

**CTC Meeting # 22**  
**December 1 – 2, 2011**  
**Unenclosed Exits SG report (2 of 2)**

**Issues:**

Coordination with language throughout code – 11/21/2011

- Stair vs. stairway
- Repetitive language with stairways and ramps
- Including ramps when applicable

**EQUIPMENT PLATFORM.** An unoccupied, elevated platform used exclusively for mechanical systems or industrial process equipment, including the associated elevated walkways, **stairs stairways**, *alternating tread devices* and ladders necessary to access the platform (see Section 505.3).

**EXIT.** That portion of a *means of egress* system between the *exit access* and the *exit discharge* or *public way*. Exit components include exterior exit doors at the *level of exit discharge*, interior exit **stairways**, ~~interior exit~~ and **ramps**, *exit passageways*, 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*, *exit access* **stair** *stairway* or ~~exit access~~ **ramp**.

**FLOOR AREA, GROSS.** The floor area within the inside perimeter of the *exterior walls* of the building under consideration, exclusive of vent *shafts* and *courts*, without deduction for *corridors*, **stairways**, **ramps**, closets, the thickness of interior walls, columns or other features. The floor area of a building, or portion thereof, not provided with surrounding *exterior walls* shall be the usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include *shafts* with no openings or interior *courts*.

**FLOOR AREA, NET.** The actual occupied area not including unoccupied accessory areas such as *corridors*, **stairways**, **ramps** toilet rooms, mechanical rooms and closets.

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

**STAIR STAIRWAY, SCISSOR.** See “Scissor **stair**.”

**SECTION 403**  
**HIGHRISE BUILDINGS**

**403.5.1 Remoteness of interior exit stairways.** Required *interior exit* **stairways** 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 *interior exit stairways*. In buildings with three or more *interior exit stairways*, no fewer than two of the *interior exit stairways* shall comply with this section. Interlocking or *scissor stairs stairways* shall be counted as one *interior exit stairway*.

**403.5.2 Additional exit stairway.** For buildings other than Group R-2 that are more than 420 feet (128 000 mm) in *building height*, one additional *exit stairway* meeting the requirements of Sections 1009 and 1022 shall be provided in addition to the minimum number of *exits* required by Section 1021.1. The total width of any combination of remaining *exit stairways* with one *exit stairway* removed shall be not less than the total width required by Section 1005.1. *Scissor stairs stairways* shall not be considered the additional *exit stairway* required by this section.

**Exception:** An additional *exit stairway* shall not be required to be installed in buildings having elevators used for occupant self-evacuation in accordance with Section 3008.

## SECTION 505 MEZZANINES AND EQUIPMENT PLATFORMS

**505.3 Equipment platforms.** *Equipment platforms* in buildings shall not be considered as a portion of the floor below. Such *equipment platforms* shall not contribute to either the *building area* or the number of *stories* as regulated by Section 503.1. The area of the *equipment platform* shall not be included in determining the *fire area* in accordance with Section 903. *Equipment platforms* shall not be a part of any *mezzanine* and such platforms and the walkways, *stairs stairways*, *alternating tread devices* and ladders providing access to an *equipment platform* shall not serve as a part of the *means of egress* from the building.

## SECTION 707 FIRE BARRIERS

**707.6 Openings.** Openings in a fire barrier shall be protected in accordance with Section 716. 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 m<sup>2</sup>). Openings in enclosures for exit access *stairways* and *ramps*, interior exit *stairways* and *ramps* 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 m<sup>2</sup>) 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 m<sup>2</sup>) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door serving enclosures for exit access *stairways*, ~~exit access~~ and *ramps*, and interior exit *stairways* and interior exit *ramps*.

3. Openings shall not be limited to 156 square feet (15 m<sup>2</sup>) 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 m<sup>2</sup>) 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 enclosure for exit access **stairways**, ~~exit access~~ **and ramps**, ~~and~~ interior exit **stairways** and interior exit **ramps** from an exit passageway in accordance with Section 1022.2.1.

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

## **SECTION 713 SHAFT ENCLOSURES**

**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. 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.

## **SECTION 716 OPENING PROTECTIVES**

**TABLE 716.5  
OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS**

<b>Type of Assembly</b>
Fire barriers having a required fire-resistance rating of 1 hour: Enclosures for shafts, exit access <b>stairways</b> , <del>exit access</del> <b>and ramps</b> , interior exit <b>stairways</b> , <del>interior exit</del> <b>and ramps</b> and exit passageway walls

*(Reminder of table not shown remains unchanged.)*

## **SECTION 718 CONCEALED SPACES**

**718.2.4 Stairways.** Fireblocking shall be provided in concealed spaces between **stair** stringers at the top and bottom of the run. Enclosed spaces under **stairs** **stairways** shall also comply with Section 1009.9.3.

## **SECTION 803**

## WALL AND CEILING FINISHES

**TABLE 803.9  
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY<sup>k</sup>**

Group	SPRINKLERED			NONSPRINKLERED		
		Interior exit stairways, interior exit and ramps and exit passageways <sup>a, b</sup>	Corridors and enclosure for exit access stairways and exit access ramps	Rooms and enclosed spaces <sup>c</sup>	Interior exit stairways, interior exit and ramps and exit passageways <sup>a, b</sup>	Corridors and enclosure for exit access stairways and exit access ramps

b. In other than Group I-2 occupancies 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.

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.

*(Portions of table and notes not shown remains unchanged)*

## SECTION 905 STANDPIPE SYSTEMS

**[F] 905.3.3 Covered and open mall buildings.** Covered mall and open mall buildings shall be equipped throughout with a standpipe system where required by Section 905.3.1. Mall buildings not required to be equipped with a standpipe system by Section 905.3.1 shall be equipped with Class I hose connections connected to the *automatic sprinkler system* sized to deliver water at 250 gallons per minute (946.4 L/min) at the most hydraulically remote hose connection while concurrently supplying the automatic sprinkler system demand. The standpipe system shall be designed to not exceed a 50 pounds per square inch (psi) (345 kPa) residual pressure loss with a flow of 250 gallons per minute (946.4 L/min) from the fire department connection to the hydraulically most remote hose connection. Hose connections shall be provided at each of the following locations:

1. Within the mall at the entrance to each exit passageway or corridor.
2. At each floor-level landing within enclosed interior exit stairways opening directly on the mall.
3. At exterior public entrances to the mall of a covered mall building.
4. At public entrances at the perimeter line of an open mall building.

**[F] 905.4 Location of Class I standpipe hose connections.** Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required interior exit stairway, a hose connection shall be provided for each floor level above or below grade. Hose connections shall be located at an

intermediate floor level landing between floors, unless otherwise *approved* by the fire code official.

2. On each side of the wall adjacent to the *exit* opening of a *horizontal exit*.  
**Exception:** Where floor areas adjacent to a *horizontal exit* are reachable from an interior exit **stairway** hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the *horizontal exit*.
3. In every *exit* passageway, at the entrance from the *exit* passageway to other areas of a building.  
**Exception:** Where floor areas adjacent to an *exit* passageway are reachable from an interior exit **stairway** hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the entrance from the *exit* passageway to other areas of the building.
4. In covered mall buildings, adjacent to each exterior public entrance to the mall and adjacent to each entrance from an *exit* passageway or *exit* corridor to the mall. In open mall buildings, adjacent to each public entrance to the mall at the perimeter line and adjacent to each entrance from an *exit* passageway or *exit* corridor to the mall.
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), a hose connection shall be located to serve the roof or at the highest landing of a an interior exit **stairway** with **stair** access to the roof provided in accordance with Section 1009.16.
6. Where the most remote portion of a nonsprinklered floor or *story* is more than 150 feet (45 720 mm) from a hose connection or the most remote portion of a sprinklered floor or *story* is more than 200 feet (60 960 mm) from a hose connection, the fire code official is authorized to require that additional hose connections be provided in *approved* locations.

**[F] 905.4.1 Protection.** Risers and laterals of Class I standpipe systems not located within an ~~enclosed interior exit~~ **stairway** or ~~pressurized enclosure~~ shall be protected by a degree of *fire resistance* equal to that required for vertical enclosures in the building in which they are located.

**Exception:** In buildings equipped throughout with an *approved automatic sprinkler system*, laterals that are not located within an ~~enclosed interior exit~~ **stairway** or ~~pressurized enclosure~~ are not required to be enclosed within fire-resistance- rated construction.

## SECTION 907 FIRE ALARM AND DETECTION SYSTEMS

**[F] 907.2.13.2 Fire department communication system.** Where a wired communication system is *approved* in lieu of an emergency responder radio coverage system in accordance with Section 510 of the *International Fire Code*, the wired fire department communication system shall be designed and installed in accordance with NFPA 72 and shall operate between a fire command center complying with Section 911,

elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, *areas of refuge* and inside enclosed *interior exit stairways*. The fire department communication device shall be provided at each floor level within the enclosed *interior exit stairway*.

**907.5.2.2 Emergency voice/alarm communication systems.** Emergency voice/alarm communication systems required by this code shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler waterflow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving *approved* information and directions for a general or staged evacuation in accordance with the building's fire safety and evacuation plans required by Section 404 of the *International Fire Code*. In high-rise buildings, the system shall operate on a minimum of the alarming floor, the floor above and the floor below. Speakers shall be provided throughout the building by paging zones. At a minimum, paging zones shall be provided as follows:

1. Elevator groups.
2. *Interior Exit stairways*.
3. Each floor.
4. *Areas of refuge* as defined in Section 1002.1.

**Exception:** In Group I-1 and I-2 occupancies, the alarm shall sound in a constantly attended area and a general occupant notification shall be broadcast over the overhead page.

## SECTION 909 SMOKE CONTROL SYSTEMS

**909.20.1 Access.** Access to the *stair stairway* shall be by way of a vestibule or an open exterior balcony. The minimum dimension of the vestibule shall not be less than the required width of the *corridor* leading to the vestibule but shall not have a width of less than 44 inches (1118 mm) and shall not have a length of less than 72 inches (1829 mm) in the direction of egress travel.

**909.20.4.4 Stair Stairway shaft air movement system.** The *stair stairway* shaft shall be provided with a dampered relief opening and supplied with sufficient air to maintain a minimum positive pressure of 0.10 inch of water (25 Pa) in the shaft relative to the vestibule with all doors closed.

**909.20.5 Stair Stairway pressurization alternative.** Where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, the vestibule is not required, provided that interior exit *stairways* are pressurized to a minimum of 0.10 inches of water (25 Pa) and a maximum of 0.35 inches of water (87 Pa) in the shaft relative to the building measured with all *interior exit stairway* doors closed under maximum anticipated conditions of stack effect and wind effect.

**909.20.6 Ventilating equipment.** The activation of ventilating equipment required by the alternatives in Sections 909.20.4 and 909.20.5 shall be by smoke detectors installed

at each floor level at an *approved* location at the entrance to the smokeproof enclosure. When the closing device for the **stair** *stairway* shaft and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

**909.20.6.2 Standby power.** Mechanical vestibule and **stair** *stairway* shaft ventilation systems and automatic fire detection systems shall be powered by an *approved* standby power system conforming to Section 403.4.8 and Chapter 27.

## **SECTION 911**

### **FIRE COMMAND CENTER**

**[F] 911.1.5 Required features.** The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system control unit.
2. The fire department communications system.
3. Fire detection and alarm system annunciator.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air distribution systems.
6. The fire-fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking *interior exit* **stairway** doors simultaneously.
8. Sprinkler valve and waterflow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, *means of egress*, fire protection systems, fire-fighting equipment and fire department access and the location of *fire walls, fire barriers, fire partitions, smoke barriers* and smoke partitions.
13. An approved Building Information Card that contains, but is not limited to, the following information:
  - 13.1. general building information that includes: property name, address, the number of floors in the building (above and below grade), use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor), estimated building population (i.e., day, night, weekend);
  - 13.2. building emergency contact information that includes: a list of the building's emergency contacts (e.g., building manager, building engineer, etc.) and their respective work phone number, cell phone number, email address;
  - 13.3. building construction information that includes: the type of building construction (e.g., floors, walls, columns, and roof assembly);

- 13.4. exit access and exit stair stairway information that includes: number of exit access and exit stair stairway in building, each exit access and exit stair stairway designation and floors served, location where each exit access and exit stair stairway discharges, interior exit stairs stairways that are pressurized, exit stairs stairways provided with emergency lighting, each exit stairs stairways that allows reentry, exit stairs stairways providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve, location of elevator machine rooms, location of sky lobby, location of freight elevator banks;
- 13.5. building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator, location of natural gas service;
- 13.6. fire protection system information that includes: locations of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers, location of different types of sprinkler systems installed (e.g., dry, wet, pre-action, etc.);
- 13.7. hazardous material information that includes: location of hazardous material, quantity of hazardous material.
14. Work table.
15. Generator supervision devices, manual start and transfer features.
16. Public address system, where specifically required by other sections of this code.
17. Elevator fire recall switch in accordance with ASME A17.1.
18. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

## **SECTION 1007 ACCESSIBLE MEANS OF EGRESS**

**1007.7.2 Outdoor facilities.** Where *exit access* from the area serving outdoor facilities is essentially open to the outside, an exterior area of assisted rescue is permitted as an alternative to an *area of refuge*. Every required exterior area of assisted rescue shall have direct access to an *interior exit stairway*, exterior *exit stairway*, or elevator serving as an *accessible means of egress* component. The exterior area of assisted rescue shall comply with Section 1007.7.3 through 1007.7.6 and shall be provided with a two-way communication system complying with Sections 1007.8.1 and 1007.8.2.

## **SECTION 1008 DOORS, GATES AND TURNSTILES**

- 1008.1.4.1 Revolving doors.** Revolving doors shall comply with the following:
1. Each revolving door shall be capable of collapsing into a bookfold position with parallel egress paths providing an aggregate width of 36 inches (914 mm).



2. A revolving door shall not be located within 10 feet (3048 mm) of the foot of or top of **stairs** stairways or escalators. A dispersal area shall be provided between the **stairs** stairways or escalators and the revolving doors.
3. The revolutions per minute (rpm) for a revolving door shall not exceed those shown in Table 1008.1.4.1.
4. Each revolving door shall have a side-hinged swinging door which complies with Section 1008.1 in the same wall and within 10 feet (3048 mm) of the revolving door.
5. Revolving doors shall not be part of an *accessible route* required by Section 1007 and Chapter 11.

**1008.1.9.11 Stairway doors.** Interior **stairway** *means of egress* doors shall be openable from both sides without the use of a key or special knowledge or effort.

**Exceptions:**

1. **Stairway** discharge doors shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.5.3.
3. In **stairways** serving not more than four stories, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.
4. **Stairway** exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single exit **stair** stairway where permitted in Section 1021.2.
5. **Stairway** exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group R-2 occupancies where the only interior access to the dwelling unit is from a single exit **stair** stairway where permitted in Section 1021.2.

**SECTION 1009**  
**STAIRWAYS**

**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. *Exit access 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, platforms and *technical production areas* in accordance with Sections 410.6.2 and 410.6.3 are not required to be enclosed.
9. *Exit access 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.

**1009.7.4 Dimensional uniformity.** *Stair* treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest tread depth shall not exceed 3/8 inch (9.5 mm) in any *flight of stairs*. The greatest *winder* tread depth at the walkline within any *flight of stairs* shall not exceed the smallest by more than 3/8 inch (9.5 mm).

**Exceptions:**

1. Nonuniform riser dimensions of *aisle stairs* complying with Section 1028.11.2.
2. Consistently shaped *winders*, complying with Section 1009.7, differing from rectangular treads in the same *stairway flight of stairs*.

Where the bottom or top riser adjoins a sloping *public way*, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8-percent slope) of *stairway stair* width. The *nosings* or leading edges of treads at such nonuniform height risers shall have a distinctive marking stripe, different from any other *nosing* marking provided on the *stair flight*. The distinctive marking stripe shall be visible in descent of the *stair* and shall have a slip-resistant surface. Marking stripes shall have a width of at least 1 inch (25 mm) but not more than 2 inches (51 mm).

**1009.9.3 Enclosures under interior stairways.** The walls and soffits within enclosed usable spaces under enclosed and unenclosed stairways shall be protected by 1-hour fire-resistance-rated construction or the fire-resistance rating of the stairway enclosure, whichever is greater. Access to the enclosed space shall not be directly from within the stair stairway enclosure.

**Exception:** Spaces under stairways serving and contained within a single residential dwelling unit in Group R-2 or R-3 shall be permitted to be protected on the enclosed side with 1/2-inch (12.7 mm) gypsum board.

## SECTION 1010 RAMPS

**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 Sections 1009.2, 1009.3 and 1009.4 for enclosure of stairways.

## SECTION 1011 EXIT SIGNS

**1011.4 Raised character and Braille exit signs.** A sign stating EXIT in raised characters and Braille and complying with ICC A117.1 shall be provided adjacent to each door to an area of refuge, an exterior area for assisted rescue, an exit stairway, an exit or ramp, an exit passageway and the exit discharge.

## SECTION 1012 HANDRAILS

**1012.6 Handrail extensions.** Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight of stairs or ramp run. Where handrails are not continuous between flights, the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrails shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. The extensions of handrails shall be in the same direction of the stair flights of stairs at stairways and the ramp runs at ramps.

### Exceptions:

1. Handrails within a dwelling unit that is not required to be accessible need extend only from the top riser to the bottom riser.
2. Aisle handrails in rooms or spaces used for assembly purposes in accordance with Section 1028.13.
3. Handrails for alternating tread devices and ship ladders are permitted to terminate at a location vertically above the top and bottom risers. Handrails for alternating tread devices and ship ladders are not required to be continuous between flights or to extend beyond the top or bottom risers.

## SECTION 1013 GUARDS

**1013.2 Where required.** *Guards* shall be located along open-sided walking surfaces, including *mezzanines*, *equipment platforms*, *stairs*, *ramps* and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. *Guards* shall be adequate in strength and attachment in accordance with Section 1607.8.

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

1. On the loading side of loading docks or piers.
2. On the audience side of *stages* and raised *platforms*, including ~~steps~~ *stairs* leading up to the *stage* and raised *platforms*.
3. On raised *stage* and *platform* floor areas, such as runways, *ramps* and side *stages* used for entertainment or presentations.
4. At vertical openings in the performance area of *stages* and *platforms*.
5. At elevated walking surfaces appurtenant to *stages* and *platforms* for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating where *guards* in accordance with Section 1028.14 are permitted and provided.

## SECTION 1015 EXIT AND EXIT ACCESS DOORWAYS

**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* *stairways* shall be counted as one *exit* *stairway*.

**Exceptions:**

1. Where *interior exit* *stairways* 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 1016 EXIT ACCESS TRAVEL DISTANCE

## SECTION 1019 EGRESS BALCONIES

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

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

## SECTION 1021 NUMBER OF EXITS AND EXIT CONFIGURATION

**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 percent 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.

## SECTION 1022 INTERIOR EXIT STAIRWAYS AND RAMPS

**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*.

**1022.7 Interior exit stairway and ramp exterior walls.** Exterior walls of the 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 or ramps 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 3/4 hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway, ramp or to the roof line, whichever is lower.

**1022.9 Stairway identification signs.** A sign shall be provided at each floor landing in an *interior exit stairway* and *ramp* connecting more than three stories designating the floor level, the terminus of the top and bottom of the *interior exit stairway* and *ramp* and the identification of the *stair stairway* 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 *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. In addition to the *stairway* identification sign, a floor level sign in raised characters and braille complying with ICC A117.1 shall be located at each floor level landing adjacent to the door leading from the *interior exit stairway* and *ramp* into the *corridor* to identify the floor level.

**SECTION 1028  
ASSEMBLY**

**TABLE 1028.6.2  
WIDTH OF AISLES FOR SMOKE-PROTECTED ASSEMBLY**

TOTAL NUMBER OF SEATS IN THE SMOKEPROTECTED ASSEMBLY SEATING	INCHES OF CLEAR WIDTH PER SEAT SERVED			
	<i>Stairs and aisle steps stairs with handrails within 30 inches</i>	<i>Stairs and aisle steps stairs without handrails within 30 inches</i>	<i>Passageways, doorways and Level and ramped aisles ramps not steeper than 1 in 10 in slope</i>	<i>Ramps Ramped aisles steeper than 1 in 10 in slope</i>

*(Portions of table not shown remain unchanged)*

**1028.7 Travel distance.** *Exits* and *aisles* shall be so located that the travel distance to an *exit* door shall not be greater than 200 feet (60 960 mm) measured along the line of travel in nonsprinklered buildings. Travel distance shall not be more than 250 feet (76 200 mm) in sprinklered buildings. Where *aisles* are provided for seating, the distance shall be measured along the *aisles* and *aisle accessway* without travel over or on the seats.

**Exceptions:**

1. *Smoke-protected assembly seating:* The travel distance from each seat to the nearest entrance to a vomitory or concourse shall not exceed 200 feet (60 960 mm). The travel distance from the entrance to the vomitory or concourse to a *stair stairway*, *ramp* or walk on the exterior of the building shall not exceed 200 feet (60 960 mm).
2. Open-air seating: The travel distance from each seat to the building exterior shall not exceed 400 feet (122 m). The travel distance shall not be limited in facilities of Type I or II construction.

## SECTION 1205 LIGHTING

**1205.4 Stairway illumination.** **Stairways** within *dwelling units* and exterior **stairways** serving a *dwelling unit* shall have an illumination level on tread runs of not less than 1 foot-candle (11 lux). **Stairs** Stairways in other occupancies shall be governed by Chapter 10.

## SECTION 1207 SOUND TRANSMISSION

**1207.1 Scope.** This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent *dwelling units* or between *dwelling units* and adjacent public areas such as halls, *corridors*, **stairs** stairways or service areas.

## SECTION 2110 GLASS UNIT MASONRY

**2110.1.1 Limitations.** Solid or hollow *approved* glass block shall not be used in fire walls, party walls, fire barriers, fire partitions or smoke barriers, or for load-bearing construction. Such blocks shall be erected with mortar and reinforcement in metal channel-type frames, structural frames, masonry or concrete recesses, embedded panel anchors as provided for both exterior and interior walls or other *approved* joint materials. Wood strip framing shall not be used in walls required to have a fire-resistance rating by other provisions of this code.

### Exceptions:

1. Glass-block assemblies having a fire protection rating of not less than 3/4 hour shall be permitted as opening protectives in accordance with Section 716 in fire barriers, fire partitions and smoke barriers that have a required fire-resistance rating of 1 hour or less and do not enclose exit **stairways**, ~~exit and~~ **ramps** or exit passageways.
2. Glass-block assemblies as permitted in Section 404.6, Exception 2.

## SECTION 2308 CONVENTIONAL LIGHT-FRAMED CONSTRUCTION

**2308.12.7 Anchorage of exterior means of egress components.** Exterior egress balconies, exterior exit **stairways** or ramps and similar *means of egress* components shall be positively anchored to the primary structure at not over 8 feet (2438 mm) o.c. or shall be designed for lateral forces. Such attachment shall not be accomplished by use of toenails or nails subject to withdrawal.

## SECTION 2406 SAFETY GLAZING

**2406.4.6 Glazing adjacent to stairs stairways and ramps.** Glazing where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) above the plane of the adjacent walking surface of stairways, landings between flights of stairs, and ramps shall be considered a hazardous location.

**Exceptions:**

1. The side of a stairway, landing or ramp that has a guard complying with the provisions of Sections 1013 and 1607.8, and the plane of the glass is greater than 18 inches (457 mm) from the railing.
2. Glazing 36 inches (914 mm) or more measured horizontally from the walking surface.

**2406.4.7 Glazing adjacent to the bottom stair stairway landing.** Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches (914 mm) above the landing and within 60 inches (1524 mm) horizontally of the bottom tread shall be considered a hazardous location.

**Exception:** Glazing that is protected by a guard complying with Sections 1013 and 1607.8 where the plane of the glass is greater than 18 inches (457 mm) from the guard.

## **SECTION 3311 STANDPIPES**

**[F] 3311.1 Where required.** In buildings required to have standpipes by Section 905.3.1, no fewer than one standpipe shall be provided for use during construction. Such standpipes shall be installed when the progress of construction is not more than 40 feet (12 192 mm) in height above the lowest level of fire department vehicle access. Such standpipe shall be provided with fire department hose connections at accessible locations adjacent to usable stairs stairways. Such standpipes shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.

## **SECTION 3406 FIRE ESCAPES**

**3406.1.3 (IEBC 405.1.3) New fire escapes.** New fire escapes for existing buildings shall be permitted only where exterior stairs stairways cannot be utilized due to lot lines limiting stair stairway size or due to the sidewalks, alleys or roads at grade level. New fire escapes shall not incorporate ladders or access by windows.

**3406.4 (IEBC 405.4) Dimensions.** Stairs shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm) and landings at the foot of stairs stairways not less than 40 inches (1016 mm) wide by 36 inches (914 mm) long, located not more than 8 inches (203 mm) below the door.

## **SECTION 3411 ACCESSIBILITY FOR EXISTING BUILDINGS**



**3411.8.4 (IEBC 410.8.4) Stairs Stairways and escalators in existing buildings.** In *alterations*, change of occupancy or *additions* where an escalator or stair stairway is added where none existed previously and major structural modifications are necessary for installation, an *accessible* route shall be provided between the levels served by the escalator or stairs stairways in accordance with Sections 1104.4 and 1104.5.

## **INTERNATIONAL FUEL GAS CODE – no changes**

## **INTERNATIONAL MECHANICAL CODE**

### **Chapter 3 General Regulations**

**306.5.1 (IFGC 306.5.1) Sloped roofs.** Where appliances, *equipment*, fans or other components that require service are installed on a roof having a slope of three units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a level platform shall be provided on each side of the *appliance* or *equipment* to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*. Access shall not require walking on roofs having a slope greater than four units vertical in 12 units horizontal (33-percent slope). Where access involves obstructions greater than 30 inches (762 mm) in height, such obstructions shall be provided with ladders installed in accordance with Section 306.5 or stairs stairways installed in accordance with the requirements specified in the *International Building Code* in the path of travel to and from appliances, fans or *equipment* requiring service.

### **Chapter 11 Refrigeration**

**1107.2 Piping location.** Refrigerant piping that crosses an open space that affords passageway in any building shall be not less than 7 feet 3 inches (2210 mm) above the floor unless the piping is located against the ceiling of such space. Refrigerant piping shall not be placed in any elevator, dumbwaiter or other shaft containing a moving object or in any shaft that has openings to living quarters or to means of egress. Refrigerant piping shall not be installed in an enclosed public stairway, stairway landing or means of egress.

## **INTERNATIONAL PLUMBING CODE - none**

## **INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE - none**

**Reason:** The intent is for the consistent use of the defined terms for 'stair' and 'stairway' throughout the all the codes. Stair is used when talking about individual steps or stepped aisles. Stairway is used when the provisions are applicable to a series of steps, or flights and landings between stories. In addition, when terms such as 'exit access stairway' and 'exit access ramp' follow each other in a list, consistently eliminate a couple of words by saying 'exit access stairway and ramp.' When the provisions are equally appropriate for ramps and stairways, ramps is added.

There will be a follow up change for similar language in codes in Group B.