.3 - 4.</u> Exit access stairways within an atrium complying with the provisions of Section 404 need not be enclosed.	708.2 – 5, 712.1.6 Atriums. In other than Group H occupancies, a shaft enclosure is not required for floor openings complying with the provisions for atriums in complying with Section 404 <u>shall be permitted</u> .
	708.2 – 6, 712.1.7 Masonry chimney. A shaft enclosure is not required for a Approved masonry chimneys shall be permitted where the annular space is fireblocked at each floor level in accordance with Section 717.2.5.
<p><u>1009.3 - 1.</u> In other than Group I-2 and I-3 occupancies, exit access stairways that serve, or atmospherically communicate between, only two stories, need not be enclosed.</p> <p>708.2 - 7. In other than Groups I-2 and I-3, a shaft enclosure is not required for a floor opening or an air transfer opening that complies with the following:</p> <ul style="list-style-type: none"> 7.1. Does not connect more than two stories. 7.2. Is not part of the required means of egress system. 7.3. Is not concealed within the construction of a wall or a floor/ceiling assembly. 7.4. Is not open to a corridor in Group I and R occupancies. 7.5. Is not open to a corridor on nonsprinklered floors in any occupancy. 7.6. Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures. 7.7. Is limited to the same smoke compartment. 	<p>708.2 – 7, 712.1.8 Two story openings. In other than Groups I-2 and I-3, a shaft enclosure is not required for a floor opening <u>that is not used as one of the applications listed in this section shall be permitted if it complies with all the items below</u> or an air transfer opening that complies with the following:</p> <ul style="list-style-type: none"> 7.4 <u>1.</u> Does not connect more than two stories. 7.2 <u>2.</u> Does not contain a stairway or ramp required by Chapter 10. Is not part of the required means of egress system. <u>3.</u> Does not penetrate a horizontal assembly that separates fire areas or smoke barriers that separate smoke compartments. 7.3 <u>4.</u> Is not concealed within the construction of a wall or a floor/ceiling assembly. 7.4 <u>5.</u> Is not open to a corridor in Group I and R occupancies. 7.5 <u>6.</u> Is not open to a corridor on nonsprinklered floors in any occupancy. 7.6 <u>7.</u> Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures. 7.7. <u>Is limited to the same smoke compartment.</u>
<u>1009.3 –5.</u> Exit access stairways and ramps in open parking garages that serve only the parking garage are not required to be enclosed.	708.2 – 8, 712.1.9 Parking garages. A shaft enclosure is not required for Automobile ramps in open and enclosed parking garages shall be permitted where constructed in accordance with Sections 406.3 and 406.4, respectively.
	708.2 – 9, 712.1.10 Mezzanine. A shaft enclosure is not required for vertical floor openings between a mezzanine complying with Section 505 and the floor below shall be permitted, and the floor below.
	708.2 – 10, 712.1.11 Joints. A shaft enclosure is not required for Joints shall be permitted where complying protected by a fire-resistant joint system in accordance with Section 744-715.
<p><u>1009.2 - 3.</u> In buildings with only group B or M occupancies, exit access stairway openings are not required to be enclosed provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the area of the floor opening between stories does not exceed twice the horizontal projected area of the exit access stairway, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.</p> <p>708.2 – 11. A shaft enclosure shall not be required for floor openings created by unenclosed stairs or ramps in accordance with Exception 3 or 4 in Section 1016.1.</p>	708.2 – 11, 712.1.12 Unenclosed stairs and ramps. A shaft enclosure shall not be required for vertical floor openings created by unenclosed stairs or ramps in accordance with Exception 3 or 4 in Section 1016.1 shall be permitted.
	708.2 – 12, 712.1.13 Floor Fire Doors. Floor Vertical openings shall be permitted where protected by floor fire doors in accordance with Section 742.8-711.8.
<p><u>1009.3 - 9.</u> In Group I-3 occupancies, an exit access enclosure is not required for floor openings in accordance with Section 408.5.</p> <p>708.2 – 13. In Group I-3 occupancies, a shaft enclosure is not required for floor openings in accordance with Section 408.5.</p>	708.2 – 13, 712. 1.14. Group I-3. In Group I-3 occupancies, a shaft enclosure is not required for floor vertical openings shall be permitted in accordance with Section 408.5.
	708.2 – 14, 712.1.15 Elevators in parking garages. A shaft enclosure is not required for e vertical openings for elevator hoistways in open or enclosed parking garages that serve only the parking garage, and complying with 406.3 and 406.4 respectively, shall be permitted..
	708.2 – 15, 712.1.16 Duct systems in parking garages. Vertical openings for mechanical exhaust or supply duct systems in open or enclosed parking garages a shaft enclosure is not required to enclose mechanical exhaust or supply duct systems complying with 406.3 and 406.4 respectively, shall be permitted to be unenclosed where when such

Open Stairway Proposals	Vertical opening Proposals
	duct system is contained within and serves only the parking garage. 712.1.17 Nonfire-resistance-rated joints. Joints in or between floors without a required fire-resistance rating shall be permitted in accordance with section 711.4.1.
	708.2 – 16. 712.1.18 Openings otherwise permitted. Vertical openings shall be where permitted <u>where allowed</u> by other sections of this code
1009.3 - 6. Stairways serving outdoor facilities where all portions of the means of egress are essentially open to the outside.	
1009.3 - 7. Exit access stairways serving stages shall comply with Section 410.5.3.1 and 1015.6.	
1009.3 - 8. Exit access stairways serving balconies, galleries and press boxes shall comply with Section 1028.5.1.	
	SECTION 713
	SHAFT ENCLOSURES
1009.3.1 Construction. Where required, enclosures for exit access stairways shall be constructed in accordance with this section. Exit access stairway enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies in accordance with Section 712, or both.	713.1 General. The provisions of this section shall apply to shafts required to protect openings and penetrations through floor/ceiling and roof/ceiling assemblies. Shaft enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies in accordance with Section 711, or both.
1009.3.1.1 Materials. Exit access stairway enclosures shall be of materials permitted by the building type of construction.	708.3 713.2 Materials. The shaft enclosure shall be of materials permitted by the building type of construction.
1009.3.1.2 Fire-resistance rating. Exit access stairway 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 access stairway enclosures shall include any basements, but not any mezzanines. Exit access stairway enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.	708.4 713.3 Fire-resistance rating. Shaft 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. Shaft enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. Shaft enclosures shall meet the requirements of Section 703.2.1.
1009.3.1.3 Continuity. Exit access stairway enclosures shall have continuity in accordance with Section 707.5 for fire barriers or Section 712.4 for horizontal assemblies as applicable.	708.5 713.4 Continuity. Shaft enclosures shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both, and shall have continuity in accordance with Section 707.5 for fire barriers or Section 712.4 for horizontal assemblies as applicable.
1009.3.1.8 Exterior walls. Where exterior walls serve as a part of an exit access stairway enclosure, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure requirements shall not apply. 708.6 708.7 Exterior walls. Where exterior walls serve as a part of a required shaft enclosure, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure requirements shall not apply. Exception: Exterior walls required to be fire-resistance rated in accordance with Section 1019.2 for exterior egress balconies, Section 1022.6 1022.7 for enclosures for interior exit stairways and ramps exit enclosures and Section 1026.6 for exterior exit ramps and stairways.	708.6 713.5 Exterior Walls. Where exterior walls serve as a part of a required shaft enclosure, such walls shall comply with the requirements of Section 705 for exterior walls and the fire-resistance-rated enclosure requirements shall not apply. Exception: Exterior walls required to be fire-resistance rated in accordance with Section 1019.2 for exterior egress balconies, Section 1022.6 for exit enclosures and Section 1026.6 for exterior exit ramps and stairways.
1009.3.1.4 Openings. Openings in an exit access stairway enclosure shall be protected in accordance with Section 715 as required for fire barriers. Doors shall be self- or automatic-closing by smoke detection in accordance with Section 715.4.8.3.	708.7 713.6 Openings. Openings in a shaft enclosure shall be protected in accordance with Section 715 as required for fire barriers. Doors shall be self- or automatic closing by smoke detection in accordance with Section 715.4.8.3.
1009.3.1.4.1 Prohibited openings. Openings other than those necessary for the purpose of the exit access stairway enclosure shall not be permitted in exit access stairway enclosures.	708.7.4 713.6.1 Prohibited openings. Openings other than those necessary for the purpose of the shaft shall not be permitted in shaft enclosures.
1009.3.1.5 Penetrations. Penetrations in a shaft enclosure shall be protected in accordance with Section 713 as required for fire barriers.	708.8 713.7 Penetrations. Penetrations in a shaft enclosure shall be protected in accordance with Section 713 as required for fire barriers.
1009.3.1.5.1 Prohibited penetrations. Penetrations other than those	708.8.4 713.7.1 Prohibited penetrations. Penetrations other than those

Open Stairway Proposals	Vertical opening Proposals
<u>necessary for the purpose of the exit access stairway enclosure shall not be permitted in exit access stairway enclosures.</u>	necessary for the purpose of the shaft shall not be permitted in shaft enclosures.
1009.3.1.6 Joints. Joints in an exit access stairway enclosure shall comply with Section 714.	708.9 713.8 Joints. Joints in a shaft enclosure shall comply with Section 714.
1009.3.1.7 Ducts and air transfer openings. Penetrations of an exit access stairway enclosure by ducts and air transfer openings shall comply with Section 716.	708.10 713.9 Duct and air transfer openings. Penetrations of a shaft enclosure by ducts and air transfer openings shall comply with Section 716.
<p>706.5 Continuity. Fire barriers shall extend from the top of the floor/ceiling assembly below to the underside of the floor or roof slab or deck above and shall be securely attached thereto. Such fire barriers shall be continuous through concealed spaces, such as the space above a suspended ceiling. The supporting construction for fire barriers shall be protected to afford the required fire-resistance rating of the fire barrier supported, except for 1-hour fire-resistance-rated incidental use area separations as required by Table 508.2 in buildings of Type IIB, IIIB and VB construction. Hollow vertical spaces within a fire barrier shall be fireblocked in accordance with Section 717.2 at every floor level.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. The maximum required fire-resistance rating for assemblies supporting fire barriers separating tank storage as provided in section 415.6.2.1 shall be 2 hours, but not less than required by Table 601 for the building construction type. 2. Shaft enclosures shall be permitted to terminate at a top enclosure complying with Section 707.12. 3. <u>Interior exit stairway and ramp enclosures required by Section 1009.2.2 and exit access stairway and ramp enclosures required by Section 1009.3 shall be permitted to terminate at a top enclosure complying with Section 707.12.</u> 	<p>708.11 713.10 Enclosure at the bottom. (No change to text)</p> <p>708.12 713.11 Enclosure at top. A shaft enclosure that does not extend to the underside of the roof sheathing, deck or slab of the building shall be enclosed at the top with construction of the same <i>fire-resistance rating</i> as the topmost floor penetrated by the shaft, but not less than the <i>fire-resistance rating</i> required for the shaft enclosure.</p>
	708.13 713.12 Refuse and laundry chutes (No change to text and subsections)
	708.14 713.13 Elevator, dumbwaiter and other hoistways. (No change to text and subsections)

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

PART I – IBC MEANS OF EGRESS

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

PART II – IFC

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

ICCFILENAME:Heilsted-G8-410.5.3.1

E6–09/10

505.3, 505.4, 1002.1, 1006.3, 1011.1, 1015 (IFC [B] 1002.1, 1006.3, 1011.1, 1015)

Proponent: Anne VonWeller, Murray City, and Ron Clements, Chesterfield County Building Inspection Department, representing the Utah Chapter of the International Code Council

Revise as follows:

1002.1 (IFC [B] 1002.1) Definitions. The following words and terms shall, for the purposes of this chapter, have the meanings shown herein.

EXIT ACCESS DOORWAY POINT. A door or access point along the path of egress travel within the exit access from an occupied room, area or space where the path of egress enters an intervening room, corridor, unenclosed exit access stair or unenclosed exit access ramp.

SECTION 1015 (IFC [B] 1015.1)
EXITS AND EXIT ACCESS DOORWAYS POINTS FOR ROOMS AND SPACES

1015.1 (IFC [B] 1015.1) Number required Exit or exit access doorways from spaces. Two exits or exit access ~~points~~ doorways from any room or space shall be provided where one of the following conditions exists:

Exception: Group I-2 occupancies shall comply with Sections 1014.2.2 through 1014.2.7

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

Exception: In Groups R-2 and R-3 occupancies, one exit or exit access point means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. The common path of egress travel exceeds one of the limitations of Section 1014.3.
3. Where required by Section 1015.3, 1015.4, 1015.5, 1015.6 or 1015.6.1.

Where a building contains mixed occupancies, each individual occupancy shall comply with the applicable requirements for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1.

TABLE 1015.1 (IFC [B] 1015.1)
ROOMS & SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAYS POINT
(Portions of table not shown remain unchanged)

1015.1.1 (IFC [B] 1015.1.1) Additional Three or more exits or exit access doorways points. Three exits or exit access ~~doorways~~ points shall be provided from any room or space with an occupant load of 501 to 1,000. Four exits or exit access doorways shall be provided from any room or space with an occupant load greater than 1,000.

1015.2 (IFC [B] 1015.2) Availability Exit or exit access doorways arrangement. Required exits and exit access points shall be located in a manner that makes their availability obvious. Exits and exit access points shall be unobstructed at all times. Exit and exit access ~~doorways~~ points shall be arranged in accordance with Sections ~~1015.3, 1015.2.1 and 1015.2.2.~~

~~1015.2.4~~ 1015.3 (IFC [B] 1015.3) Arrangement Two exits or exit access doorways. Where two or more exits or exit access ~~doorways~~ points are required from any portion of the exit access, at least two of the exit doors or exit access doorways points 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~~ points. For doors and doorways such distance shall be measured from the center of doors and openings. For unenclosed interior stairways and ramps such distance shall be measured from the center of the first stair riser or beginning of ramp slope. Interlocking or scissor stairs shall be counted as one exit or exit access point-stairway.

Exceptions:

- ~~1.2.~~ 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.
- ~~2.4.~~ Where exit enclosures are provided ~~as a portion of the required exit~~ and such exit enclosures are interconnected by a 1-hour fire-resistance-rated corridor conforming to the requirements of Section 1018, the required exit separation distance shall be measured along the shortest direct line of egress travel within the corridor.

~~1015.2.2 (IFC [B] 1015.2.2) Three or more exits or exit access doorways.~~ Where access to three or more exits is required, at least two exit doors or exit access doorways shall be arranged in accordance with the provisions of Section 1015.2.1.

~~1015.3 1015.4 (IFC [B] 4015.3 1015.4) Boiler, incinerator and furnace rooms.~~ Two exit access doorways points are required in boiler, incinerator and furnace rooms where the area is over 500 square feet (46 m²) and any fuel-fired equipment exceeds 400,000 British thermal units (Btu) (422 000 KJ) input capacity. Where two exit access doorways points are required, one is permitted to be a fixed ladder or an alternating tread device. Exit access doorways points shall be separated by a horizontal distance equal to one-half the length of the maximum overall diagonal dimension of the room.

~~1015.4 1015.5 (IFC [B] 4015.4 1015.5) Refrigeration machinery rooms.~~ Machinery rooms larger than 1,000 square feet (93 m²) shall have not less than two exits or exit access doorways points. Where two exit access doorways points are required, one such doorways points is permitted to be served by a fixed ladder or an alternating tread device. Exit access doorways points shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorways point. An increase in travel distance is permitted in accordance with Section 1016.1.

Doors shall swing in the direction of egress travel, regardless of the occupant load served. Doors shall be tight fitting and self-closing.

~~1015.5 1015.6 (IFC [B] 4015.5 1015.6) Refrigerated rooms or spaces.~~ Rooms or spaces having a floor area larger than 1,000 square feet (93m²), containing a refrigerant evaporator and maintained at a temperature below 68°F (20°C), shall have access to not less than two exits or exit access doorways points.

Travel distance shall be determined as specified in Section 1016.1, but all portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access doorways points where such rooms are not protected by an approved automatic sprinkler system in accordance with Section 903.3.1.1. Egress is allowed through adjoining refrigerated rooms or spaces.

Exception: Where using refrigerants in quantities limited to the amounts based on the volume set forth in the International Mechanical Code.

~~1015.6 1015.7 (IFC [B] 4015.6 1015.7) Stage means of egress.~~ Where two means-of-egress exits or exit access points are required, based on the stage size or occupant load, one means-of-egress exit or exit access point shall be provided on each side of the stage.

~~1015.6.4 1015.7.1 (IFC [B] 4015.6.4 1015.7.1) Gallery, gridiron and catwalk means of egress.~~ The means of egress from lighting and access catwalks, galleries and gridirons shall meet the requirements for occupancies in Group F-2.

Exceptions:

1. A minimum width of 22 inches (559 mm) is permitted for lighting and access catwalks.
2. Spiral stairs are permitted in the means of egress.
3. Stairways required by this subsection need not be enclosed.
4. Stairways with a minimum width of 22 inches (559 mm), ladders, or spiral stairs are permitted in the means of egress.
5. A second means-of-egress exit or exit access point is not required from these areas where a means of escape to a floor or to a roof is provided. Ladders, alternating tread devices or spiral stairs are permitted in the means of escape.
6. Ladders are permitted in the means of egress.

**SECTION 505
MEZZANINES**

505.3 Egress. Each occupant of a mezzanine shall have access to at least two independent ~~exits means of egress~~ where the common path of egress travel exceeds the limitations of Section 1014.3. Where an unenclosed stairway provides a means of exit access from a mezzanine, the maximum travel distance includes the distance traveled on the stairway measured in the plane of the tread nosing. Accessible means of egress shall be provided in accordance with Section 1007.

Exception: A single ~~exit or exit access point means of egress~~ shall be permitted in accordance with Section 1015.1.

505.4 Openness. A mezzanine shall be open and unobstructed to the room in which such mezzanine is located except for walls not more than 42 inches (1067 mm) high, columns and posts.

Exceptions:

1. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the occupant load of the aggregate area of the enclosed space does not exceed 10.
2. A mezzanine having two or more ~~exits or exit access points means of egress~~ is not required to be open to the room in which the mezzanine is located if at least one ~~exit or exit access point of the means of egress~~ provides direct access to an exit from the mezzanine level.
3. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the aggregate floor area of the enclosed space does not exceed 10 percent of the mezzanine area.
4. In industrial facilities, mezzanines used for control equipment are permitted to be glazed on all sides.
5. In occupancies other than Groups H and I, that are no more than two stories above grade plane and equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a mezzanine having access to two or more exits ~~means of egress~~ shall not be required to be open to the room in which the mezzanine is located.

SECTION 1006 MEANS OF EGRESS ILLUMINATION

1006.3 (IFC [B] 1006.3) Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply.

In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Aisles and unenclosed ~~egress exit access~~ stairways and ramps in rooms and spaces that require two or more ~~exits or exit access points. means of egress.~~
2. Corridors, exit enclosures and exit passageways in buildings required to have two or more exits.
3. Exterior egress components at other than their levels of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
4. Interior exit discharge elements, as permitted in Section 1027.1, in buildings required to have two or more exits.
5. Exterior landings as required by Section 1008.1.6 for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27.

SECTION 1011 EXIT SIGNS

1011.1 (IFC [B] 1011.1) Where required. Exits and exit access ~~doors~~ points shall be marked by an approved exit sign readily visible from any direction of egress travel. The path of egress travel to exits and within exits shall be marked by readily visible exit signs to clearly indicate the direction of egress travel in cases where the exit or the path of egress travel is not immediately visible to the occupants. Intervening means of egress doors within exits shall be marked by exit signs. Exit sign placement shall be such that no point in an exit access corridor or exit passageway is more than 100 feet (30 480mm) or the listed viewing distance for the sign, which ever is less, from the nearest visible exit sign.

Exception:

1. Exit signs are not required in rooms, spaces or areas which require only one exit or exit access point.
2. Main exterior exit doors or gates that are obviously and clearly identifiable as exits need not have exit signs where approved by the building official.
3. Exit signs are not required in occupancies in Group U and individual sleeping units or dwelling units in Group R-1, R-2 or R-3.
4. Exit signs are not required in dayrooms, sleeping rooms or dormitories in occupancies in Group I-3.
5. In occupancies in Groups A-4 and A-5, exit signs are not required on the seating side of vomitories or openings into seating areas where exit signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

Reason:

Background

The 2009 edition added a definition for 'exit access doorway' to clarify that the provisions for exit access doorways applied to components where there is not always a doorway, such as the transition point along the path of egress to unenclosed interior stairways and ramps.

During the discussions of the CTC's Unenclosed Stairway Work Group it was recognized a more clear term was needed to describe the 'point' where requirements such as those for number, availability, and arrangement should be applied. 'Exit Access Point' was very clear and straight forward.

Most of the language in the above proposal was developed in the study group. However, it was determined 'exit access point' was beyond the scope of the specific study. There was a good deal of support for the concept and we were encouraged to bring it forward as a separate change.

The Changes

- The one word change in the definition going from 'doorway' to 'point' is the focus of the change. The new term is carried throughout the change. Also, 'within the exit access' was added to make clear an 'exit access point' is only applicable in those portions of the means of egress.
- The name of the section was expanded to assist users and avoid confusion with Section 1020.
- 'Means of egress' was changed to 'exit or exit access point' in several places because means of egress applies to all occupied portions of a building. The change occurs where a term refers to the number of required components which is more appropriate than the general term.
- In 1015.3 we have made it clear exactly where to measure the required separation distance between egress components in the exit access. How many debates have been about "Do we measure to the center of the door? The closest edge? The furthest edge? We chose the center. This becomes more important to pin down when now using the concept of 'point'.
- Changes to 505, 1006.3, and 1011.1 are for correlation with those in 1015.

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

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

ICCFILENAME:Vonweller-E3-1023.6

E108-09/10

1016.1, 1022.1 (IFC [B] 1016.1, 1022.1)

Proponent: Ronald W. Clements, Jr., representing Chesterfield County Virginia Building Inspection Department; Gregory R. Keith, Professional heuristic Development, representing The Boeing Company; and Michael L. Perrino, CBO, representing Code Consultants, Inc.; Sarah Rice, CBO, representing self

Revise as follows:

1016.1 (IFC [B] 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 along the natural and unobstructed path of egress travel to an exterior door at the level of exit discharge, an entrance to a vertical exit enclosure, an exit

passageway, a horizontal exit, an exterior exit stairway or an exterior exit ramp shall not exceed the distances given in Table 1016.1.

Exceptions:

1. Travel distance in open parking garages is permitted to be measured to the closest riser of open exit stairways.
2. In outdoor facilities with open exit access components and open exterior exit stairways or exit ramps, travel distance is permitted to be measured to the closest riser of an exit stairway or the closest slope of the exit ramp.
3. ~~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 using unenclosed exit access stairways or ramps when connecting a maximum of two 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.~~
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 using unenclosed exit access stairways or ramps in the first and second stories above grade plane in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The first and second stories above grade plane shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories.~~

Where applicable, travel distance on unenclosed exit access stairways or ramps 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.

1022.1 (IFC [B] 1022.1) Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 707 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. Exit enclosures shall lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1023, except as permitted in Section 1027.1. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. ~~In other than Group H and I occupancies, stairways and ramps that serve only one adjacent story need not be enclosed. Any two such interconnected stories shall not be open to other stories. In all occupancies, other than Groups 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 its level of exit discharge, or~~
 - 1.2. ~~The stairway is open to not more than one story below its 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 in open parking structures that serve only the parking structure are not required to be enclosed.
5. Stairways in Group I-3 occupancies, as provided for in Section 408.3.8, are not required to be enclosed.
6. Means of egress stairways as required by Section 410.5.3 and 1015.6.1 are not required to be enclosed.
7. Means of egress stairways from balconies, galleries and press boxes as provided for in Section 1028.5.1, are not required to be enclosed.

Reason: This proposal is intended to correlate and correct fundamental interior exit stairway enclosure provisions. The history and technical inconsistency of current provisions were brought to light during ICC Code Technology Committee (CTC), Unenclosed Exit Stairway Study Group

discussions associated with the drafting of a CTC code change proposal for the current (2009/2010) development cycle. One of the main charges of the study group was to validate the relationship between Chapter 10 required exit, access to exit, exit enclosure and exit access travel distance provisions. These provisions lie at the heart of means of egress design philosophy.

Unfortunately, the 2000 Edition of the IBC did not do a particularly good job of consolidating the means of egress provisions contained in the former model (legacy codes). This was owed to several factors, not the least of which was the significantly different systems or approaches to means of egress design used by the various contributing codes. This is probably best illustrated through the 2000 IBC exceptions to interior exit stairway enclosure requirements. In fact, none of the 2000 IBC general design related exceptions appeared in any of the legacy codes. The exceptions were spawned as compromises with former provisions. The BOCA building code fundamentally maintained that required interior exit stairways at all stories be enclosed. The ICBO building code, on the other hand, basically allowed that in other than Group H and I occupancies, exit enclosures were not required for interior stairways serving only one adjacent story. The 2000 IBC resolved the issue by permitting 50% of the required stairways to be unenclosed. That provision supported neither legacy philosophy.

In subsequent editions, the related provisions have been manipulated to a point that current requirements create or support no functional means of egress strategy. Unfortunately, with the inability of the IBC to effectively state its intent, practitioners have largely resorted to their specific legacy indoctrination resulting in varying interpretations. In the 2003 Edition, an additional exception to exit enclosure provisions allowed for all interior exit stairways to be unenclosed at the first and second stories of a sprinklered building of other than Group H and I occupancies. The 2006 Edition formalized the concept of accessing required exits from adjacent levels by way of unenclosed interior stairways and ramps. In the 2009 Edition of the IBC, two fundamental exceptions to exit enclosure requirements were moved to Section 1016.1, travel distance provisions. As has been previously mentioned, various provisions have been manipulated over time in an attempt to contort them to a desired technical end. Virtually all of these attempts have failed to recognize the delicate technical relationships between the fundamental means of egress concepts of numbers of exits, access to required exits and exit access travel distance.

The 2009/2010 CTC interior stairway proposal effectively establishes such a system with supporting terminology and requirements based on current IBC means of egress provisions. The study group intentionally avoided including substantial technical changes in its code change proposal, although a majority of members may have agreed with a certain concept or provision.

This proposal is intended to further cultivate and clarify the IBC system of means of egress design. Essentially, it allows for a general two-story exception to the enclosure of required interior exit stairways in other than Group H and I occupancies. This arguably represents the cumulative impact of numerous current exceptions addressing unenclosed exits or access to exits. It also serves to reinforce access to exits at adjacent building level provisions. The ultimate goal is to require that all interior exit stairways (required exit components) be enclosed without specifying their required location. Effectively, this allows a given means of egress design to dictate which exit components are employed and where. It also acknowledges that exits may be accessed from an adjacent story or level within prescribed exit access travel distance limitations.

This proposal effectively integrates the related legacy requirements with current IBC provisions. The reason that this provision was not included in the 2009/2010 CTC interior stairway proposal is that it represents a relaxation of current IBC exit enclosure requirements. Again, please bear in mind that current IBC enclosure requirements are based on an ICC Means of Egress Drafting Committee technical compromise. What is recommended in this proposal is identical in concept to that of the former Uniform Building Code. Such a means of egress design method has decades of distinguished performance history. It is also consistent with the means of egress philosophy promoted in the 2009/2010 CTC interior stairway proposal. That is, that formal exits, or access to exits, shall be provided in prescribed numbers from each building level. Unenclosed stairways and ramps (certain occupancies notwithstanding) may access exits at an adjacent building level within prescribed exit access travel distance limitations. Accordingly, buildings more than two stories in height will have not less than two enclosed interior exit stairways. It is acknowledged that such exit enclosures may not serve all building stores based on the specific building and means of egress design; however, such enclosed exits are within the exit access travel distance limitations and are not more than one level removed from the exit. It should be noted that when exit enclosures are employed to support a given design, they typically serve all building stories. Occasionally, security or privacy concerns dictate that access to enclosed interior exit stairways at all stories is undesirable. Nevertheless, occupants at those levels have access to exits comparable to that required for any building level. Additionally, the fire service has protected enclosures to serve as staging areas for the attack of a fire at, above or below the story of incident origin.

In summary, this proposal eliminates many of the technical inconsistencies associated with current means of egress provisions. This proposal, in combination with the 2009/2010 CTC interior stairway proposal, effectively repairs the IBC means of egress system design requirements and their technical relationships. Each of the proponents of this proposal was a voting member of the ICC Code Technology Committee, Unenclosed Exit Stairway Study Group and they represent a majority of voting study group members.

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

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

ICCFILENAME: Keith-Clements-Perrino-E1-1022.1