

1301:7-7-10                      **Means of egress.**

(A) Section 1001 General

(1) 1001.1 General. Buildings or portions thereof shall be provided with a means of egress system as required by this rule and in compliance with ADAAG as set forth in the building code as listed in rule 1301:7-7-47 of the Administrative Code. The provisions of this rule shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof. Paragraphs (C)(1003) to (CC)(1029) of this rule shall apply to new construction. The new construction requirements of this rule for the means of egress in structures regulated by the building code as listed in rule 1301:7-7-47 of the Administrative Code submitted for plan review in accordance with this paragraph are subject to and do not supersede or otherwise conflict with the requirements of paragraph (D)(2)(a)(104.2.1) of rule 1301:7-7-01 of the Administrative Code. Paragraph (DD)(1030) of this rule shall apply to existing buildings. Except for maintenance requirements contained in paragraph (DD)(1030) of this rule, the provisions of this rule for a means of egress system in existing buildings shall apply only in accordance with paragraph (B)(1)(d)(102.1) of rule 1301:7-7-01 of the Administrative Code.

(2) 1001.2 Minimum requirements. It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code.

(B) [B] Section 1002 Definitions

(1) 1002.1 Definitions. The following words and terms shall, for the purposes of this rule and as used elsewhere in this code, have the meanings shown herein.

"Accessible means of egress." A continuous and unobstructed way of egress travel from any accessible point in a building or facility to a public way.

"Aisle." An unenclosed exit access component that defines and provides a path of egress travel.

"Aisle accessway." That portion of an exit access that leads to an aisle.

"Alternating tread device." A device that has a series of steps between 50 and 70 degrees (0.87 and 1.22 rad) from horizontal, usually attached to a center supportrail in an alternating manner so that the user does not have both feet on the same level at the same time.

"Area of refuge." An area where persons unable to use stairways can remain temporarily to await instructions or assistance during emergency evacuation. Also means "Areas of Rescue Assistance" as that term is used in the building code as listed in rule 1301:7-7-47 of the Administrative Code.

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"Bleachers." Tiered seating supported on a dedicated structural system and two or more rows high and is not a building element (see "Grandstands").

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

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

"Door, balanced." A door equipped with double-pivoted hardware so designed as to cause a semicounter balanced swing action when opening.

"Egress court." A court or yard that provides access to a public way for one or more exits.

"Emergency escape and rescue opening." An operable window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.

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

"Exit access." That portion of a means of egress system that leads from any occupied portion of a building or structure to an exit.

"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 discharge." That portion of a means of egress system between the termination of an exit and a public way.

"Exit discharge, level of." The story at the point at which an exit terminates and an exit discharge begins.

"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

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vertical or horizontal direction to the exit discharge or the public way.

"Exit, horizontal." A path of egress travel from one building to an area in another building on approximately the same level, or a path of egress travel through or around a wall or partition to an area on approximately the same level in the same building, that affords safety from fire and smoke from the area of incidence and areas communicating therewith.

"Exit passageway." An exit component that is separated from all 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 horizontal direction to the exit discharge or the public way.

"Fire exit hardware." Panic hardware that is listed for use on fire door assemblies.

"Flight." A continuous run of rectangular treads, winders or combination thereof from one landing to another.

"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, 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, toilet room, mechanical rooms and closets.

"Folding and telescopic seating." Tiered seating having an overall shape and size that is capable of being reduced for purposes of moving or storing and is not a building element.

"Grandstand." Tiered seating supported on a dedicated structural system and two or more rows high and is not a building element (see "Bleachers").

"Guard." A building component or a system of building components located at or near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to a lower level.

"Handrail." A horizontal or sloping rail intended for grasping by the hand for guidance or support.

"Means of egress." A continuous and unobstructed path of vertical and

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horizontal egress travel from any occupied portion of a building or structure to a public way. A means of egress consists of three separate and distinct parts: the exit access, the exit and the exit discharge.

"Merchandise pad." A merchandise pad is an area for display of merchandise surrounded by aisles, permanent fixtures or walls. Merchandise pads contain elements such as nonfixed and moveable fixtures, cases, racks, counters and partitions as indicated in section 105.2 of the building code as listed in rule 1301:7-7-47 of the Administrative Code from which customers browse or shop.

"Nosing." The leading edge of treads of stairs and of landings at the top of stairway flights.

"Occupant load." The number of persons for which the means of egress of a building or portion thereof is designed.

"Panic hardware." A door-latching assembly incorporating a device that releases the latch upon the application of a force in the direction of egress travel.

"Photoluminescent." Having the property of emitting light that continues for a length of time after excitation by visible or invisible light has been removed.

"Public way." A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet (3048 mm).

"Ramp." A walking surface that has a running slope steeper than one unit vertical in 20 units horizontal (5-per cent slope).

"Scissor stair." Two interlocking stairways providing two separate paths of egress located within one stairwell enclosure.

"Self-luminous." Illuminated by a self-contained power source, other than batteries, and operated independently of external power sources.

"Smoke-protected assembly seating." Seating served by means of egress that is not subject to smoke accumulation within or under a structure.

"Stair." A change in elevation, consisting of one or more risers.

"Stairway." One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

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"Stairway, exterior." A stairway that is open on at least one side, except for required structural columns, beams, handrails and guards. The adjoining open areas shall be either yards, courts or public ways. The other sides of the exterior stairway need not be open.

"Stairway, interior." A stairway not meeting the definition of an exterior stairway.

"Stairway, spiral." A stairway having a closed circular form in its plan view with uniform section-shaped treads attached to and radiating about a minimum-diameter supporting column.

"Suite." A group of patient treatment rooms or patient sleeping rooms within Group I-2 occupancies where staff are in attendance within the suite, for supervision of all patients within the suite and the suite is in compliance with the requirements of paragraphs (N)(2)(b)(1014.2.2) to (N)(2)(g)(1014.2.7) of this rule.

"Winder." A tread with nonparallel edges.

(C) [B] Section 1003 General means of egress

(1) 1003.1 Applicability. The general requirements specified in paragraphs (C)(1003) to (M)(1013) of this rule shall apply to all three elements of the means of egress system, in addition to those specific requirements for the exit access, the exit and the exit discharge detailed elsewhere in this rule.

(2) 1003.2 Ceiling height. The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

Exceptions:

1. Sloped ceilings in accordance with section 1208.2 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with section 1208.2 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

3. Allowable projections in accordance with paragraph (C)(3)(1003.3) of this rule.

4. Stair headroom in accordance with paragraph (I)(2)(1009.2) of this rule.

5. Door height in accordance with paragraph (H)(1)(a)(1008.1.1) of this rule.

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6. Ramp headroom in accordance with paragraph (J)(5)(b)(1010.5.2) of this rule.
7. The clear height of floor levels in vehicular and pedestrian traffic areas in parking garages in accordance with section 406.2.2 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.
8. Areas above and below mezzanine floors in accordance with section 505.1 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.
- (3) 1003.3 Protruding objects. Protruding objects shall comply with the requirements of paragraphs (C)(3)(a)(1003.3.1) to (C)(3)(d)(1003.3.4) of this rule.
- (a) 1003.3.1 Headroom. Protruding objects are permitted to extend below the minimum ceiling height required by paragraph (C)(2)(1003.2) of this rule provided a minimum headroom of 80 inches (2032 mm) shall be provided for any walking surface, including walks, corridors, aisles and passageways. Not more than 50 per cent of the ceiling area of a means of egress shall be reduced in height by protruding objects.
- Exception: Door closers and stops shall not reduce headroom to less than 78 inches (1981 mm).
- A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor.
- (b) 1003.3.2 Post mounted objects. A free-standing object mounted on a post or pylon shall not overhang that post or pylon more than 4 inches (102 mm) where the lowest point of the leading edge is more than 27 inches (686 mm) and less than 80 inches (2032 mm) above the walking surface. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2032 mm) minimum above the finish floor or ground.
- Exception: These requirements shall not apply to sloping portions of handrails between the top and bottom riser of stairs and above the ramp run.
- (c) 1003.3.3 Horizontal projections. Structural elements, fixtures or furnishings shall not project horizontally from either side more than 4 inches (102 mm) over any walking surface between the heights of 27 inches (686 mm) and 80 inches (2032 mm) above the walking surface.

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Exception: Handrails are permitted to protrude 4½ inches (114 mm) from the wall.

(d) 1003.3.4 Clear width. Protruding objects shall not reduce the minimum clear width of accessible routes.

(4) 1003.4 Floor surface. Walking surfaces of the means of egress shall have a slip-resistant surface and be securely attached.

(5) 1003.5 Elevation change. Where changes in elevation of less than 12 inches (305 mm) exist in the means of egress, sloped surfaces shall be used. Where the slope is greater than one unit vertical in 20 units horizontal (5-per cent slope), ramps complying with paragraph (J)(1010) of this rule shall be used. Where the difference in elevation is 6 inches (152 mm) or less, the ramp shall be equipped with either handrails or floor finish materials that contrast with adjacent floor finish materials.

Exceptions:

1. A single step with a maximum riser height of 7 inches (178 mm) is permitted for buildings with occupancies in Groups F, H, R-2 and R-3 as applicable in paragraph (A)(1)(1001.1) of this rule, and Groups S and U at exterior doors not required to be accessible by Chapter 11 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

2. A stair with a single riser or with two risers and a tread is permitted at locations not required to be accessible by Chapter 11 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, provided that the risers and treads comply with paragraph (I)(4)(1009.4) of this rule, the minimum depth of the tread is 13 inches (330 mm) and at least one handrail complying with paragraph (L)(1012) of this rule is provided within 30 inches (762 mm) of the centerline of the normal path of egress travel on the stair.

3. A step is permitted in aisles serving seating that has a difference in elevation less than 12 inches (305 mm) at locations not required to be accessible by Chapter 11 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, provided that the risers and treads comply with paragraph (BB)(11)(1028.11) of this rule and the aisle is provided with a handrail complying with paragraph (BB)(13)(1028.13) of this rule.

Throughout a story in a Group I-2 occupancy, any change in elevation in portions of the exit access that serve nonambulatory persons shall be by means of a ramp or sloped walkway.

(6) 1003.6 Means of egress continuity. The path of egress travel along a means of egress shall not be interrupted by any building element other than a means of

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egress component as specified in this rule. Obstructions shall not be placed in the required width of a means of egress except projections permitted by this rule. The required capacity of a means of egress system shall not be diminished along the path of egress travel.

- (7) 1003.7 Elevators, escalators and moving walks. Elevators, escalators and moving walks shall not be used as a component of a required means of egress from any other part of the building.

Exception: Elevators used as an accessible means of egress in accordance with paragraph (G)(4)(1007.4) of this rule.

(D) [B] Section 1004 Occupant load

- (1) 1004.1 Design occupant load. In determining means of egress requirements, the number of occupants for whom means of egress facilities shall be provided shall be determined in accordance with this paragraph. Where occupants from accessory areas egress through a primary space, the calculated occupant load for the primary space shall include the total occupant load of the primary space plus the number of occupants egressing through it from the accessory area.

- (a) 1004.1.1 Areas without fixed seating. The number of occupants shall be computed at the rate of one occupant per unit of area as prescribed in Table 1004.1.1 of this rule. For areas without fixed seating, the occupant load shall not be less than that number determined by dividing the floor area under consideration by the occupant per unit of area factor assigned to the occupancy as set forth in Table 1004.1.1 of this rule. Where an intended use is not listed in Table 1004.1.1 of this rule, the building official shall establish a use based on a listed use that most nearly resembles the intended use.

Exception: Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation, shall be permitted to be used in the determination of the design occupant load.



**Table 1004.1.1**  
**Maximum floor area allowances per occupant**

<u>Function of space</u>	<u>Floor area in sq ft per occupant</u>
Accessory storage areas-mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
<u>Airport terminal</u>	
<u>Baggage claim</u>	20 gross
<u>Baggage handling</u>	300 gross
<u>Concourse</u>	100 gross
<u>Waiting areas</u>	15 gross
<u>Assembly</u>	
<u>Gaming floors (keno, slots, etc.)</u>	11 gross
<u>Assembly with fixed seats</u>	<i>See paragraph (D)(7)(1004.7) of this rule</i>
<u>Assembly without fixed seats</u>	
<u>Concentrated (chairs only-not fixed)</u>	7 net
<u>Standing space</u>	5 net
<u>Unconcentrated (tables and chairs)</u>	15 net
<u>Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas</u>	7 net
<u>Business areas</u>	100 gross
<u>Courtrooms-other than fixed seating areas</u>	40 net
<u>Day care</u>	35 net
<u>Dormitories</u>	50 gross



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<u>Educational</u>	
Classroom area	20 net
Shops and other vocational room areas	50 net
<u>Exercise rooms</u>	50 gross
<u>H-5 fabrication and manufacturing areas</u>	200 gross
<u>Industrial areas</u>	100 gross
<u>Institutional areas</u>	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
<u>Kitchens, commercial</u>	200 gross
<u>Library</u>	
Reading rooms	50 net
Stack area	100 gross
<u>Locker rooms</u>	50 gross
<u>Mercantile</u>	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
<u>Parking garages</u>	200 gross
<u>Residential</u>	200 gross
<u>Skating rinks, swimming pools</u>	
Rink and pool	15 gross
Decks	50 gross
<u>Stages and platforms</u>	15 net
<u>Warehouses</u>	500 gross

For SI: 1 square foot = 0.0929 m<sup>2</sup>.

- (2) 1004.2 Increased occupant load. The occupant load permitted in any building or portion thereof is permitted to be increased from that number established for the occupancies in Table 1004.1.1 of this rule provided that all other requirements of the code are also met based on such modified number and the occupant load does not exceed one occupant per 7 square feet (0.65 m<sup>2</sup>) of occupiable floor space. Where required by the fire code official pursuant to paragraph (A)(1)(1001.1) of this rule, an approved aisle, seating or fixed equipment diagram substantiating any increase in occupant load shall be submitted. Where required by the fire code official, such diagram shall be posted. At locations or in structures not regulated by the building code as listed in rule 1301:7-7-47 of the Administrative Code, the increased occupant load shall be approved by the fire code official.
- (3) 1004.3 Posting of occupant load. Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

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- (4) 1004.4 Exiting from multiple levels. Where exits serve more than one floor, only the occupant load of each floor considered individually shall be used in computing the required capacity of the exits at the floor, provided that the exit capacity shall not decrease in the direction of egress travel.
- (5) 1004.5 Egress convergence. Where means of egress from floors above and below converge at an intermediate level, the capacity of the means of egress from the point of convergence shall not be less than the sum of the two floors.
- (6) 1004.6 Mezzanine levels. The occupant load of a mezzanine level with egress onto a room or area below shall be added to that room or area's occupant load, and the capacity of the exits shall be designed for the total occupant load thus established.
- (7) 1004.7 Fixed seating. For areas having fixed seats and aisles, the occupant load shall be determined by the number of fixed seats installed therein. The occupant load for areas in which fixed seating is not installed, such as waiting spaces and wheelchair spaces, shall be determined in accordance with paragraph (D)(1)(a)(1004.1.1) of this rule and added to the number of fixed seats.
- For areas having fixed seating without dividing arms, the occupant load shall not be less than the number of seats based on one person for each 18 inches (457 mm) of seating length.
- The occupant load of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating booth.
- (8) 1004.8 Outdoor areas. Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by this rule. The occupant load of such outdoor areas shall be assigned by the fire code official pursuant to paragraph (A)(1)(1001.1) of this rule in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas. At locations or in structures not regulated by the building code as listed in rule 1301:7-7-47 of the Administrative Code, the occupant load shall be approved by the fire code official.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one means of egress.

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2. Both outdoor areas dedicated to individual dwelling units in Group R-3 and Group R-2.

- (9) 1004.9 Multiple occupancies. Where a building contains two or more occupancies, the means of egress requirements shall apply to each portion of the building based on the occupancy of that space. Where two or more occupancies utilize portions of the same means of egress system, those egress components shall meet the more stringent requirements of all occupancies that are served.

(E) [B] Section 1005 Egress width

- (1) 1005.1 Minimum required egress width. The means of egress width shall not be less than required by this paragraph. The total width of means of egress in inches (mm) shall not be less than the total occupant load served by means of egress multiplied by 0.3 inches (7.62 mm) per occupant for stairways and by 0.2 inches (5.08 mm) per occupant for other egress components. The width shall not be less than specified elsewhere in this code. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 per cent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.

Exception: Means of egress complying with paragraph (BB)(1028) of this rule.

- (2) 1005.2 Door encroachment. Doors, when fully opened, and handrails, shall not reduce the required means of egress width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features shall be permitted to project into the required width a maximum of 1½ inches (38 mm) on each side.

Exception: The restrictions on a door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 and dwelling units of Group R-3.

- (3) 1005.3 Door hardware encroachment. Surface-mounted latch release hardware shall be exempt from inclusion in the 7-inch (178 mm) maximum projection requirement of paragraph (E)(2)(1005.2) of this rule when:

(a) The hardware is mounted to the side of the door facing the corridor width when the door is in the open position; and

(b) The hardware is mounted not less than 34 inches (865 mm) nor more than 48 inches (1220 mm) above the finished floor.

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(F) [B] Section 1006 Means of egress illumination

(1) 1006.1 Illumination required. The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

Exceptions:

1. Occupancies in Group U.

2. Aisle accessways in Group A.

3. Dwelling units and sleeping units in Groups R-1, R-2 and R-3.

4. Sleeping units of Group I occupancies.

(2) 1006.2 Illumination level. The means of egress illumination level shall not be less than 1 foot-candle (11 lux) at the walking surface level.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface level is permitted to be reduced during performances to not less than 0.2 foot-candle (2.15 lux), provided that the required illumination is automatically restored upon activation of a premises' fire alarm system where such system is provided.

(3) 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:

(a) Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.

(b) Corridors, exit enclosures and exit passageways in buildings required to have two or more exits.

(c) 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.

(d) Interior exit discharge elements, as permitted in paragraph (AA)(1)(1027.1) of this rule, in buildings required to have two or more exits.

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(e) Exterior landings as required by paragraph (H)(1)(f)(1008.1.6) of this rule 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 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

(4) 1006.4 Performance of system. Emergency lighting facilities shall be arranged to provide initial illumination that is at least an average of 1 foot-candle (11 lux) and a minimum at any point of 0.1 foot-candle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 foot-candle (6 lux) average and a minimum at any point of 0.06 foot-candle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

(G) [B] Section 1007 Accessible means of egress

(1) 1007.1 Accessible means of egress required. Accessible means of egress shall comply with this paragraph. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress are required by paragraphs (O)(1)(1015.1) or (U)(1)(1021.1) of this rule from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. Accessible means of egress are not required in alterations to existing buildings.

2. One accessible means of egress is required from an accessible mezzanine level in accordance with paragraph (G)(3)(1007.3), (G)(4)(1007.4) or (G)(5)(1007.5) of this rule.

3. In assembly areas with sloped or stepped aisles, one accessible means of egress is permitted where the common path of travel is accessible and meets the requirements in paragraph (BB)(8)(1028.8) of this rule.

(2) 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 of the building code as

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listed in rule 1301:7-7-47 of the Administrative Code.

2. Interior exit stairways complying with paragraphs (G)(3)(1007.3) and (V)(1022) of this rule.

3. Exterior exit stairways complying with paragraphs (G)(3)(1007.3) and (Z)(1026) of this rule.

4. Elevators complying with paragraph (G)(4)(1007.4) of this rule.

5. Platform lifts complying with paragraph (G)(5)(1007.5) of this rule.

6. Horizontal exits complying with paragraph (Y)(1025) of this rule.

7. Ramps complying with paragraph (J)(1010) of this rule.

8. Areas of refuge complying with paragraph (G)(6)(1007.6) of this rule.

Exceptions:

1. Where the exit discharge is not accessible, an exterior area for assisted rescue must be provided in accordance with paragraph (G)(7)(1007.7) of this rule.

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 paragraph (G)(6)(1007.6) of this rule or an exterior area for assisted rescue in accordance with paragraph (G)(7)(1007.7) of this rule.

(a) 1007.2.1 Elevators required. In buildings where a required accessible floor is four or more stories above or below a level of exit discharge, at least one required accessible means of egress shall be an elevator complying with paragraph (G)(4)(1007.4) of this rule.

Exceptions:

1. In buildings equipped throughout with an automatic sprinkler system installed in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code, the elevator shall not be required on floors provided with a horizontal exit and located at or above the level of exit discharge.

2. In buildings equipped throughout with an automatic sprinkler system installed in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code, the elevator shall not be required on floors provided with a ramp

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conforming to the provisions of paragraph (J)(1010) of this rule.

(3) 1007.3 Stairways. In order to be considered part of an accessible means of egress, an exit access stairway as permitted by paragraph (P)(1)(1016.1) of this rule or exit stairway 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 paragraph (G)(6)(1007.6) of this rule or a horizontal exit.

Exceptions:

1. The area of refuge is not required at open exit access or exit stairways as permitted in paragraphs (P)(1016.1) and (V)(1)(1022.1) of this rule in buildings that are equipped throughout with an automatic sprinkler system installed in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code.

2. The clear width of 48 inches (1219 mm) between handrails is not required at exit access stairways as permitted by paragraph (P)(1)(1016.1) of this rule or exit stairways in buildings equipped throughout with an automatic sprinkler system installed in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code.

3. Areas of refuge are not required at exit stairways in buildings equipped throughout by an automatic sprinkler system installed in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code.

4. The clear width of 48 inches (1219 mm) between handrails is not required from exit stairways accessed from a horizontal exit.

5. Areas of refuge are not required at exit stairways serving open parking garages.

6. Areas of refuge are not required for smoke protected seating areas complying with paragraph (BB)(6)(b)(1028.6.2) of this rule.

7. The areas of refuge are not required in Group R-2 occupancies.

(4) 1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of section 2.27 of ASME A17.1 as listed in rule 1301:7-7-47 of the Administrative Code. Standby power shall be provided in accordance with paragraph (D)(2)(e)(604.2.5) of rule 1301:7-7-06 of the

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Administrative Code and section 3003 of the building code as listed in rule 1301:7-7-47 of the Administrative Code. The elevator shall be accessed from either an area of refuge complying with paragraph (G)(6)(1007.6) of this rule or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
  2. Elevators are not required to be accessed from an area of refuge or horizontal exit in buildings and facilities equipped throughout by an automatic sprinkler system installed in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code.
  3. Elevators not required to be located in a shaft in accordance with section 708.2 of the building code as listed in rule 1301:7-7-47 of the Administrative Code are not required to be accessed from an area of refuge or horizontal exit.
  4. Elevators are not required to be accessed from an area of refuge or horizontal exit for smoke protected seating areas complying with paragraph (BB)(6)(b)(1028.6.2) of this rule.
- (5) 1007.5 Platform lifts. Platform (wheelchair) lifts shall not serve as part of an accessible means of egress, except where allowed as part of a required accessible route in section 1109.7 Items 1 to 9 of the building code as listed in rule 1301:7-7-47 of the Administrative Code. Standby power shall be provided in accordance with paragraph (D)(2)(f)(604.2.6) of rule 1301:7-7-06 of the Administrative Code for platform lifts permitted to serve as part of a means of egress.
- (a) 1007.5.1 Openness. Platform lifts on an accessible means of egress shall not be installed in a fully enclosed hoistway.
- (6) 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 paragraph (P)(1)(1016.1) of this rule. Every required area of refuge shall have direct access to a stairway within an exit enclosure complying with paragraphs (G)(3)(1007.3) and (V)(1022) of this rule or an elevator complying with paragraph (G)(4)(1007.4) of this rule. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with paragraph (V)(9)(1022.9) of this rule for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

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Exceptions:

1. A stairway serving an area of refuge is not required to be enclosed where permitted in paragraphs (P)(1)(1016.1) and (V)(1)(1022.1) of this rule.

2. Smokeproof enclosure is not required for an elevator lobby used as an area of refuge not required to be enclosed.

(a) 1007.6.1 Size. Each area of refuge shall be sized to accommodate one wheelchair space of 30 inches by 48 inches (762 mm by 1219 mm) for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge. Such wheelchair spaces shall not reduce the required means of egress width. Access to any of the required wheelchair spaces in an area of refuge shall not be obstructed by more than one adjoining wheelchair space.

(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 of the building code as listed in rule 1301:7-7-47 of the Administrative Code or a horizontal exit complying with paragraph (Y)(1025) of this rule. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exception: Areas of refuge located within an exit enclosure.

(c) 1007.6.3 Two-way communication. Areas of refuge shall be provided with a two-way communication system complying with paragraphs (G)(8)(a)(1007.8.1) and (G)(8)(b)(1007.8.2) of this rule.

(i) 1007.6.3.1 Testing and maintenance. All two-way communication systems shall be tested in the presence of the fire code official upon completion of installation. Communication systems shall be inspected and tested in accordance with NFPA 72 as listed in rule 1301:7-7-47 of the Administrative Code to verify that all components are operational.

(7) 1007.7 Exterior area for assisted rescue. The exterior area for assisted rescue must be open to the outside air and meet the requirements of paragraph (G)(6)(a)(1007.6.1) of this rule. Separation walls shall comply with the requirements of section 705 of the building code as listed in rule 1301:7-7-47 of the Administrative Code for exterior walls. Where walls or openings are between the area for assisted rescue and the interior of the building, 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

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construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the floor level of the area for assisted rescue or to the roof line, whichever is lower.

(a) 1007.7.1 Openness. The exterior area for assisted rescue shall be at least 50 per cent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

(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.

(8) 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 paragraphs (G)(8)(a)(1007.8.1) and (G)(8)(b)(1007.8.2) of this rule.

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 paragraph (G)(6)(c)(1007.6.3) of this rule.

2. Two-way communication systems are not required on floors provided with exit ramps conforming to the provisions of paragraph (J)(1010) of this rule.

(a) 1007.8.1 System requirements. Two-way communication systems shall provide communication between each required location and the fire command center or a central control point location approved by the fire department. Where the central control point is not constantly attended, a two-way communication system shall have a timed automatic telephone dial-out capability to a monitoring location or 911. The two-way communication system shall include both audible and visible signals.

(b) 1007.8.2 Directions. Directions for the use of the two-way communication system, instructions for summoning assistance via the two-way communication system and written identification of the location shall be posted adjacent to the two-way communication system.

(9) 1007.9 Signage. Signage indicating special accessibility provisions shall be provided as follows:

(a) Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign stating: "AREA OF REFUGE."

(b) Each door providing access to an exterior area for assisted rescue shall be identified by a sign stating: "EXTERIOR AREA FOR ASSISTED

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RESCUE."

Signage shall comply with the ICC A117.1 as listed in rule 1301:7-7-47 of the Administrative Code requirements for visual characters and include the "International Symbol of Accessibility." Where exit sign illumination is required by paragraph (K)(2)(1011.2) of this rule, the signs shall be illuminated. Additionally, tactile signage complying with ICC A117.1 as listed in rule 1301:7-7-47 of the Administrative Code shall be located at each door to an area of refuge and exterior area for assisted rescue in accordance with paragraph (K)(3)(1011.3) of this rule.

(10) 1007.10 Directional signage. Direction signage indicating the location of the other means of egress and which are accessible means of egress shall be provided at the following:

- (a) At exits serving a required accessible space but not providing an approved accessible means of egress.
- (b) At elevator landings.
- (c) Within areas of refuge.

(11) 1007.11 Instructions. In areas of refuge and exterior areas for assisted rescue, instructions on the use of the area under emergency conditions shall be posted. The instructions shall include all of the following:

- (a) Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
- (b) Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
- (c) Directions for use of the two-way communications system where provided.

(H) [B] Section 1008 Doors, gates and turnstiles

(1) 1008.1 Doors. Means of egress doors shall meet the requirements of this paragraph. Doors serving a means of egress system shall meet the requirements of this paragraph and paragraph (T)(2)(1020.2) of this rule. Doors provided for egress purposes in numbers greater than required by this code shall meet the requirements of this paragraph.

Means of egress doors shall be readily distinguishable from the adjacent construction and finishes such that the doors are easily recognizable as doors. Mirrors and similar reflecting materials shall not be used on means of egress

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doors. Means of egress doors shall not be concealed by curtains, drapes, decorations or similar materials.

(a) 1008.1.1 Size of doors. The minimum width of each door opening shall be sufficient for the occupant load thereof and shall provide a clear width of 32 inches (813 mm). Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this paragraph requires a minimum clear width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. Means of egress doors in a Group I-2 occupancy used for the movement of beds shall provide a clear width not less than 41½ inches (1054 mm). The height of door openings shall not be less than 80 inches (2032 mm).

Exceptions:

1. The minimum and maximum width shall not apply to door openings that are not part of the required means of egress in Group R-2 and R-3 occupancies.

2. Door openings to resident sleeping units in Group I-3 occupancies shall have a clear width of not less than 28 inches (711 mm).

3. Door openings to reach in storage closets less than 10 square feet (0.93 m<sup>2</sup>) in area shall not be limited by the minimum width.

4. Width of door leaves in revolving doors that comply with paragraph (H)(1)(d)(i)(1008.1.4.1) of this rule shall not be limited.

5. Door openings within a dwelling unit or sleeping unit shall not be less than 78 inches (1981 mm) in height.

6. Exterior door openings in dwelling units and sleeping units, other than the required exit door, shall not be less than 76 inches (1930 mm) in height.

7. In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a dwelling unit or sleeping unit that is not required to be an accessible unit, Type A unit or Type B unit.

8. Door openings required to be accessible within Type B units shall have a minimum clear width of 31.75 inches (806 mm).

(i) 1008.1.1.1 Projections into clear width. There shall not be

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projections into the required clear width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

Exception: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.

(b) 1008.1.2 Door swing. Egress doors shall be of the pivoted or side-hinged swinging type.

Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.

2. Group I-3 occupancies used as a place of detention.

3. Critical or intensive care patient rooms within suites of health care facilities.

4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.

5. In other than Group H occupancies, revolving doors complying with paragraph (H)(1)(d)(i)(1008.1.4.1) of this rule.

6. In other than Group H occupancies, horizontal sliding doors complying with paragraph (H)(1)(d)(iii)(1008.1.4.3) of this rule are permitted in a means of egress.

7. Power-operated doors in accordance with paragraph (H)(1)(d)(ii)(1008.1.4.2) of this rule.

8. Doors serving a bathroom within an individual sleeping unit in Group R-1.

9. In other than Group H occupancies, manually operated horizontal sliding doors are permitted in a means of egress from spaces with an occupant load of 10 or less.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.

(c) 1008.1.3 Door opening force. Doors required to be accessible shall comply with ADAAG as listed in rule 1301:7-7-47 of the Administrative Code. Doors not required to be accessible or for which

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ADAAG as listed in rule 1301:7-7-47 of the Administrative Code has no requirements, shall comply with the following: The force for pushing or pulling open interior swinging egress doors, other than fire doors, shall not exceed 5 pounds (22 N). For other swinging doors, as well as sliding and folding doors, the door latch shall release when subjected to a 15-pound (67 N) force. The door shall be set in motion when subjected to a 30-pound (133 N) force. The door shall swing to a full-open position when subjected to a 15-pound (67 N) force.

(i) 1008.1.3.1 Location of applied forces. Forces shall be applied to the latch side of the door.

(d) 1008.1.4 Special doors. Special doors and security grilles shall comply with the requirements of paragraphs (H)(1)(d)(i)(1008.1.4.1) to (H)(1)(d)(v)(1008.1.4.5) of this rule.

(i) 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 or escalators. A dispersal area shall be provided between the stairs 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 of this rule.

4. Each revolving door shall have a side-hinged swinging door which complies with paragraph (H)(1)(1008.1) of this rule 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 paragraph (G)(1007) of this rule and Chapter 11 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

**Table 1008.1.4.1**  
**Revolving door speeds**

<u>Inside diameter (feet-inches)</u>	<u>Power-driven-type speed control (RPM)</u>	<u>Manual-type speed control (RPM)</u>
<u>6-6</u>	<u>11</u>	<u>12</u>
<u>7-0</u>	<u>10</u>	<u>11</u>
<u>7-6</u>	<u>9</u>	<u>11</u>
<u>8-0</u>	<u>9</u>	<u>10</u>
<u>8-6</u>	<u>8</u>	<u>9</u>
<u>9-0</u>	<u>8</u>	<u>9</u>
<u>9-6</u>	<u>7</u>	<u>8</u>
<u>10-0</u>	<u>7</u>	<u>8</u>

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

(a) 1008.1.4.1.1 Egress component. A revolving door used as a component of a means of egress shall comply with paragraph (H)(1)(d)(i)(1008.1.4.1) of this rule and the following three conditions:

(i) Revolving doors shall not be given credit for more than 50 per cent of the required egress capacity.

(ii) Each revolving door shall be credited with no more than a 50-person capacity.

(iii) Each revolving door shall be capable of being collapsed when a force of not more than 130 pounds (578 N) is applied within 3 inches (76 mm) of the outer edge of a wing.

(b) 1008.1.4.1.2 Other than egress component. A revolving door used as other than a component of a means of egress shall comply with paragraph (H)(1)(d)(i)(1008.1.4.1) of this rule. The collapsing force of a revolving door not used as a component of a means of egress shall not be more than 180 pounds (801 N).

Exception: A collapsing force in excess of 180 pounds (801 N) is permitted if the collapsing force is reduced to not more than 130 pounds (578 N) when at least one of the following conditions is satisfied.

1. There is a power failure or power is removed to the

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device holding the door wings in position.

2. There is an actuation of the automatic sprinkler system where such system is provided.

3. There is an actuation of a smoke detection system which is installed in accordance with paragraph (G)(907) of rule 1301:7-7-09 of the Administrative Code to provide coverage in areas within the building which are within 75 feet (22 860 mm) of the revolving doors.

4. There is the actuation of a manual control switch, in an approved location and clearly defined, which reduces the holding force to below the 130-pound (578 N) force level.

(ii) 1008.1.4.2 Power-operated doors. Where means of egress doors are operated by power, such as doors with a photoelectric-actuated mechanism to open the door upon the approach of a person, or doors with power-assisted manual operation, the design shall be such that in the event of power failure, the door is capable of being opened manually to permit means of egress travel or closed where necessary to safeguard means of egress. The forces required to open these doors manually shall not exceed those specified in paragraph (H)(1)(c)(1008.1.3) of this rule, except that the force to set the door in motion shall not exceed 50 pounds (220 N). The door shall be capable of swinging from any position to the full width of the opening in which such door is installed when a force is applied to the door on the side from which egress is made. Full-power-operated door shall comply with BHMA A156.10 as listed in rule 1301:7-7-47 of the Administrative Code. Power-assisted and low-energy shall comply with BHMA A156.19 as listed in rule 1301:7-7-47 of the Administrative Code.

Exceptions:

1. Occupancies in Group I-3.

2. Horizontal sliding doors complying with paragraph (H)(1)(d)(iii)(1008.1.4.3) of this rule.

3. For a biparting door in the emergency breakout mode, a door leaf located within a multiple-leaf opening shall be exempt from the minimum 32-inch (813 mm) single-leaf requirement of paragraph (H)(1)(a)(1008.1.1) of this rule, provided a minimum 32-inch (813 mm) clear opening is provided when the two biparting leaves meeting in the center are broken out.

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(iii) 1008.1.4.3 Horizontal sliding doors. In other than Group H occupancies, horizontal sliding doors permitted to be a component of a means of egress in accordance with exception 6 to paragraph (H)(1)(b)(1008.1.2) of this rule shall comply with all of the following criteria:

(a) The doors shall be power operated and shall be capable of being operated manually in the event of power failure.

(b) The doors shall be openable by a simple method from both sides without special knowledge or effort.

(c) The force required to operate the door shall not exceed 30 pounds (133 N) to set the door in motion and 15 pounds (67 N) to close the door or open it to the minimum required width.

(d) The door shall be openable with a force not to exceed 15 pounds (67 N) when a force of 250 pounds (1100 N) is applied perpendicular to the door adjacent to the operating device.

(e) The door assembly shall comply with the applicable fire protection rating and, where rated, shall be self-closing or automatic closing by smoke detection, in accordance with section 715.4.8.3 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, shall be installed in accordance with NFPA 80 as listed in rule 1301:7-7-47 of the Administrative Code and shall comply with section 715 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

(f) The door assembly shall have an integrated standby power supply.

(g) The door assembly power supply shall be electrically supervised.

(h) The door shall open to the minimum required width within 10 seconds after activation of the operating device.

(iv) 1008.1.4.4 Access-controlled egress doors. The entrance doors in a means of egress in buildings with an occupancy in Group A, B, E, I-2, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in Groups A, B, E, I-2, M, R-1 and R-2 are permitted to be equipped with an approved entrance and egress access

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control system which shall be installed in accordance with all of the following criteria:

- (a) A sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
- (b) Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.
- (c) The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock-independent of the access control system electronics-and the doors shall remain unlocked for a minimum of 30 seconds.
- (d) Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
- (e) Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
- (f) Entrance doors in buildings with an occupancy in Group A, B, E or M shall not be secured from the egress side during periods that the building is open to the general public.
- (v) 1008.1.4.5 Security grilles. In Groups B, F, M and S, horizontal sliding or vertical security grilles are permitted at the main exit and shall be operable from the inside without the use of a key or special knowledge or effort during periods that the space is occupied. The grilles shall remain secured in the full-open position during the period of occupancy by the general public. Where two or more means of egress are required, not more than one-half of the exits or exit access doorways shall be equipped with horizontal sliding or vertical security grilles.

(e) 1008.1.5 Floor elevation. There shall be a floor or landing on each side of

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a door. Such floor or landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed one unit vertical in fifty units horizontal (2 per cent slope).

Exceptions:

1. Doors serving individual dwelling units in Group R-2 and R-3 where the following apply:

1.1 A door is permitted to open at the top step of an interior flight of stairs, provided the door does not swing over the top step.

1.2 Screen doors and storm doors are permitted to swing over stairs or landings.

2. Exterior doors as provided for in paragraph (C)(5)(1003.5) of this rule exception 1, and paragraph (T)(2)(1020.2) of this rule, which are not on an accessible route.

3. In Group R-3 occupancies not required to be accessible units, Type A units or Type B units, the landing at an exterior doorway shall not be more than 7¾ inches (197 mm) below the top of the threshold, provided the door, other than an exterior storm or screen door, does not swing over the landing.

4. In units not required to be Type A, Type B or accessible, variations in elevation due to differences in finish materials, but not more than ½ inch (12.7 mm).

5. Exterior decks, patios or balconies that are part of Type B dwelling units, have impervious surfaces and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the dwelling unit.

(f) 1008.1.6 Landings at doors. Landings shall have a width not less than the width of the stairway or the door, whichever is greater. Doors in the fully open position shall not reduce a required dimension by more than 7 inches (178 mm). When a landing serves an occupant load of 50 or more, doors in any position shall not reduce the landing to less than one-half its required width. Landings shall have a length measured in the direction of travel of not less than 44 inches (1118 mm).

Exception: Landing length in the direction of travel in Groups R-3 and U and within individual units of Group R-2 need not exceed 36 inches (914 mm) when the units are not required to be accessible or Type A units.

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(g) 1008.1.7 Thresholds. Thresholds at doorways shall not exceed  $\frac{3}{4}$  inch (19.1 mm) in height for sliding doors serving dwelling units or  $\frac{1}{2}$  inch (12.7 mm) for other doors. Raised thresholds and floor level changes greater than  $\frac{1}{4}$  inch (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50-per cent slope).

Exception: The threshold height shall be limited to  $7\frac{3}{4}$  inches (197 mm) where the occupancy is Group R-2 or R-3; the door is an exterior door that is not a component of the required means of egress; the door, other than an exterior storm or screen door, does not swing over the landing or step; and the doorway is not on an accessible route as required by Chapter 11 of the building code as listed in rule 1301:7-7-47 of the Administrative Code and is not part of an accessible unit, Type A unit or Type B unit.

(h) 1008.1.8 Door arrangement. Space between two doors in a series shall be 48 inches (1219 mm) minimum plus the width of a door swinging into the space. Doors in series shall swing either in the same direction or away from the space between the doors.

Exceptions:

1. The minimum distance between horizontal sliding power-operated doors in a series shall be 48 inches (1219 mm).

2. Storm and screen doors serving individual dwelling units in Groups R-2 and R-3 need not be spaced 48 inches (1219 mm) from the other door.

3. Doors within individual dwelling units in Groups R-2 and R-3 other than within Type A dwelling units.

(i) 1008.1.9 Door operations. Except as specifically permitted by this paragraph egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort.

(i) 1008.1.9.1 Hardware. Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11 of the building code as listed in rule 1301:7-7-47 of the Administrative Code shall not require tight grasping, tight pinching or twisting of the wrist to operate.

(ii) 1008.1.9.2 Hardware height. Door handles, pulls, latches, locks and other operating devices shall be installed 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finished

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floor. Locks used only for security purposes and not used for normal operation are permitted at any height.

Exception: Access doors or gates in barrier walls and fences protecting pools, spas and hot tubs shall be permitted to have operable parts of the release latch on self-latching devices at 54 inches (1370 mm) maximum above the finished floor or ground, provided the self-latching devices are not also self-locking devices operated by means of a key, electronic opener or integral combination lock.

(iii) 1008.1.9.3 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exists:

(a) Places of detention or restraint.

(b) In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:

(i) The locking device is readily distinguishable as locked;

(ii) A readily visible durable sign is posted on the egress side on or adjacent to the door stating: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED." The sign shall be in letters 1 inch (25 mm) high on a contrasting background; and

(iii) The use of the key-operated locking device is revocable by the fire code official for due cause.

(c) Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware.

(d) Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.

(e) Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.

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(iv) 1008.1.9.4 Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.

2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.

3. Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F or S occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.

4. Where a pair of doors serves a Group B, F or S occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf provided such inactive leaf is not needed to meet egress width requirements and the building is equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.

5. Where a pair of doors serves patient care rooms in a Group I-2 occupancy, self latching edge- or surface-mounted bolts are permitted on the inactive leaf provided that the inactive leaf is not needed to meet egress width requirements and the inactive leaf contains no doorknobs, panic bars or similar operating hardware.

(v) 1008.1.9.5 Unlatching. The unlatching of any door or leaf shall not require more than one operation.

Exceptions:

1. Places of detention or restraint.

2. Where manually operated bolt locks are permitted by paragraph (H)(1)(i)(iv)(1008.1.9.4) of this rule.

3. Doors with automatic flush bolts as permitted by paragraph (H)(1)(i)(iii)(1008.1.9.3), exception 3 of this rule.

4. Doors from individual dwelling units and sleeping units of Group R occupancies as permitted by paragraph (H)(1)(i)(iii)(1008.9.3), exception 4 of this rule.

(a) 1008.1.9.5.1 Closet and bathroom doors in Group R-4 occupancies. In Group I-1 and Group R-4 occupancies, closet doors that latch in the closed position shall be operable from inside the closet, and bathroom doors that latch in the closed position shall be capable of being unlocked from the ingress side.

(vi) 1008.1.9.6 Special egress locks for Group I-2. Approved special egress locking systems, either controlled egress locks in accordance with paragraph (H)(1)(i)(vi)(a)(1008.1.9.6.1) of this rule or delayed egress locks in accordance with paragraph (H)(1)(i)(vi)(b)(1008.1.9.6.2) of this rule, shall be permitted in Group I-2 occupancies where the clinical needs of persons receiving care require such special egress locking arrangements.

(a) 1008.1.9.6.1 Approved controlled egress locks in accordance with this paragraph shall be permitted in a Group I-2 occupancy where the clinical needs of persons receiving care require such locking. Controlled egress locks shall be permitted in such occupancies where the building is equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code or an approved automatic smoke or heat detection system installed in accordance with paragraph (G)(907) of rule 1301:7-7-09 of the Administrative Code, provided that the doors unlock in accordance with items (i) to (vi) below. A building occupant shall not be required to pass through more than one door equipped with a special egress lock before entering an exit.

(i) The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.

(ii) The doors unlock upon loss of power controlling the lock or lock mechanism.

(iii) The door locks shall have the capability of being unlocked by an approved manual keypad located on each side of the door, at staff locations on that floor and a signal from the fire command center.

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(iv) Once the door lock has been released, relocking shall be by manual means only.

(v) A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: "THESE DOORS ARE ELECTRONICALLY CONTROLLED."

(vi) Emergency lighting shall be provided at the door.

(b) 1008.1.9.6.2 Approved delayed egress locks shall be permitted in I-2 occupancies where the clinical needs of persons receiving care require such locking and where the building is equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code or an approved automatic smoke or heat detection system installed in accordance with paragraph (G)(907) of rule 1301:7-7-09 of the Administrative Code, provided that the doors unlock in accordance with items (i) to (vi) below. A building occupant shall not be required to pass through more than one door equipped with a special egress lock before entering an exit.

(i) The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.

(ii) The doors unlock upon loss of power controlling the lock or lock mechanism.

(iii) The door locks shall have the capability of being unlocked by a signal from the fire command center, a nursing station or other approved location.

(iv) The procedures for the operation(s) of the unlocking system shall be described and approved as part of the emergency planning and preparedness required by rule 1301:7-7-04 of the Administrative Code.

(v) All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.

(vi) Emergency lighting shall be provided at the door.

Exception: Items (i) to (iii) shall not apply to doors to areas where persons, because of clinical needs,

require restraint or containment as part of the function of a mental hospital.

(vii) 1008.1.9.7 Delayed egress locks. Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy except Group A, E and H occupancies in buildings that are equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code or an approved automatic smoke or heat detection system installed in accordance with paragraph (G)(907) of rule 1301:7-7-09 of the Administrative Code, provided that the doors unlock in accordance with paragraphs (H)(1)(h)(vi)(a)(i) to (H)(1)(h)(vi)(a)(vi) of this rule. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

(a) The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.

(b) The doors unlock upon loss of power controlling the lock or lock mechanism.

(c) The door locks shall have the capability of being unlocked by a signal from the fire command center.

(d) The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 second to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted.

(e) A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: "PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS."

(f) Emergency lighting shall be provided at the door.

(viii) 1008.1.9.8 Electromagnetically locked egress doors. Doors in the means of egress that are not otherwise required to have panic

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hardware in buildings with an occupancy in Group A, B, E, M, R-1 or R-2 and doors to tenant spaces in Group A, B, E, M, R-1 or R-2 shall be permitted to be electromagnetically locked if equipped with listed hardware that incorporates a built-in switch and meet the requirements below:

- (a) The listed hardware that is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
  - (b) The listed hardware is capable of being operated with one hand.
  - (c) Operation of the listed hardware releases the electromagnetic lock and unlocks the door immediately.
  - (d) Loss of power to the listed hardware automatically unlocks the door.
- (ix) 1008.1.9.9 Locking arrangements in correctional facilities. In occupancies in Groups A-2, A-3, A-4, B, E, F, I-2, I-3, M and S within correctional and detention facilities, doors in means of egress serving rooms or spaces occupied by persons whose movements are controlled for security reasons shall be permitted to be locked when equipped with egress control devices which shall unlock manually and by at least one of the following means:
- (a) Activation of an automatic sprinkler system installed in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code;
  - (b) Activation of an approved manual alarm box; or
  - (c) A signal from a constantly attended location.
- (x) 1008.1.9.10 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 paragraph shall not apply to doors arranged in accordance with section 403.5.3 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

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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.

- (j) 1008.1.10 Panic and fire exit hardware. Doors serving a Group H occupancy and doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.

Exception: A main exit of a Group A occupancy in compliance with paragraph (H)(1)(i)(iii)(b) of this rule.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain overcurrent devices, switching devices or control devices with exit or exit access doors must be equipped with panic hardware or fire exit hardware. The doors must swing in the direction of egress travel.

- (i) 1008.1.10.1 Installation. Where panic or fire exit hardware is installed, it shall comply with the following:

(a) Panic hardware shall be listed in accordance with UL 305 as listed in rule 1301:7-7-47 of the Administrative Code;

(b) Fire exit hardware shall be listed in accordance with UL 10C and UL 305 as listed in rule 1301:7-7-47 of the Administrative Code;

(c) The actuating portion of the releasing device shall extend at least one-half of the door leaf width; and

(d) The maximum unlatching force shall not exceed 15 pounds (67 N).

- (ii) 1008.1.10.2 Balanced doors. If balanced doors are used and panic hardware is required, the panic hardware shall be of the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

- (2) 1008.2 Gates. Gates serving the means of egress system shall comply with the requirements of this paragraph. Gates used as a component in a means of egress shall conform to the applicable requirements for doors.

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Exception: Horizontal sliding or swinging gates exceeding the 4-foot (1219 mm) maximum leaf width limitation are permitted in fences and walls surrounding a stadium.

(a) 1008.2.1 Stadiums. Panic hardware is not required on gates surrounding stadiums where such gates are under constant immediate supervision while the public is present, and where safe dispersal areas based on 3 square feet (0.28 m<sup>2</sup>) per occupant are located between the fence and enclosed space. Such required safe dispersal areas shall not be located less than 50 feet (15 240 mm) from the enclosed space. See paragraph (AA)(6)(1027.6) of this rule for means of egress from safe dispersal areas.

(3) 1008.3 Turnstiles. Turnstiles or similar devices that restrict travel to one direction shall not be placed so as to obstruct any required means of egress.

Exception: Each turnstile or similar device shall be credited with no more than a 50-person capacity where all of the following provisions are met:

1. Each device shall turn free in the direction of egress travel when primary power is lost, and upon the manual release by an employee in the area.

2. Such devices are not given credit for more than 50 per cent of the required egress capacity.

3. Each device is not more than 39 inches (991 mm) high.

4. Each device has at least 16½ inches (419 mm) clear width at and below a height of 39 inches (991 mm) and at least 22 inches (559 mm) clear width at heights above 39 inches (991 mm).

Where located as part of an accessible route, turnstiles shall have at least 36 inches (914 mm) clear at and below a height of 34 inches (864 mm), at least 32 inches (813 mm) clear width between 34 inches (864 mm) and 80 inches (2032 mm) and shall consist of a mechanism other than a revolving device.

(a) 1008.3.1 High turnstile. Turnstiles more than 39 inches (991 mm) high shall meet the requirements for revolving doors.

(b) 1008.3.2 Additional door. Where serving an occupant load greater than 300, each turnstile which is not portable shall have a side-hinged swinging door that conforms to paragraph (H)(1)(1008.1) of this rule within 50 feet (15 240mm).

#### (I) [B] Section 1009 Stairways

*Note: for copyright claim information, please see the notice on the last page of this rule.*

(1) 1009.1 Stairway width. The width of stairways shall be determined as specified in paragraph (E)(1)(1005.1) of this rule, but such width shall not be less than 44 inches (1118 mm). See paragraph (G)(3)(1007.3) of this rule for accessible means of egress stairways.

Exceptions:

1. Stairways serving an occupant load of less than 50 shall have a width of not less than 36 inches (914 mm).

2. Spiral stairways as provided for in paragraph (I)(9)(1009.9) of this rule.

3. Aisle stairs complying with paragraph (BB)(1028) of this rule.

4. Where an incline platform lift or stairway chairlift is installed on stairways serving occupancies in Group R-3, or within dwelling units in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. If the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

(2) 1009.2 Headroom. Stairways shall have a minimum headroom clearance of 80 inches (2032 mm) measured vertically from a line connecting the edge of the nosings. Such headroom shall be continuous above the stairway to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway and landing.

Exceptions:

1. Spiral stairways complying with paragraph (I)(9)(1009.9) of this rule are permitted a 78-inch (1981 mm) headroom clearance.

2. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4¾ inches (121 mm).

(3) 1009.3 Walkline. The walkline across winder treads shall be concentric to the direction of travel through the turn and located 12 inches (305 mm) from the side where the winders are narrower. The 12 inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used.

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(4) 1009.4 Stair treads and risers. Stair treads and risers shall comply with paragraphs (I)(4)(a)(1009.4.1) to (I)(4)(e)(1009.4.5) of this rule.

(a) 1009.4.1 Dimension reference surfaces. For the purpose of this paragraph, all dimensions are exclusive of carpets, rugs, or runners.

(b) 1009.4.2 Riser height and tread depth. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost protection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

Exceptions:

1. Alternating tread devices in accordance with paragraph (I)(10)(1009.10) of this rule.

2. Ship ladders in accordance with paragraph (I)(11)(1009.11) of this rule.

3. Spiral stairways in accordance with paragraph (I)(9)(1009.9) of this rule.

4. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with paragraph (BB)(11)(b)(1028.11.2) of this rule.

5. In Group R-3 occupancies, within dwelling units in Group R-2 occupancies; and in occupancies in Group U that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 8 1/4 inches (209.55 mm); the minimum tread depth shall be 9 inches (228.6 mm); the minimum winder tread depth at the walkline shall be 10 inches (254 mm), and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 3/4 inch (19.1 mm) but not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).

6. See section 3404.1 of the building code as listed in rule 1301:7-7-47 of the Administrative Code for the replacement of existing stairways.

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7. In Group I-3 facilities, stairways providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m<sup>2</sup>) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).

(c) 1009.4.3 Winder treads. Winder treads are not permitted in means of egress stairways except within a dwelling unit.

Exceptions:

1. Curved stairways in accordance with paragraph (I)(8)(1009.8) of this rule.

2. Spiral stairways in accordance with paragraph (I)(9)(1009.9) of this rule.

(d) 1009.4.4 Dimensional uniformity. Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser or between the largest and smallest tread 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 paragraph (BB)(11)(b)(1028.11.2) of this rule.

2. Consistently shaped winders, complying with paragraph (I)(4)(b)(1009.4.2) of this rule, differing from rectangular treads in the same stairway flight.

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-per cent slope) of stairway 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).

(e) 1009.4.5 Profile. The radius of curvature at the leading edge of the tread shall be not greater than 9/16 inch (14.3 mm). Beveling of nosings shall

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not exceed 9/16 inch (14.3 mm). Risers shall be solid and vertical or sloped under the tread above from the underside of the nosing above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosings) of treads shall project not more than 1/4 inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

Exceptions:

1. Solid risers are not required for stairways that are not required to comply with paragraph (G)(3)(1007.3) of this rule, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
  2. Solid risers are not required for occupancies in Group I-3 or in F, H and S occupancies other than areas accessible to the public. There are no restrictions on the size of the opening in the riser.
  3. Solid risers are not required for spiral stairways constructed in accordance with paragraph (I)(9)(1009.9) of this rule.
  4. Solid risers are not required for alternating tread devices constructed in accordance with paragraph (I)(10)(1009.10) of this rule.
- (5) 1009.5 Stairway landings. There shall be a floor or landing at the top and bottom of each stairway. The width of landings shall not be less than the width of stairways they serve. Every landing shall have a minimum dimension measured in the direction of travel equal to the width of the stairway. Such dimension need not exceed 48 inches (1219 mm) where the stairway has a straight run. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing. When wheelchair spaces are required on the stairway landing in accordance with paragraph (G)(6)(a)(1007.6.1) of this rule, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces.

Exception: Aisle stairs complying with paragraph (BB)(1028) of this rule.

- (6) 1009.6 Stairway construction. All stairways 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.

(a) 1009.6.1 Stairway walking surface. The walking surface of treads and landings of a stairway shall not be sloped steeper than one unit vertical in 48 units horizontal (2-per cent slope) in any direction. Stairway

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treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in stair walking surfaces shall be a size that does not permit the passage of ½-inch diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.

2. In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided a sphere with a diameter of 1 1/8 inches (29 mm) cannot pass through the opening.

(b) 1009.6.2 Outdoor conditions. Outdoor stairways and outdoor approaches to stairways shall be designed so that water will not accumulate on walking surfaces.

(c) 1009.6.3 Enclosures under 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 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 ½-inch (12.7 mm) gypsum board.

There shall be no enclosed usable space under exterior exit stairways unless the space is completely enclosed in 1-hour fire-resistance-rated construction. The open space under exterior stairways shall not be used for any purpose.

(7) 1009.7 Vertical rise. A flight of stairs shall not have a vertical rise greater than 12 feet (3658 mm) between floor levels or landings.

Exceptions:

1. Aisle stairs complying with paragraph (BB)(1028) of this rule.

2. Alternating tread devices used as a means of egress shall not have a rise greater than 20 feet (6096 mm) between floor levels or landings.

(8) 1009.8 Curved stairways. Curved stairways with winder treads shall have treads

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and risers in accordance with paragraph (I)(4)(1009.4) of this rule and the smallest radius shall not be less than twice the required width of the stairway.

Exception: The radius restriction shall not apply to curved stairways for occupancies in Group R-3 and within individual dwelling units in occupancies in Group R-2.

- (9) 1009.9 Spiral stairways. Spiral stairways are permitted to be used as a component in the means of egress only within dwelling units or from a space not more than 250 square feet (23 m<sup>2</sup>) in area and serving not more than five occupants, or from galleries, catwalks and gridirons in accordance with paragraph (O)(6)(1015.6) of this rule.

A spiral stairway shall have a 7½ inch (191 mm) minimum clear tread depth at a point 12 inches (305 mm) from the narrow edge. The risers shall be sufficient to provide a headroom of 78 inches (1981 mm) minimum, but riser height shall not be more than 9½ inches (241 mm). The minimum stairway clear width at and below the handrail shall be 26 inches (660 mm).

- (10) 1009.10 Alternating tread devices. Alternating tread devices are limited to an element of a means of egress in buildings of Groups F, H, and S from a mezzanine not more than 250 square feet (23 m<sup>2</sup>) in area and which serves not more than five occupants; in buildings of Group I-3 from a guard tower, observation station or control room not more than 250 square feet (23 m<sup>2</sup>) in area and for access to unoccupied roofs.

(a) 1009.10.1 Handrails of alternating tread devices. Handrails shall be provided on both sides of alternating tread devices and shall comply with paragraph (L)(1012) of this rule.

(b) 1009.10.2 Treads of alternating tread devices. Alternating tread devices shall have a minimum projected tread of 5 inches (127 mm), a minimum tread depth of 8½ inches (216 mm), a minimum tread width of 7 inches (178 mm) and a maximum riser height of 9½ inches (241 mm). The projected tread depth shall be measured horizontally between the vertical planes of the foremost projections of adjacent treads. The riser height shall be measured vertically between the leading edges of adjacent treads. The combination of riser height and projected tread depth provided shall result in an alternating tread device angle that complies with paragraph (B)(1002) of this rule. The initial tread of the device shall begin at the same elevation as the platform, landing or floor surface.

Exception: Alternating tread devices used as an element of a means of egress in buildings from a mezzanine area not more than 250 square feet (23 m<sup>2</sup>) in area which serves not more than five occupants shall

have a minimum projected tread of 8½ inches (216 mm) with a minimum tread depth of 10½ inches (267 mm). The rise to the next alternating tread surface should not be more than 8 inches (203 mm).

- (11) 1009.11 Ship ladders. Ship ladders are permitted to be used in Group I-3 as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 square feet (23 m<sup>2</sup>) with not more than three occupants and for access to unoccupied roofs.

Ship ladders shall have a minimum tread depth of 5 inches (127 mm). The tread shall be projected such that the total of the tread depth plus the nosing projection is no less than 8½ inches (216 mm). The maximum riser height shall be 9½ inches (241 mm). Handrails shall be provided on both sides of ship ladders. The minimum clear width at and below the handrails shall be 20 inches (508 mm).

- (12) 1009.12 Handrails. Stairways shall have handrails on each side and shall comply with paragraph (L)(1012) of this rule. Where glass is used to provide the handrail, the handrail shall also comply with section 2407 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

Exceptions:

1. Handrails for aisle stairs are not required where permitted by paragraph (BB)(13)(1028.13) of this rule.

2. Stairways within dwelling units, spiral stairways and aisle stairs serving seating only on one side are permitted to have a handrail on one side only.

3. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails.

4. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require handrails.

5. Changes in room elevations of three or fewer risers within dwelling units and sleeping units in Groups R-2 and R-3 do not require handrails.

- (13) 1009.13 Stairway to roof. In buildings four or more stories above grade plane, one stairway shall extend to the roof surface, unless the roof has a slope steeper than four units vertical in 12 units horizontal (33-per cent slope). In buildings without an occupied roof, access to the roof from the top story shall be permitted to be by an alternating tread device.

(a) 1009.13.1 Roof access. Where a stairway is provided to a roof, access to

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the roof shall be provided throughout a penthouse complying with section 1509.2 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

Exception: In buildings without an occupied roof, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet (1.5 m<sup>2</sup>) in area and having a minimum dimension of 2 feet (610 mm).

(b) 1009.13.2 Protection at roof hatch openings. Where the roof hatch opening providing the required access is located within 10 feet (3049 mm) of the roof edge, such roof access or roof edge shall be protected by guards installed in accordance with the provisions of paragraph (M)(1013) of this rule.

(14) 1009.14 Stairway to elevator equipment. Roofs and penthouses containing elevator equipment that must be accessed for maintenance are required to be accessed by a stairway.

#### (J) [B] Section 1010 Ramps

(1) 1010.1 Scope. The provisions of this paragraph shall apply to ramps used as a component of a means of egress.

##### Exceptions:

1. Other than ramps that are part of the accessible routes providing access in accordance with sections 1108.2 to 1108.2.4 and 1108.2.6 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, ramped aisles within assembly rooms or spaces shall conform with the provisions in paragraph (BB)(11)(1028.11) of this rule.

2. Curb ramps shall comply with the building code as listed in rule 1301:7-7-47 of the Administrative Code.

3. Vehicle ramps in parking garages for pedestrian exit access shall not be required to comply with paragraphs (J)(3)(1010.3) to (J)(9)(1010.9) of this rule when they are not an accessible route serving accessible parking spaces, other required accessible elements or parts of an accessible means of egress.

(2) 1010.2 Slope. Ramps used as part of a means of egress shall have a running slope not steeper than one unit vertical in 12 units horizontal (8-per cent slope). The slope of other pedestrian ramps shall not be steeper than one unit vertical in eight units horizontal (12.5-per cent slope).

Exception: Aisle ramp slope in occupancies of Group A or assembly occupancies accessory to Group E occupancies shall comply with paragraph

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(BB)(11)(1028.11) of this rule.

(3) 1010.3 Cross slope. The slope measured perpendicular to the direction of travel of a ramp shall not be steeper than one unit vertical in 48 units horizontal (2-per cent slope).

(4) 1010.4 Vertical rise. The rise of any ramp run shall be 30 inches (762 mm) maximum.

(5) 1010.5 Minimum dimensions. The minimum dimensions of means of egress ramps shall comply with paragraphs (J)(5)(a)(1010.5.1) to (J)(5)(c)(1010.5.3) of this rule.

(a) 1010.5.1 Width. The minimum width of a means of egress ramp shall not be less than that required for corridors by paragraph (R)(2)(1018.2) of this rule. The clear width of a ramp between handrails, if provided, or other permissible projections shall be 36 inches (914 mm) minimum.

(b) 1010.5.2 Headroom. The minimum headroom in all parts of the means of egress ramp shall not be less than 80 inches (2032 mm).

(c) 1010.5.3 Restrictions. Means of egress ramps shall not reduce in width in the direction of egress travel. Projections into the required ramp and landing width are prohibited. Doors opening onto a landing shall not reduce the clear width to less than 42 inches (1067 mm).

(6) 1010.6 Landings. Ramps shall have landings at the bottom and top of each ramp, points of turning, entrance, exits and at doors. Landings shall comply with paragraphs (J)(6)(a)(1010.6.1) to (J)(6)(e)(1010.6.5) of this rule.

(a) 1010.6.1 Slope. Landings shall have a slope not steeper than one unit vertical in 48 units horizontal (2 per cent slope) in any direction. Changes in level are not permitted.

(b) 1010.6.2 Width. The landing shall be at least as wide as the widest ramp run adjoining the landing.

(c) 1010.6.3 Length. The landing length shall be 60 inches (1525 mm) minimum.

Exceptions:

1. In Group R-2 and R-3 individual dwelling and sleeping units that are not required to be accessible units, Type A or Type B units in accordance with section 1107 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, landings are permitted to be

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36 inches (914 mm) minimum.

2. Where the ramp is not a part of an accessible route, the length of the landing shall not be required to be more than 48 inches (1220 mm) in the direction of travel.

(d) 1010.6.4 Change in direction. Where changes in direction of travel occur at landings provided between ramp runs, the landing shall be 60 inches by 60 inches (1524 mm by 1524 mm) minimum.

Exception: In Group R-2 and R-3 individual dwelling or sleeping units that are not required to be accessible units, Type A or Type B units in accordance with section 1107 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, landings are permitted to be 36 inches by 36 inches (914 mm by 914 mm) minimum.

(e) 1010.6.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by the building code as listed in rule 1301:7-7-47 of the Administrative Code are permitted to overlap the required landing area.

(7) 1010.7 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 paragraphs (V)(1)(1022.1) to (V)(6)(1022.6) of this rule for exit enclosures.

(a) 1010.7.1 Ramp surface. The surface of ramps shall be of slip resistant materials that are securely attached.

(b) 1010.7.2 Outdoor conditions. Outdoor ramps and outdoor approaches to ramps shall be designed so that water will not accumulate on walking surfaces.

(8) 1010.8 Handrails. Ramps with a rise greater than 6 inches (152 mm) shall have handrails on both sides. Handrails shall comply with paragraph (L)(1012) of this rule.

Exception: Handrails for ramped aisles are not required where permitted by paragraph (BB)(13)(1028.13) of this rule.

(9) 1010.9 Edge protection. Edge protection complying with paragraphs (J)(9)(a)(1010.9.1) or (J)(9)(b)(1010.9.2) of this rule shall be provided on each side of ramp runs and at each side of ramp landings.

Exceptions:

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1. Edge protection is not required on ramps that are not required to have handrails, provided they have flared sides that comply with the curb ramp provisions of the building code as listed in rule 1301:7-7-47 of the Administrative Code.
2. Edge protection is not required on the side of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection is not required on the sides of ramp landings having a vertical dropoff of not more than ½ inch (12.7 mm) within 10 inches (254 mm) horizontally of the required landing area.
4. In assembly spaces with fixed seating, edge protection is not required on the sides of ramps where the ramps provide access to the adjacent seating and aisle accessways.
  - (a) 1010.9.1 Curb, rail, wall or barrier. A curb, rail, wall or barrier shall be provided to serve as edge protection. A curb must be a minimum of 4 inches (102 mm) in height. Barriers must be constructed so that the barrier prevents the passage of a 4-inch-diameter (102 mm) sphere, where any portion of the sphere is within 4 inches (102 mm) of the floor or ground surface.
  - (b) 1010.9.2 Extended floor or ground surface. The floor or ground surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with paragraph (L)(1012) of this rule.
- (10) 1010.10 Guards. Guards shall be provided where required by paragraph (M)(1013) of this rule and shall be constructed in accordance with paragraph (M)(1013) of this rule.

(K) [B] Section 1011 Exit signs

- (1) 1011.1 Where required. Exits and exit access doors 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 (30 480 mm) or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

Exceptions:

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1. Exit signs are not required in rooms or areas that require only one exit or exit access.

2. Main exterior exit doors or gates which obviously and clearly are identifiable as exits need not have exit signs where approved by the fire code official pursuant to paragraph (A)(1)(1001.1) of this rule. At locations or in structures not regulated by the building code as listed in rule 1301:7-7-47 of the Administrative Code, main exterior exit doors or gates which obviously and clearly are identifiable as exits need not have exit signs where approved by the fire code 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.

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.

(2) 1011.2 Illumination. Exit signs shall be internally or externally illuminated.

Exception: Tactile signs required by paragraph (K)(3)(1011.3) of this rule need not be provided with illumination.

(3) 1011.3 Tactile exit signs. A tactile sign stating "EXIT" and complying with the building code as listed in rule 1301:7-7-47 of the Administrative Code shall be provided adjacent to each door to an area of refuge, an exterior area of assisted rescue, exit stairway, an exit ramp, an exit passageway and the exit discharge.

(4) 1011.4 Internally illuminated exit signs. Electrically powered, self-luminous and photoluminescent exit signs shall be listed and labeled in accordance with UL 924 as listed in rule 1301:7-7-47 of the Administrative Code and shall be installed in accordance with the manufacturer's instructions and Chapter 27 of the building code as listed in rule 1301:7-7-47 of the Administrative Code. Exit signs shall be illuminated at all times.

(5) 1011.5 Externally illuminated exit signs. Externally illuminated exit signs shall comply with paragraphs (K)(5)(a)(1011.5.1) to (K)(5)(c)(1011.5.3) of this rule.

(a) 1011.5.1 Graphics. Every exit sign and directional exit sign shall have

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plainly legible letters not less than 6 inches (152 mm) high with the principal strokes of the letters not less than ¾ inch (19.1 mm) wide. The word "EXIT" shall have letters having a width not less than 2 inches (51 mm) wide, except the letter "I," and the minimum spacing between letters shall not be less than 3/8 inch (9.5 mm). Signs larger than the minimum established in this paragraph shall have letter widths, strokes and spacing in proportion to their height.

The word "EXIT" shall be in high contrast with the background and shall be clearly discernible when the means of exit sign illumination is or is not energized. If chevron directional indicator is not provided as part of the exit sign, the construction shall be such that the direction of the chevron directional indicator cannot be readily changed.

(b) 1011.5.2 Exit sign illumination. The face of an exit sign illuminated from an external source shall have an intensity of not less than 5 foot-candles (54 lux).

(c) 1011.5.3 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

Exception: Approved exit sign illumination means that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.

#### (L) [B] Section 1012 Handrails

(1) 1012.1 Where required. Handrails for stairways and ramps shall be adequate in strength and attachment in accordance with section 1607.7 of the building code as listed in rule 1301:7-7-47 of the Administrative Code. Handrails required for stairways by paragraph (I)(12)(1009.12) of this rule shall comply with paragraphs (L)(2)(1012.2) to (L)(9)(1012.9) of this rule. Handrails required for ramps by paragraph (J)(8)(1010.8) of this rule shall comply with paragraphs (L)(2)(1012.2) to (L)(8)(1012.8) of this rule.

(2) 1012.2 Height. Handrail height, measured above stair tread nosings, or finish surface of ramp slope shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). Handrail height of alternating tread devices and ship ladders, measured above tread nosings shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

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- (3) 1012.3 Handrail graspability. All required handrails shall comply with paragraph (L)(3)(a)(1012.3.1) of this rule or shall provide equivalent graspability.

Exception: In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; handrails shall be Type I in accordance with paragraph (L)(3)(a)(1012.3.1) of this rule, Type II in accordance with paragraph (L)(3)(b)(1012.3.2) of this rule or shall provide equivalent graspability.

(a) 1012.3.1 Type I. Handrails with a circular cross-section shall have an outside diameter of at least 1¼ inches (32 mm) and not greater than 2 inches (51 mm). If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6¼ inches (160 mm) with a maximum cross-section dimension of 2¼ inches (57 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

(b) 1012.3.2 Type II. Handrails with a perimeter greater than 6¼ inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of ¾ inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least 5/16 inch (8 mm) within 7/8 inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least 3/8 inch (10 mm) to a level that is not less than 1¾ inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1¼ inches (32 mm) to a maximum of 2¾ inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

- (4) 1012.4 Continuity. Handrail-gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

Exceptions:

1. Handrails within dwelling units are permitted to be interrupted by a newel post at a turn or landing.

2. Within a dwelling unit, the use of a volute, turnout, starting easing or starting newel is allowed over the lowest tread.

3. Handrail brackets or balusters attached to the bottom surface of the handrail that do not project horizontally beyond the sides of the handrail within 1½ inches (38 mm) of the bottom of the handrail shall not be considered to be obstructions. For each ½ inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance

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dimension of 1½ inches (38 mm) shall be permitted to be reduced by 1/8 inch (3 mm).

4. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

(5) 1012.5 Fittings. Handrails shall not rotate within their fittings.

(6) 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 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 handrail 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 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 Group A and E occupancies in accordance with paragraph (BB)(13)(1028.13) of this rule.

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.

(7) 1012.7 Clearance. Clear space between a handrail and a wall or other surface shall be a minimum of 1½ inches (38 mm). A handrail and a wall or other surface adjacent to the handrail shall be free of any sharp or abrasive elements.

(8) 1012.8 Projections. On ramps, the clear width between handrails shall be 36 inches (914 mm) minimum. Projections into the required width of stairways and ramps at each handrail shall not exceed 4½ inches (114 mm) at or below the handrail height. Projections into the required width shall not be limited above the minimum headroom height required in paragraph (I)(2)(1009.2) of this rule.

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(9) 1012.9 Intermediate handrails. Stairways shall have intermediate handrails located in such a manner that all portions of the stairway width required for egress capacity are within 30 inches (762 mm) of a handrail. On monumental stairs, handrails shall be located along the most direct path of egress travel.

(M) [B] Section 1013 Guards

(1) 1013.1 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 1607.7 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

Exception: Guards not required for the following locations:

1. On the loading side of loading docks or piers.
  2. On the audience side of stages and raised platforms, including steps leading up to the stage and raised platforms.
  3. On raised stage and platform floor areas, such as runways, ramps and side stages used for entertainment or presentations.
  4. At vertical openings in the performance area of stages and platforms.
  5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
  6. Along vehicle service pits not accessible to the public.
  7. In assembly seating where guards in accordance with paragraph (BB)(14)(1028.14) of this rule are permitted and provided.
- (a) 1013.1.1 Glazing. Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with section 2407 of the building code as listed in rule 1301:7-7-47 of the Administrative Code. Where the glazing provided does not meet the strength and attachment requirements in section 1607.7 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, complying guards shall also be located along glazed sides of open-sided walking surfaces.

(2) 1013.2 Height. Required guards shall be not less than 42 inches (1067 mm) high, measured vertically above the adjacent walking surfaces, adjacent fixed seating or the line connecting the leading edges of the treads.

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Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
  2. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
  3. The height in assembly seating areas shall be in accordance with paragraph (BB)(14)(1028.14) of this rule.
  4. Along alternating tread device and ship ladders, guards whose top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.
- (3) 1013.3 Opening limitations. Required guards shall not have openings which allow passage of a sphere 4 inches in diameter from the walking surface to the required guard height.

Exceptions:

1. The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail shall not allow passage of a sphere 6 inches (152 mm) in diameter.
2. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.
3. In areas that are open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices and ship ladders, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.
4. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall not have openings which allow passage of a sphere 4 inches in diameter (102 mm) up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, guards shall not have openings which allow passage of a sphere 8 inches (203 mm) in diameter.

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- (4) 1013.4 Screen porches. Porches and decks which are enclosed with insect screening shall be provided with guards where the walking surface is located more than 30 inches (762 mm) above the floor or grade below.
- (5) 1013.5 Mechanical equipment. Guards shall be provided where appliances, equipment, fans, roof hatch openings or other components that require service are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter. The guard shall extend not less than 30 inches (762 mm) beyond each end of such appliance, equipment, fan or component.
- (6) 1013.6 Roof access. Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter.

(N) [B] Section 1014 Exit access

- (1) 1014.1 General. The exit access shall comply with the applicable provisions of paragraphs (C)(1003) to (M)(1013) of this rule. Exit access arrangement shall comply with paragraphs (N)(1014) to (S)(1019) of this rule.
- (2) 1014.2 Egress through intervening spaces. Egress through intervening spaces shall comply with this paragraph.
1. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one another are not a Group H occupancy and provide a discernible path of egress travel to an exit.
- Exception: Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy when the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.
2. An exit access shall not pass through a room that can be locked to prevent egress.
  3. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.
  4. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

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Exceptions:

1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or sleeping unit.

2. Means of egress are not prohibited through stockrooms in Group M occupancies when all of the following are met:

2.1 The stock is of the same hazard classification as that found in the main retail area;

2.2 Not more than 50 per cent of the exit access is through the stockroom;

2.3 The stockroom is not subject to locking from the egress side; and

2.4 There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by full or partial height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.

(a) 1014.2.1 Multiple tenants. Where more than one tenant occupies any one floor of a building or structure, each tenant space, dwelling unit and sleeping unit shall be provided with access to the required exits without passing through adjacent tenant spaces, dwelling units and sleeping units.

Exception: The means of egress from a smaller tenant space shall not be prohibited from passing through a larger adjoining tenant space where such rooms or spaces of the smaller tenant occupy less than 10 per cent of the area of the larger tenant space through which they pass; are the same or similar occupancy group; a discernible path of egress travel to an exit is provided; and the means of egress into the adjoining space is not subject to locking from the egress side. A required means of egress serving the larger tenant space shall not pass through the smaller tenant space or spaces.

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

Exception: Rooms with exit doors opening directly to the outside at ground level.

(c) 1014.2.3 Suites in patient sleeping areas. Patient sleeping areas in Group I-2 occupancies shall be permitted to be divided into suites with one intervening room if one of the following conditions is met:

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1. The intervening room within the suite is not used as an exit access for more than eight patient beds.
2. The arrangement of the suite allows for direct and constant visual supervision by nursing personnel.
  - (i) 1014.2.3.1 Area. Suites of sleeping rooms shall not exceed 5,000 square feet (465 m<sup>2</sup>).
  - (ii) 1014.2.3.2 Exit access. Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93 m<sup>2</sup>) shall have at least two exit access doors remotely located from each other.
  - (iii) 1014.2.3.3 Travel distance. The travel distance between any point in a suite of sleeping rooms and an exit access door of that suite shall not exceed 100 feet (30 480 mm).
- (d) 1014.2.4 Suites in areas other than patient sleeping areas. Areas other than patient sleeping areas in Group I-2 occupancies shall be permitted to be divided into suites.
  - (i) 1014.2.4.1 Area. Suites of rooms, other than patient sleeping rooms, shall not exceed 10,000 square feet (929 m<sup>2</sup>).
  - (ii) 1014.2.4.2 Exit access. Any room or suite of rooms, other than patient sleeping rooms, of more than 2,500 square feet (232 m<sup>2</sup>) shall have at least two exit access doors remotely located from each other.
  - (iii) 1014.2.4.3 One intervening room. For rooms other than patient sleeping rooms, suites of rooms are permitted to have one intervening room if the travel distance within the suite to the exit access door is not greater than 100 feet (30 480 mm).
  - (iv) 1014.2.4.4 Two intervening rooms. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through two intervening rooms where the travel distance to the exit access door is not greater than 50 feet (15 240 mm).
- (e) 1014.2.5 Exit access through suites. Exit access from all other portions of a building not classified as a suite in a Group I-2 occupancy shall not pass through a suite.
- (f) 1014.2.6 Travel distance. The travel distance between any point in a

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Group I-2 occupancy patient sleeping room and an exit access door in that room shall not exceed 50 feet (15 240 mm).

(g) 1014.2.7 Separation. Suites in Group I-2 occupancies shall be separated from other portions of the building by a smoke partition complying with section 711 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

(3) 1014.3 Common path of egress travel. In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In Group H-1, H-2 and H-3 occupancies, the common path of egress travel shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies and assembly occupancies accessory to Group E occupancies having fixed seating, see paragraph (BB)(8)(1028.8) of this rule.

Exceptions:

1. The length of a common path of egress travel in Group B, F and S occupancies shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code.

2. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).

3. The length of a common path of egress travel in a Group I-3 occupancy shall not be more than 100 feet (30 480 mm).

4. The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code.

(O) [B] Section 1015 Exit and exit access doorways

(1) 1015.1 Exit or exit access doorways from spaces. Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

Exception: Group I-2 occupancies shall comply with paragraphs (N)(2)(b)(1014.2.2) to (N)(2)(g)(1014.2.7) of this rule.

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

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rule.

Exception: In Group 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 paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code.

2. The common path of egress travel exceeds one of the limitations of paragraph (N)(3)(1014.3) of this rule.

3. Where required by paragraphs (O)(3)(1015.3), (O)(4)(1015.4), (O)(5)(1015.5), (O)(6)(1015.6) or (O)(6)(a)(1015.6.1) of this rule.

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 paragraph (D)(1)(1004.1) of this rule.

**Table 1015.1**  
**Spaces with one exit or exit access doorway**

<b><u>Occupancy</u></b>	<b><u>Maximum occupant load</u></b>
A, B, E <sup>a</sup> , F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29

a. Day care maximum occupancy load is 10.

(a) 1015.1.1 Three or more exits or exit access doorways. Three exits or exit access doorways shall be provided from any space with an occupant load of 501 to 1,000. Four exits or exit access doorways shall be provided from any space with an occupant load greater than 1,000.

(2) 1015.2 Exit or exit access doorway arrangement. Required exits shall be located in a manner that makes their availability obvious. Exits shall be unobstructed at all times. Exits and exit access doorways shall be arranged in accordance with paragraphs (O)(2)(a)(1015.2.1) and (O)(2)(b)(1015.2.2) of this rule.

(a) 1015.2.1 Two exit or exit access doorways. Where two exits or exit access

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

Exceptions:

1. Where exit enclosures are provided as a portion of the required exit and are interconnected by a 1-hour fire-resistance-rated corridor conforming to the requirements of paragraph (R)(1018) of this rule, 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 paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code, 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.

(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 paragraph (O)(2)(a)(1015.2.1) of this rule.

(3) 1015.3 Boiler, incinerator and furnace rooms. Two exit access doorways are required in boiler, incinerator and furnace rooms where the area is over 500 square feet (46 m<sup>2</sup>) and any fuel-fired equipment exceeds 400,000 British thermal units (Btu) (422 000 KJ) input capacity. Where two exit access doorways are required, one is permitted to be a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the length of the maximum overall diagonal dimension of the room.

(4) 1015.4 Refrigeration machinery rooms. Machinery rooms larger than 1,000 square feet (93 m<sup>2</sup>) shall have not less than two exits or exit access doors. Where two exit access doorways are required, one such doorway is permitted to be served by a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorway. An increase in travel distance is permitted in accordance with paragraph (P)(1)(1016.1) of this rule.

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

- (5) 1015.5 Refrigerated rooms or spaces. Rooms or spaces having a floor area larger than 1,000 square feet (93 m<sup>2</sup>), 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 doors.

Travel distance shall be determined as specified in paragraph (P)(1)(1016.1) of this rule, but all portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access door where such rooms are not protected by an approved automatic sprinkler system. 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 mechanical code as listed in rule 1301:7-7-47 of the Administrative Code.

- (6) 1015.6 Stage means of egress. Where two means of egress are required, based on the stage size or occupant load, one means of egress shall be provided on each side of the stage.

- (a) 1015.6.1 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 shall be permitted in the means of egress.

3. Stairways required by this paragraph need not be enclosed.

4. Stairways with a minimum width of 22 inches (559 mm), ladders, or spiral stairs shall be permitted in the means of egress.

5. A second means of egress 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.

(P) [B] Section 1016 Exit access travel distance

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(1) 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 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 of this rule.

Exceptions:

1. Travel distance in open parking garages is permitted to be measured to the closest 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 per cent 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 paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code. 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.

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**Table 1016.1**  
**Exit access travel distance<sup>a</sup>**

<u>Occupancy</u>	<u>Without sprinkler system</u> <u>(feet)</u>	<u>With sprinkler system</u> <u>(feet)</u>
A, E, F-1, M, R, S-1	200	250 <sup>b</sup>
I-1	Not permitted	250 <sup>c</sup>
B	200	300 <sup>c</sup>
F-2, S-2, U	300	400 <sup>c</sup>
H-1	Not permitted	75 <sup>c</sup>
H-2	Not permitted	100 <sup>c</sup>
H-3	Not permitted	150 <sup>c</sup>
H-4	Not permitted	175 <sup>c</sup>
H-5	Not permitted	200 <sup>c</sup>
I-2, I-3, I-4	Not permitted	200 <sup>c</sup>

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:

Section 402.4 of the building code as listed in rule 1301:7-7-47 of the Administrative Code: For the distance limitation in malls.

Section 404.9 of the building code as listed in rule 1301:7-7-47 of the Administrative Code: For the distance limitation through an atrium space.

Section 407.4 of the building code as listed in rule 1301:7-7-47 of the Administrative Code: For the distance limitation in Group I-2.

Section 408.6.1 and 408.8.1 of the building code as listed in rule 1301:7-7-47 of the Administrative Code: For the distance limitation in Group I-3.

Section 411.4 of the building code as listed in rule 1301:7-7-47 of the Administrative Code: For the distance limitation in special amusement buildings.

Paragraph (N)(2)(b)(1014.2.2) of this rule: For the distance limitation in Group I-2 hospital suites.

Paragraph (O)(4)(1015.4) of this rule: For the distance limitation in refrigeration machinery rooms.

Paragraph (O)(5)(1015.5) of this rule: For the distance limitation in refrigerated rooms and spaces.

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Paragraph (P)(3)(1016.3) of this rule: For increased limitation in Groups F-1 and S-1.

Paragraph (U)(2)(1021.2) of this rule: For buildings with one exit.

Paragraph (BB)(7)(1028.7) of this rule: For increased limitation for assembly seating.

Paragraph (BB)(7)(1028.7) of this rule: For increased limitation for assembly open-air seating.

Section 3103.4 of the building code as listed in rule 1301:7-7-47 of the Administrative Code: For temporary structures.

Section 3104.9 of the building code as listed in rule 1301:7-7-47 of the Administrative Code: For pedestrian walkways.

b. Buildings equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code. See paragraph (C)(903) of rule 1301:7-7-09 of the Administrative Code for occupancies where automatic sprinkler systems are permitted in accordance with paragraph (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code.

(2) 1016.2 Exterior egress balcony increase. Travel distances specified in paragraph (P)(1)(1016.1) of this rule 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 paragraph (S)(1019) of this rule. The length of such balcony shall not be less than the amount of the increase taken.

(3) 1016.3 Group F-1 and S-1 increase. The maximum exit access travel distance shall be 400 feet (121,920 mm) in Group F-1 and S-1 occupancies where all of the following are met:

(a) The portion of the building classified as Group F-1 or S-1 is limited to one story in height; and

(b) The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm); and

(c) The portion of the building classified as Group F-1 or S-1 is equipped

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throughout with an early suppression fast response (ESFR) automatic fire sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-47 of the Administrative Code; and

(d) The portion of the building classified as Group F-1 or S-1 is equipped with a manually activated smoke exhaust system complying with paragraph (J)(5)(910.5) of rule 1301:7-7-09 of the Administrative Code.

(Q) Section 1017 Aisles

(1) 1017.1 General. Aisles serving as a portion of the exit access in the means of egress system shall comply with the requirements of this paragraph. Aisles shall be provided from all occupied portions of the exit access which contain seats, tables, furnishings, displays and similar fixtures or equipment. Aisles serving assembly areas shall comply with paragraph (BB)(1028) of this rule. Aisles serving reviewing stands, grandstands and bleachers shall also comply with paragraph (BB)(1028) of this rule. The required width of aisles shall be unobstructed.

Exception: Doors complying with paragraph (E)(2)(1005.2) of this rule.

(2) 1017.2 Aisles in Groups B and M. In Group B and M occupancies, the minimum clear aisle width shall be determined by paragraph (E)(1)(1005.1) of this rule for the occupant load served, but shall not be less than 36 inches (914 mm).

Exception: Nonpublic aisles serving less than 50 people and not required to be accessible by Chapter 11 of the building code as listed in rule 1301:7-7-47 of the Administrative Code need not exceed 28 inches (71 mm) in width.

(3) 1017.3 Aisle accessways in Group M. An aisle accessway shall be provided on at least one side of each element within the merchandise pad. The minimum clear width for an aisle accessway not required to be accessible shall be 30 inches (762 mm). The required clear width of the aisle accessway shall be measured perpendicular to the elements and merchandise within the merchandise pad. The 30-inch (762 mm) minimum clear width shall be maintained to provide a path to an adjacent aisle or aisle accessway. The common path of travel shall not exceed 30 feet (9144 mm) from any point in the merchandise pad.

Exception: For areas serving not more than 50 occupants, the common path of travel shall not exceed 75 feet (22 880 mm).

(4) 1017.4 Seating at tables. Where seating is located at a table or counter and is adjacent to an aisle or aisle accessway, the measurement of required clear width of the aisle or aisle accessway shall be made to a line 19 inches (483

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mm) away from and parallel to the edge of the table or counter. The 19 inch (483 mm) distance shall be measured perpendicular to the side of the table or counter. In case of other side boundaries for aisle or aisle accessways, the clear width shall be measured to walls, edges of seating and tread edges, except that handrail projections are permitted.

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

(a) 1017.4.1 Aisle accessway for tables and seating. Aisle accessways serving arrangements of seating at tables or counters shall have sufficient clear width to conform to the capacity requirements of paragraph (E)(1)(1005.1) of this rule, but shall not have less than the appropriate minimum clear width specified in paragraph (O)(4)(b)(1017.4.2) of this rule.

(b) 1017.4.2 Table and seating accessway width. Aisle accessways shall provide a minimum of 12 inches (305 mm) of width plus ½ inch (12.7 mm) of width for each additional 1 foot (305 mm), or fraction thereof, beyond 12 feet (3658 mm) of aisle accessway length measured from the center of the seat farthest from an aisle.

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

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

#### (R) [B] Section 1018 Corridors

(1) 1018.1 Construction. Corridors shall be fire-resistance rated in accordance with Table 1018.1 of this rule. The corridor walls required to be fire-resistance rated shall comply with section 709 of the building code as listed in rule 1301:7-7-47 of the Administrative Code for fire partitions.

##### Exceptions:

1. A fire-resistance rating is not required for corridors in an occupancy in Group E where each room that is used for instruction has at least one door directly to the exterior and rooms for assembly purposes have at least one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.

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2. A fire-resistance rating is not required for corridors contained within a dwelling or sleeping unit in an occupancy in Group R.

3. A fire-resistance rating is not required for corridors in open parking garages.

4. A fire-resistance rating is not required for corridors in an occupancy in Group B which is a space requiring only a single means of egress complying with paragraph (O)(1)(1015.1) of this rule.

**Table 1018.1**  
**Corridor fire-resistance rating**

<u>Occupancy</u>	<u>Occupant load served by corridor</u>	<u>Required fire-resistance rating (hours)</u>	
		<u>Without sprinkler system</u>	<u>With sprinkler system<sup>c</sup></u>
H-1, H-2, H-3	All	Not permitted	1
H-4, H-5	Greater than 30	Not permitted	1
A, B, E, F, M, S, U	Greater than 30	1	0
R	Greater than 10	Not permitted	0.5
I-2 <sup>a</sup> , I-4	All	Not permitted	0
I-1, I-3	All	Not permitted	1 <sup>b</sup>

a. For requirements for occupancies in Group I-2, see sections 407.2 and 407.3 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see section 408.8 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code where allowed.

d. One hour when design qualifies in accordance with paragraph (C)(2)(h)(903.2.8), exception 3 as listed in rule 1301:7-7-09 of the Administrative Code.

(2) 1018.2 Corridor width. The minimum corridor width shall be determined in paragraph (E)(1)(1005.1) of this rule, but not less than 44 inches (1118 mm).

Exceptions:

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1. Twenty-four inches (610 mm)-For access to and utilization of electrical, mechanical or plumbing systems or equipment.
  2. Thirty-six inches (914 mm)-With a required occupant capacity of less than 50.
  3. Thirty-six inches (914 mm)-Within a dwelling unit.
  4. Seventy-two inches (1829 mm)-In Group E with a corridor having a required capacity of 100 or more.
  5. Seventy-two inches (1829 mm)-In corridors and areas serving gurney traffic in occupancies where patients receive outpatient medical care which causes the patient to be not capable of self-preservation.
  6. Ninety-six inches (2438 mm)-In Group I-2 in areas where required for bed movement.
- (3) 1018.3 Corridor obstruction. The required width of corridors shall be unobstructed.
- Exception: Doors complying with paragraph (E)(2)(1005.2) of this rule.
- (4) 1018.4 Dead ends. Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.
- Exceptions:
1. In occupancies in Group I-3 of Occupancy Condition 2, 3 or 4 (see paragraph (B)(202) of rule 1301:7-7-02 of the Administrative Code) the dead end in a corridor shall not exceed 50 feet (15 240 mm).
  2. In occupancies in Groups B, E, F, I-1, M, R-1, R-2, R-4, S and U, where the building is equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code, the length of dead end corridors shall not exceed 50 feet (15 240 mm).
  3. A dead-end corridor shall not be limited in length where the length of the dead end corridor is less than 2.5 times the least width of the dead end corridor.
- (5) 1018.5 Air movement in corridors. Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts.

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Exceptions:

1. Use of a corridor as a source of makeup air for exhaust systems in rooms that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, smoking lounges and janitor closets, shall be permitted, provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor.
  2. Where located within a dwelling unit, the use of corridors for conveying return air shall not be prohibited.
  3. Where located within tenant spaces of 1,000 square feet (93 m<sup>2</sup> or less in area, utilization of corridors for conveying return air is permitted.
  4. Incidental air movement from pressurized rooms within healthcare facilities, provided that the corridor is not the primary source of supply or return air to the room.
- (a) 1018.5.1 Corridor ceiling. Use of the space between the corridor ceiling and the floor or roof structure above as a return air plenum is permitted for one or more of the following conditions:
- (i) The corridor is not required to be of fire-resistance-rated construction;
  - (ii) The corridor is separated from the plenum by fire-resistance-rated construction;
  - (iii) The air-handling system serving the corridor is shut down upon activation of the air handling unit smoke detectors required by the mechanical code as listed in rule 1301:7-7-47 of the Administrative Code.
  - (iv) The air-handling system serving the corridor is shut down upon detection of sprinkler waterflow where the building is equipped throughout with an automatic sprinkler system; or
  - (v) The space between the corridor ceiling and the floor or roof structure above the corridor is used as a component of an approved engineered smoke control system.
- (6) 1018.6 Corridor continuity. Fire-resistance-rated corridors shall be continuous from the point of entry to an exit and shall not be interrupted by intervening rooms.

Exception: Foyers, lobbies or reception rooms constructed as required for

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corridors shall not be construed as intervening rooms.

(S) Section 1019 Egress balconies

(1) 1019.1 General. Balconies used for egress purposes shall conform to the same requirements as corridors for width, headroom, dead ends and projections.

(2) 1019.2 Wall separation. Exterior egress balconies shall be separated from the interior of the building by walls and opening protectives as required for corridors.

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

(3) 1019.3 Openness. The long side of an egress balcony shall be at least 50 per cent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

(T) [B] Section 1020 Exits

(1) 1020.1 General. Exits shall comply with paragraphs (T)(1020) to (Z)(1026) of this rule and the applicable requirements of paragraphs (C)(1003) to (M)(1013) of this rule. An exit shall not be used for any purpose that interferes with its function as a means of egress. Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge.

(2) 1020.2 Exterior exit doors. Buildings or structures used for human occupancy shall have at least one exterior door that meets the requirements of paragraph (H)(1)(a)(1008.1.1) of this rule.

(a) 1020.2.1 Detailed requirements. Exterior exit doors shall comply with the applicable requirements of paragraph (H)(1)(1008.1) of this rule.

(b) 1020.2.2 Arrangement. Exterior exit doors shall lead directly to the exit discharge or the public way.

(U) [B] Section 1021 Number of exits and continuity

(1) 1021.1 Exits from stories. All spaces within in each story shall have access to the minimum number of approved independent exits as required by Table 1021.1 of this rule based on the occupant load of the story. For the purposes of this rule, occupied roofs shall be provided with exits as required for stories.

Exceptions:

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1. As modified by section 403.5.2 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.
2. As modified in paragraph (U)(2)(1021.2) of this rule.
3. Exit access stairways and ramps that comply with Exception 3 or 4 of paragraph (P)(1)(1016.1) of this rule shall be permitted to provide the minimum number of approved independent exits required by Table 1021.1 of this rule on each story.
4. In Group 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 paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code.
5. Within a story, rooms and spaces complying with paragraph (O)(1)(1015.1) of this rule with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit.

**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

- (a) 1021.1.1 Exits maintained. The required number of exits from any story shall be maintained until arrival at grade or the public way.
- (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. Vehicle ramps shall not be considered as required exits unless pedestrian facilities are provided.
- (c) 1021.1.3 Helistops. The means of egress from helistops shall comply with the provisions of this rule, provided that landing areas located on buildings or structures shall have two or more exits. For landing platforms or roof areas less than 60 feet (18 288 mm) long, or less than 2,000 square feet (186 m<sup>2</sup>) in area, the second means of egress is permitted to be a fire escape, alternating tread device or ladder leading to the floor below.

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(2) 1021.2 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 of this rule. 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 of this rule. Mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1021.2 of this rule for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of paragraph (D)(1)(1004.1) of this rule. Basements with a single exit shall not be located more than one story below grade plane.

**Table 1021.2**  
**Stories with one exit**

<u>Story</u>	<u>Occupancy</u>	<u>Maximum occupants (or dwelling units) per floor and travel distance</u>
<u>First story or basement</u>	<u>A, B<sup>d</sup>, E<sup>c</sup>, F<sup>d</sup>, M, U, S<sup>d</sup></u>	<u>49 occupants and 75 feet travel distance</u>
	<u>H-2, H-3</u>	<u>3 occupants and 25 feet travel distance</u>
	<u>H-4, H-5, I, R</u>	<u>10 occupants and 75 feet travel distance</u>
	<u>S<sup>a</sup></u>	<u>29 occupants and 100 feet travel distance</u>
<u>Second story</u>	<u>B<sup>b</sup>, F, M, S<sup>a</sup></u>	<u>29 occupants and 75 feet travel distance</u>
	<u>R-2</u>	<u>4 dwelling units and 50 feet travel distance</u>
<u>Third story</u>	<u>R-2<sup>c</sup></u>	<u>4 dwelling units and 50 feet travel distance</u>

For SI: 1 foot = 304.8 mm.

a. For the required number of exits for parking structures, see paragraph (U)(1)(b)(1021.1.2) of this rule.

b. For the required number of exits for air traffic control towers, see section 412.3 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

c. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code and

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provided with emergency escape and rescue openings in accordance with paragraph (CC)(1029) of this rule.

d. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code shall have a maximum travel distance of 100 feet.

e. Day care occupancies shall have a maximum occupant load of 10.

(3) 1021.3 Exit continuity. Exits shall be continuous from the point of entry into the exit to the exit discharge.

(4) 1021.4 Exit door arrangement. Exit door arrangement shall meet the requirements of paragraphs (M)(2)(1015.2) to (M)(2)(b)(1015.2.2) of this rule.

(V) [B] Section 1022 Exit enclosures

(1) 1022.1 Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with section 707 of the building code as listed in rule 1301:7-7-47 of the Administrative Code or horizontal assemblies constructed in accordance with section 712 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, 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 paragraph (W)(1023) of this rule, except as permitted in paragraph (AA)(1)(1027.1) of this rule. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

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

1.1 The stairway is open to not more than one story above 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 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, are not required to be enclosed.

6. Means of egress stairways as required by paragraph (O)(6)(a)(1015.6.1) of this rule and section 410.5.3 of the building code as listed in rule 1301:7-7-47 of the Administrative Code are not required to be enclosed.

7. Means of egress stairways from balconies, galleries or press boxes as provided for in paragraph (BB)(5)(a)(1028.5.1) of this rule, are not required to be enclosed.

(2) 1022.2 Termination. Exit enclosures shall terminate at an exit discharge or a public way.

Exception: An exit enclosure shall be permitted to terminate at an exit passageway complying with paragraph (W)(1023) of this rule provided the exit passageway terminates at an exit discharge or a public way.

(a) 1022.2.1 Extension. Where an exit enclosure is extended to an exit discharge or a public way by an exit passageway, the exit enclosure shall be separated from the exit passageway by a fire barrier constructed in accordance with section 707 of the building code as listed in rule 1301:7-7-47 of the Administrative Code or a horizontal assembly constructed in accordance with section 712 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, or both. The fire-resistance rating shall be at least equal to that required for the exit enclosure. A fire door assembly complying with section 715.4 of the building code as listed in rule 1301:7-7-47 of the Administrative Code shall be installed in the fire barrier to provide a means of egress from the exit enclosure to the exit passageway. Openings in the fire barrier other than the fire door assembly are prohibited. Penetrations of the fire barrier are prohibited.

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Exception: Penetrations of the fire barrier in accordance with paragraph (V)(4)(1022.4) of this rule shall be permitted.

- (3) 1022.3 Openings and penetrations. Exit enclosure opening protectives shall be in accordance with the requirements of section 715 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

Openings in exit enclosures 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.

- (4) 1022.4 Penetrations. Penetrations into and openings through an exit enclosure 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 and terminating at a steel box not exceeding 16 square inches (0.010 m<sup>2</sup>). Such penetrations shall be protected in accordance with section 713 of the building code as listed in rule 1301:7-7-47 of the Administrative Code. There shall be no penetrations or communication openings, whether protected or not, between adjacent exit enclosures.

- (5) 1022.5 Ventilation. Equipment and ductwork for exit enclosure ventilation as permitted by paragraph (V)(4)(1022.4) of this rule shall comply with one of the following items:

(a) Such equipment and ductwork shall be located exterior to the building and shall be directly connected to the exit enclosure by ductwork enclosed in construction as required for shafts.

(b) Where such equipment and ductwork is located within the exit enclosure, 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.

(c) 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 of the building code as listed in rule 1301:7-7-47 of the Administrative Code for shaft enclosures.

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Exit enclosure ventilation systems shall be independent of other building ventilation systems.

- (6) 1022.6 Exit enclosure exterior walls. Exterior walls of an exit enclosure shall comply with the requirements of section 705 of the building code as listed in rule 1301:7-7-47 of the Administrative Code 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.
- (7) 1022.7 Discharge identification. A stairway in an exit enclosure shall not continue below the 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 paragraph (K)(1011) of this rule.
- (8) 1022.8 Floor identification signs. A sign shall be provided at each floor landing in exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the exit enclosure and the identification of the stair or ramp. The signage shall also state the story of, and the direction to, the exit discharge and the availability of roof access from the enclosure for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with ADAAG as listed in rule 1301:7-7-47 of the Administrative Code, shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.
- (a) 1022.8.1 Signage requirements. Stairway identification signs shall comply with ADAAG as listed in rule 1301:7-7-47 of the Administrative Code and all of the following requirements:
- (i) The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
  - (ii) The letters designating the identification of the stair enclosure shall be a minimum of 1½ inches (38 mm) in height.
  - (iii) The number designating the floor level shall be a minimum of 5

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inches (127 mm) in height and located in the center of the sign.

(iv) All other lettering and numbers shall be a minimum of 1 inch (25 mm) in height.

(v) 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.

(vi) When signs required by paragraph (V)(8)(1022.8) of this rule are installed in interior exit enclosures of buildings subject to paragraph (X)(1024) of this rule, the signs shall be made of the same materials as required by paragraph (X)(4)(1024.4) of this rule.

(9) 1022.9 Smokeproof enclosures and pressurized stairways. In buildings required to comply with section 403 or 405 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, each of the exit enclosures 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 in accordance with section 909.20 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

(a) 1022.9.1 Termination and extension. A smokeproof enclosure or pressurized stairway shall terminate at an exit discharge or a public way. The smokeproof enclosure or pressurized stairway shall be permitted to be extended by an exit passageway in accordance with paragraph (V)(2)(1022.2) of this rule. The exit passageway shall be without openings other than the fire door assembly required by paragraph (V)(2)(1022.2) of this rule and those necessary for egress from the exit passageway. The exit passageway shall be separated from the remainder of the building by 2-hour fire barriers constructed in accordance with section 707 of the building code as listed in rule 1301:7-7-47 of the Administrative Code or horizontal assemblies constructed in accordance with section 712 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, or both.

Exceptions:

1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.

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2. Openings in the exit passageway serving a pressurized stairway are permitted where the exit passageway is protected and pressurized in the same manner as the pressurized stairway.

3. The fire barrier separating the smokeproof enclosure or pressurized stairway from the exit passageway is not required, provided the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure or pressurized stairway.

4. A smokeproof enclosure or pressurized stairway shall be permitted to egress through areas on the level of discharge or vestibules as permitted by paragraph (AA)(1027) of this rule.

(b) 1022.9.2 Enclosure access. Access to the stairway within a smokeproof enclosure shall be by way of a vestibule or an open exterior balcony.

Exception: Access is not required by way of a vestibule or exterior balcony for stairways using the pressurization alternative complying with section 909.20.5 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

(W) [B] Section 1023 Exit passageways

(1) 1023.1 Exit passageway. Exit passageways serving as an exit component in a means of egress system shall comply with the requirements of this paragraph. An exit passageway shall not be used for any purpose other than as a means of egress.

(2) 1023.2 Width. The width of exit passageways shall be determined as specified in paragraph (E)(1)(1005.1) of this rule but such width shall not be less than 44 inches (1118 mm), except that exit passageways serving an occupant load of less than 50 shall not be less than 36 inches (914 mm) in width. The required width of exit passageways shall be unobstructed.

Exception: Doors complying with paragraph (E)(2)(1005.2) of this rule.

(3) 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. Exit passageways shall be constructed as fire barriers in accordance with section 707 of the building code as listed in rule 1301:7-7-47 of the Administrative Code or horizontal assemblies constructed in accordance with section 712 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, or both.

(4) 1023.4 Termination. Exit passageways shall terminate at an exit discharge or a public way.

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(5) 1023.5 Openings and penetrations. Exit passageway opening protectives shall be in accordance with the requirements of section 715 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

Except as permitted in section 402.4.6 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, openings in exit passageways other than exterior openings shall be limited to those necessary to exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where an exit enclosure is extended to an exit discharge or a public way by an exit passageway, the exit passageway shall also comply with paragraph (V)(2)(a)(1022.2.1) of this rule.

Elevators shall not open into an exit passageway.

(6) 1023.6 Penetrations. Penetrations into and openings through an exit passageway are prohibited except for required exit doors, equipment and ductwork necessary for independent pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication and electrical raceway serving the exit passageway and terminating at a steel box not exceeding 16 square inches (0.010 m<sup>2</sup>). Such penetrations shall be protected in accordance with section 713 of the building code as listed in rule 1301:7-7-47 of the Administrative Code. There shall be no penetrations or communicating openings, whether protected or not, between adjacent exit passageways.

(X) Section 1024 Luminous egress path markings

(1) 1024.1 General. Approved luminous egress path markings delineating the exit path shall be provided in buildings of Groups A, B, E, I, M and R-1 having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access and in accordance with paragraphs (X)(2)(1024.2) to (X)(5)(1024.5) of this rule.

Exceptions:

1. Luminous egress path markings shall not be required on the level of exit discharge in lobbies that serve as part of the exit path in accordance with paragraph (AA)(1)(1027.1) of this rule, exception 1.

2. Luminous egress path markings shall not be required in areas of open parking garages that serve as part of the exit path in accordance with paragraph (AA)(1)(1027.1) of this rule, exception 3.

(2) 1024.2 Markings within exit enclosures. Egress path markings shall be provided in exit enclosures, including vertical exit enclosures and exit passageways, in

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accordance with paragraphs (X)(2)(a)(1024.2.1) to (X)(2)(f)(1024.2.6) of this rule.

(a) 1024.2.1 Steps. A solid and continuous stripe shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Outlining stripes shall have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 2 inches (51 mm). The leading edge of the stripe shall be placed at a maximum of ½ inch (12.7 mm) from the leading edge of the step and the stripe shall overlap the leading edge of the step by not more than ½ inch (12.7 mm) down the vertical face of the step.

Exception: The minimum width of 1 inch (25 mm) shall not apply to outlining stripes listed in accordance with UL 1994 as listed in rule 1301:7-7-47 of the Administrative Code.

(b) 1024.2.2 Landings. The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

(c) 1024.2.3 Handrails. All handrails and handrail extensions shall be marked with a solid and continuous stripe having a minimum width of 1 inch (25 mm). The stripe shall be placed on the top surface of the handrail for entire length of the handrail, including extensions and newel post caps. Where handrails or handrail extensions bend or turn corners, the stripe shall not have a gap of more than 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 as listed in rule 1301:7-7-47 of the Administrative Code.

(d) 1024.2.4 Perimeter demarcation lines. Stair landings and other floor areas within exit enclosures, 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 (25 mm 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 as listed in rule 1301:7-7-47 of the Administrative Code.

(i) 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.

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

- (ii) 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 doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

- (iii) 1024.2.4.3 Transition. Where a wall-mounted demarcation line transitions to a floor-mounted demarcation line, or vice versa, the wall-mounted demarcation line shall drop vertically to the floor to meet a complimentary extension of the floor-mounted demarcation line, thus forming a continuous marking.

- (e) 1024.2.5 Obstacles. Obstacles at or below 6 feet 6 inches (1981 mm) in height and projecting more than 4 inches (102 mm) into the egress path shall be outlined with markings no less than 1 inch (25 mm) in width comprised of a pattern of alternating equal bands, of luminescent luminous material and black, with the alternating bands not more than 2 inches (51 mm) thick and angled at 45 degrees (0.79 rad). Obstacles shall include, but are not limited to, standpipes, hose cabinets, wall projections and restricted height areas. However, such markings shall not conceal any required information or indicators including, but not limited to, instructions to occupants for the use of standpipes.

- (f) 1024.2.6 Doors 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 paragraphs (X)(2)(f)(i)(1024.2.6.1) to (X)(2)(f)(iii)(1024.2.6.3) of this rule.

- (i) 1024.2.6.1 Emergency exit symbol. The doors shall be identified by a low-location luminous emergency exit symbol complying with NFPA 170 as listed in rule 1301:7-7-47 of the Administrative

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Code. The exit symbol shall be a minimum of 4 inches (102 mm) in height and shall be mounted on the door, centered horizontally, with the top of the symbol no higher than 18 inches (457 mm) above the finished floor.

(ii) 1024.2.6.2 Door hardware markings. Door hardware shall be marked with no less than 16 square inches (406 mm<sup>2</sup>) of luminous material. This marking shall be located behind, immediately adjacent to or on the door handle and/or escutcheon. Where a panic bar is installed, such material shall be less than 1 inch (25 mm) wide for the entire length of the actuating bar or touchpad.

(iii) 1024.2.6.3 Door frame markings. The top and sides of the door frame shall be marked with a solid and continuous 1-inch to 2-inch (25 mm to 51 mm) stripe. Where the door molding does not provide sufficient flat surface on which to locate the stripe, the stripe shall be permitted to be located on the wall surrounding the frame.

(3) 1024.3 Uniformity. Placement and dimensions of markings shall be consistent and uniform throughout the same exit enclosure.

(4) 1024.4 Self-luminous and photoluminescent. Luminous egress path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

(a) UL 1994 as listed in rule 1301:7-7-47 of the Administrative Code, or

(b) ASTM E 2072 as listed in rule 1301:7-7-47 of the Administrative Code, except that the charging source shall be 1 foot candle (10 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 30 millicandelas per square meter at 10 minutes and 5 millicandelas per square meter after 90 minutes.

(5) 1024.5 Illumination. Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by paragraph (F)(1006) of this rule for at least 60 minutes prior to periods when the building is occupied.

#### (Y) [B] Section 1025 Horizontal exits

(1) 1025.1 Horizontal exits. Horizontal exits serving as an exit in a means of egress system shall comply with the requirements of this paragraph. A horizontal exit shall not serve as the only exit from a portion of a building, and where two or more exits are required, not more than one-half of the total number of

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exits or total exit width shall be horizontal exits.

Exceptions:

1. Horizontal exits are permitted to comprise two-thirds of the required exits from any building or floor area for occupancies in Group I-2.

2. Horizontal exits are permitted to comprise 100 per cent of the exits required for occupancies in Group I-3. At least 6 square feet (0.6 m<sup>2</sup>) of accessible space per occupant shall be provided on each side of the horizontal exit for the total number of people in adjoining compartments.

(2) 1025.2 Separation. The separation between buildings or refuge areas connected by a horizontal exit shall be provided by a fire wall complying with section 706 of the building code as listed in rule 1301:7-7-47 of the Administrative Code; or it shall be provided by a fire barrier complying with section 707 of the building code as listed in rule 1301:7-7-47 of the Administrative Code or a horizontal assembly complying with section 712 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, or both. The minimum fire-resistance rating of the separation shall be 2 hours. Opening protectives in horizontal exits shall also comply with section 715 of the building code as listed in rule 1301:7-7-47 of the Administrative Code. Duct and air transfer openings in a fire wall or fire barrier that serves as a horizontal exit shall also comply with section 716 of the building code as listed in rule 1301:7-7-47 of the Administrative Code. The horizontal exit separation shall extend vertically through all levels of the building unless floor assemblies have a fire resistance rating of not less than 2 hours with no unprotected openings.

Exception: A fire-resistance rating is not required at horizontal exits between a building area and an above-grade pedestrian walkway constructed in accordance with section 3104 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, provided that the distance between connected buildings is more than 20 feet (6096 mm).

Horizontal exits constructed as fire barriers shall be continuous from exterior wall to exterior wall so as to divide completely the floor served by the horizontal exit.

(3) 1025.3 Opening protectives. Fire doors in horizontal exits shall be self-closing or automatic-closing when activated by a smoke detector in accordance with section 715.4.8.3 of the building code as listed in rule 1301:7-7-47 of the Administrative Code. Doors, where located in a cross-corridor condition, shall be automatic-closing by activation of a smoke detector installed in accordance with section 715.4.8.3 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

(4) 1025.4 Capacity of refuge area. The refuge area of a horizontal exit shall be a

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space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment shall be based on the capacity of the horizontal exit doors entering the refuge area. The capacity of the refuge area shall be computed based on a net floor area allowance of 3 square feet (0.2787 m<sup>2</sup>) for each occupant to be accommodated therein.

Exceptions: The net floor area allowable per occupant shall be as follows for the indicated occupancies.

1. Six square feet (0.6 m<sup>2</sup>) per occupant for occupancies in Group I-3.
2. Fifteen square feet (1.4 m<sup>2</sup>) per occupant for ambulatory occupancies in Group I-2.
3. Thirty square feet (2.8 m<sup>2</sup>) per occupant for nonambulatory occupancies in Group I-2.

The refuge area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this rule, but not including the added occupant load imposed by persons entering it through horizontal exits from other areas. At least one refuge area exit shall lead directly to the exterior or to an exit enclosure.

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 has 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.

(Z) [B] Section 1026 Exterior exit ramps and stairways

- (1) 1026.1 Exterior exit ramps and stairways. Exterior exit ramps and stairways serving as an element of a required means of egress shall comply with this paragraph.

Exception: Exterior exit ramps and stairways for outdoor stadiums complying with paragraph (V)(1022), exception 2 of this rule.

- (2) 1026.2 Use in a means of egress. Exterior exit stairways shall not be used as an element of a required means of egress for Group I-2 occupancies. For occupancies in other than Group I-2, exterior exit ramps and stairways shall be permitted as an element of a required means of egress for buildings not exceeding six stories above grade plane or having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

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- (3) 1026.3 Open side. Exterior exit ramps and stairways serving as an element of a required means of egress shall be open on at least one side. An open side shall have a minimum of 35 square feet (3.3 m<sup>2</sup>) of aggregate open area adjacent to each floor level and the level of each intermediate landing. The required open area shall be located not less than 42 inches (1067 mm) above the adjacent floor or landing level.
- (4) 1026.4 Side yards. The open areas adjoining exterior exit ramps or stairways shall be either yards, courts or public ways; the remaining sides are permitted to be enclosed by the exterior walls of the building.
- (5) 1026.5 Location. Exterior exit ramps and stairways shall be located in accordance with paragraph (AA)(3)(1027.3) of this rule.
- (6) 1026.6 Exterior ramp and stairway protection. Exterior exit ramps and stairways shall be separated from the interior of the building as required in paragraph (V)(1)(1022.1) of this rule. 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 place 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 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 per cent open. To be considered open, the opening shall be a minimum of 50 per cent of the height of the enclosing wall, with the top of the openings not 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 located in a building or structure that is permitted to have unenclosed interior stairways in accordance with paragraph (V)(1)(1022.1) of this rule.

4. Separation from the interior of the building is not required for exterior ramps or stairways connected to open-ended corridors, provided that items 4.1 to 4.4 are met:

4.1 The building, including corridors and ramps and/or stairs, shall be equipped throughout with an automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule

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1301:7-7-09 of the Administrative Code.

4.2 The open-ended corridors comply with paragraph (R)(1018) of this rule.

4.3 The open-ended corridors are connected on each end to an exterior exit ramp or stairway complying with paragraph (Z)(1026) of this rule.

4.4 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 m<sup>2</sup>) or an exterior ramp or stairway shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

(AA) [B] Section 1027 Exit discharge

(1) 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 per cent of the number and capacity of the required exits.

Exceptions:

1. A maximum of 50 per cent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:

1.1 Such exit enclosures egress to a free and unobstructed 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 discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.

1.3 The egress path from the exit enclosure on the level of exit discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code or separated from the egress path in accordance with the requirements for the enclosure of exits.

2. A maximum of 50 per cent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:

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- 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 paragraph (V)(1)(1022.1) exception 4 of this rule, are permitted to egress through the open parking garage at the levels of exit discharge.
4. Horizontal exits complying with paragraph (Y)(1025) of this rule shall not be required to discharge directly to the exterior of the building.
- (2) 1027.2 Exit discharge capacity. The capacity of the exit discharge shall be not less than the required discharge capacity of the exits being served.
- (3) 1027.3 Exit discharge location. Exterior balconies, stairways and ramps shall be located at least 10 feet (3048 mm) from adjacent lot lines and from other buildings on the same lot unless the adjacent building exterior walls and openings are protected in accordance with section 704 of the building code as listed in rule 1301:7-7-47 of the Administrative Code based on fire separation distance.
- (4) 1027.4 Exit discharge components. Exit discharge components shall be sufficiently open to the exterior so as to minimize the accumulation of smoke and toxic gases.
- (5) 1027.5 Egress courts. Egress courts serving as a portion of the exit discharge in the means of egress system shall comply with the requirements of paragraph (AA)(1027) of this rule.
- (a) 1027.5.1 Width. The width of egress courts shall be determined as specified in paragraph (E)(1)(1005.1) of this rule, but such width shall not be less than 44 inches (1118 mm), except as specified herein. Egress courts serving Group R-3 and U occupancies shall not be less than 36 inches (914 mm) in width. The required width of egress courts shall be unobstructed to a height of 7 feet (2134 mm).

Exception: Doors complying with paragraph (E)(2)(1005.2) of this rule.

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Where an egress court exceeds the minimum required width and the width of such egress court is then reduced along the path of exit travel, the reduction in width shall be gradual. The transition in width shall be affected by a guard not less than 36 inches (914 mm) in height and shall not create an angle of more than 30 degrees (0.52 rad) with respect to the axis of the egress court along the path of egress travel. In no case shall the width of the egress court be less than the required minimum.

(b) 1027.5.2 Construction and openings. Where an egress court serving a building or portion thereof is less than 10 feet (3048 mm) in width, the egress court walls shall have not less than 1-hour fire-resistance rated construction for a distance of 10 feet (3048 mm) above the floor of the court. Openings within such walls shall be protected by opening protectives having a fire protection rating of not less than ¾ hour.

Exceptions:

1. Egress courts serving an occupant load of less than 10.

2. Egress courts serving Group R-3.

(6) 1027.6 Access to a public way. The exit discharge shall provide a direct and unobstructed access to a public way.

Exception: Where access to a public way cannot be provided, a safe dispersal area shall be provided where all of the following are met:

1. The area shall be of a size to accommodate at least 5 square feet (0.46 m<sup>2</sup>) for each person.

2. The area shall be located on the same lot at least 50 feet (15 240 mm) away from the building requiring egress.

3. The area shall be permanently maintained and identified as a safe dispersal area.

4. The area shall be provided with a safe and unobstructed path of travel from the building.

(BB) [B] Section 1028 Assembly

(1) 1028.1 General. Occupancies in Group A and assembly occupancies accessory to Group E which contain seats, tables, displays, equipment or other material shall comply with this paragraph.

(a) 1028.1.1 Bleachers. Bleachers, grandstands, and folding and telescopic

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seating, that are not building elements, shall comply with ICC 300 as listed in rule 1301:7-7-47 of the Administrative Code.

- (2) 1028.2 Assembly main exit. Group A occupancies and assembly occupancies accessory to Group E occupancies that have an occupant load of greater than 300 shall be provided with a main exit. The main exit shall be of sufficient width to accommodate not less than one-half of the occupant load, but such width shall not be less than the total required width of all means of egress leading to the exit. Where the building is classified as a Group A occupancy, the main exit shall front on at least one street or an unoccupied space of not less than 10 feet (3048 mm) in width that adjoins a street or public way.

Exception: In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building provided that the total width of egress is not less than 100 per cent of the required width.

- (a) 1028.2.1 Security device. Any security device or system that emits any medium that could obscure a means of egress in any building, structure or premise shall be prohibited.

- (3) 1028.3 Assembly other exits. In addition to having access to a main exit, each level in Group A occupancies or assembly occupancies accessory to Group E occupancies having an occupant load greater than 300, shall be provided with additional means of egress that shall provide an egress capacity for at least one-half of the total occupant load served by that level and comply with paragraph (O)(2)(1015.2) of this rule.

Exception: In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building, provided that the total width of egress is not less than 100 per cent of the required width.

- (4) 1028.4 Foyers and lobbies. In Group A-1 occupancies, where persons are admitted to the building at times when seats are not available, such persons shall be allowed to wait in a lobby or similar space, provided such lobby or similar space shall not encroach upon the required clear width of the means of egress. Such foyer, if not directly connected to a public street by all the main entrances or exits, shall have a straight and unobstructed corridor or path of travel to every such main entrance or exit.

- (5) 1028.5 Interior balcony and gallery means of egress. For balconies, galleries or press boxes having a seating capacity of 50 or more located in Group A occupancies, at least two means of egress shall be provided, with one from each side of every balcony, gallery or press box and at least one leading directly to an exit.

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(a) 1028.5.1 Enclosure of openings. Interior stairways and other vertical openings shall be enclosed in an exit enclosure as provided in paragraph (V)(1)(1022.1) of this rule, 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 paragraph (G)(3)(1007.3) or (G)(4)(1007.4) of this rule.

(6) 1028.6 Width of means of egress for assembly. The clear width of aisles and other means of egress shall comply with paragraph (BB)(6)(a)(1028.6.1) of this rule where smoke-protected seating is not provided and with paragraph (BB)(6)(b)(1028.6.2) or (BB)(6)(c)(1028.6.3) of this rule where smoke-protected seating is provided. The clear width shall be measured to walls, edges of seating and tread edges except for permitted projections.

(a) 1028.6.1 Without smoke protection. The clear width of the means of egress shall provide sufficient capacity in accordance with all of the following, as applicable:

(i) At least 0.3 inch (7.6 mm) of width for each occupant served shall be provided on stairs having riser heights 7 inches (178 mm) or less and tread depths 11 inches (279 mm) or greater, measured horizontally between tread nosing.

(ii) At least 0.005 inch (0.127 mm) of additional stair width for each occupant shall be provided for each 0.10 inch (2.5 mm) of riser height above 7 inches (178 mm).

(iii) Where egress requires stair descent, at least 0.075 inch (1.9 mm) of additional width for each occupant shall be provided on those portions of stair width having no handrail within a horizontal distance of 30 inches (762 mm).

(iv) Ramped means of egress, where slopes are steeper than one unit vertical in 12 units horizontal (8-per cent slope), shall have at least 0.22 inch (5.6 mm) of clear width for each occupant served. Level or ramped means of egress, where slopes are not steeper than one unit vertical in 12 units horizontal (8-per cent slope), shall have at least 0.20 inch (5.1 mm) of clear width for each occupant served.

(b) 1028.6.2 Smoke-protected seating. The clear width of the means of egress for smoke-protected assembly seating shall be not less than the occupant load served by the egress element multiplied by the

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appropriate factor in Table 1028.6.2 of this rule. The total number of seats specified shall be those within the space exposed to the same smoke-protected environment. Interpolation is permitted between the specific values shown. A life safety evaluation shall be done for a facility utilizing the reduced width requirements of Table 1028.6.2 of this rule for smoke-protected assembly seating.

Exception: For an outdoor smoke-protected assembly with an occupant load not greater than 18,000, the clear width shall be determined using the factors in paragraph (BB)(6)(c)(1028.6.3) of this rule.

**Table 1028.6.2**  
**Width of aisles for smoke-protected assembly**

<u>Total number of seats in the smoke-protected assembly occupancy</u>	<u>Inches of clear width per seat served</u>			
	<u>Stairs and aisle steps with handrails within 30 inches</u>	<u>Stairs and aisle steps without handrails within 30 inches</u>	<u>Passageways, doorways and ramps not steeper than 1 in 10 slope</u>	<u>Ramps steeper than 1 in 10 slope</u>
<u>Equal to or less than 5,000</u>	<u>0.200</u>	<u>0.250</u>	<u>0.150</u>	<u>0.165</u>
<u>10,000</u>	<u>0.130</u>	<u>0.163</u>	<u>0.100</u>	<u>0.110</u>
<u>15,000</u>	<u>0.096</u>	<u>0.120</u>	<u>0.070</u>	<u>0.077</u>
<u>20,000</u>	<u>0.076</u>	<u>0.095</u>	<u>0.056</u>	<u>0.062</u>
<u>Equal to or greater than 25,000</u>	<u>0.060</u>	<u>0.075</u>	<u>0.044</u>	<u>0.048</u>

For SI: 1 inch = 25.4 mm.

(i) 1028.6.2.1 Smoke control. Means of egress serving a smoke protected assembly seating area shall be provided with a smoke control system complying with paragraph (I)(909) of rule 1301:7-7-09 of the Administrative Code or natural ventilation designed to maintain the smoke level at least 6 feet (1829 mm) above the floor of the means of egress.

(ii) 1028.6.2.2 Roof height. A smoke-protected assembly seating area with a roof shall have the lowest portion of the roof deck not less than 15 feet (4572 mm) above the highest aisle or aisle accessway.

Exception: A roof canopy in an outdoor stadium shall be

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permitted to be less than 15 feet (4572 mm) above the highest aisle or aisle accessway provided that there are no objects less than 80 inches (2032 mm) above the highest aisle or aisle accessway.

(iii) 1028.6.2.3 Automatic sprinklers. Enclosed areas with walls and ceilings in buildings or structures containing smoke-protected assembly seating shall be protected with an approved automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) of rule 1301:7-7-09 of the Administrative Code.

Exceptions:

1. The floor area used for the contests, performances or entertainment provided the roof construction is more than 50 feet (15 240 mm) above the floor level and the use is restricted to low fire hazard uses.

2. Press boxes and storage facilities less than 1,000 square feet (93 m<sup>2</sup>) in area.

3. Outdoor seating facilities where seating and the means of egress in the seating area are essentially open to the outside.

(c) 1028.6.3 Width of means of egress for outdoor smoke-protected assembly. The clear width in inches (mm) of aisles and other means of egress shall be not less than the total occupant load served by the egress element multiplied by 0.08 (2.0 mm) where egress is by aisles and stairs and multiplied by 0.06 (1.52 mm) where egress is by ramps, corridors, tunnels or vomitories.

Exception: The clear width in inches (mm) of aisles and other means of egress shall be permitted to comply with paragraph (BB)(6)(b)(1028.6.2) of this rule for the number of seats in the outdoor smoke-protected assembly where paragraph (BB)(6)(b)(1028.6.2) of this rule permits less width.

(7) 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:

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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, 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 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.

(8) 1028.8 Common path of egress travel. The common path of egress travel shall not exceed 30 feet (9144 mm) from any seat to a point where an occupant has a choice of two paths of egress travel to two exits.

Exceptions:

1. For areas serving not more than 50 occupants, the common path of egress travel shall not exceed 75 feet (22 860 mm).

2. For smoke-protected assembly seating, the common path of egress travel shall not exceed 50 feet (15 240 mm).

(a) 1028.8.1 Path through adjacent row. Where one of the two paths of travel is across the aisle through a row of seats to another aisle, there shall be not more than 24 seats between the two aisles, and the minimum clear width between rows for the row between the two aisles shall be 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row between aisles.

Exception: For smoke-protected assembly seating there shall not be more than 40 seats between the two aisles and the minimum clear width shall be 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat.

(9) 1028.9 Assembly aisles are required. Every occupied portion of any occupancy in Group A or assembly occupancies accessory to Group E that contains seats, tables, displays, similar fixtures or equipment shall be provided with aisles leading to exits or exit access doorways in accordance with this paragraph. Aisle accessways for tables and seating shall comply with paragraph (Q)(4)(1017.4) of this rule.

(a) 1028.9.1 Minimum aisle width. The minimum clear width for aisles shall be as shown:

(i) Forty-eight inches (1219 mm) for aisle stairs having seating on each side.

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Exception: Thirty-six inches (914 mm) where the aisle serves less than 50 seats.

(ii) Thirty-six inches (914 mm) for aisle stairs having seating on only one side.

(iii) Twenty-three inches (584 mm) between an aisle stair handrail or guard and seating where the aisle is subdivided by a handrail.

(iv) Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.

Exceptions:

1. Thirty-six inches (914 mm) where aisle serves less than 50 seats.

2. Thirty inches (762 mm) where aisle does not serve more than 14 seats.

(v) Thirty-six inches (914 mm) for level or ramped aisles having seating on only one side.

Exceptions:

1. Thirty inches (762 mm) where the aisle does not serve more than 14 seats.

2. Twenty-three inches (584 mm) between an aisle stair handrail and seating where an aisle does not serve more than five rows on one side.

(b) 1028.9.2 Aisle width. The aisle width shall provide sufficient egress capacity for the number of persons accommodated by the catchment area served by the aisle. The catchment area served by an aisle is that portion of the total space that is served by that section of the aisle. In establishing catchment areas, the assumption shall be made that there is a balanced use of all means of egress, with the number of persons in proportion to egress capacity.

(c) 1028.9.3 Converging aisles. Where aisles converge to form a single path of egress travel, the required egress capacity of the path shall not be less than the combined required capacity of the converging aisles.

(d) 1028.9.4 Uniform width. Those portions of aisles, where egress is possible in either of two directions, shall be uniform in required width.

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(e) 1028.9.5 Assembly aisle termination. Each end of an aisle shall terminate at cross aisle, foyer, doorway, vomitory or concourse having access to an exit.

Exceptions:

1. Dead-end aisles shall not be greater than 20 feet (6096 mm) in length.

2. Dead-end aisles longer than 20 feet (6096 mm) are permitted where seats beyond the 20 foot (6096 mm) dead-end aisle are no more than 24 seats from another aisle, measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row.

3. For smoke-protected assembly seating, the dead-end aisle length of vertical aisles shall not exceed a distance of 21 rows.

4. For smoke-protected assembly seating, a longer dead-end aisle is permitted where seats beyond the 21-row dead-end aisle are not more than 40 seats from another aisle, measured along a row of seats having an aisle accessway with a minimum clear width of 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row.

(f) 1028.9.6 Assembly aisle obstructions. There shall be no obstructions in the required width of aisles except for handrails as provided in paragraph (BB)(13)(1028.13) of this rule.

(10) 1028.10 Clear width of aisle accessways serving seating. Where seating rows have 14 or fewer seats, the minimum clear aisle accessway width shall not be less than 12 inches (305 mm) measured as the clear horizontal distance from the back of the row ahead and the nearest projection of the row behind. Where chairs have automatic or self-rising seats, the measurement shall be made with seats in the raised position. Where any chair in the row does not have an automatic or self-rising seat, the measurements shall be made with the seat in the down position. For seats with folding tablet arms, row spacing shall be determined with the tablet arm in the used position.

Exception: For seats with folding tablet arms, row spacing is permitted to be determined with the tablet arm in the stored position where the tablet arm when raised manually to vertical position in one motion automatically returns to the stored position by force of gravity.

(a) 1028.10.1 Dual access. For rows of seating served by aisles or doorways at both ends, there shall not be more than 100 seats per row. The minimum clear width of 12 inches (305 mm) between rows shall be

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increased by 0.3 inch (7.6 mm) for every additional seat beyond 14 seats, but the minimum clear width is not required to exceed 22 inches (559 mm).

Exception: For smoke-protected assembly seating, the row length limits for a 12-inch wide (305 mm) aisle accessway, beyond which the aisle accessway minimum clear width shall be increased, are in Table 1028.10.1 of this rule.

**Table 1028.10.1**  
**Smoke-protected assembly aisle accessways**

<b><u>Total number of seats in the smoke-protected assembly occupancy</u></b>	<b><u>Maximum number of seats per row permitted to have a minimum 12- inch clear width aisle accessway</u></b>	
	<b><u>Aisle or doorway at both ends of row</u></b>	<b><u>Aisle or doorway at one end of row only</u></b>
<u>Less than 4,000</u>	<u>14</u>	<u>7</u>
<u>4,000</u>	<u>15</u>	<u>7</u>
<u>7,000</u>	<u>16</u>	<u>8</u>
<u>10,000</u>	<u>17</u>	<u>8</u>
<u>13,000</u>	<u>18</u>	<u>9</u>
<u>16,000</u>	<u>19</u>	<u>9</u>
<u>19,000</u>	<u>20</u>	<u>10</u>
<u>22,000 and greater</u>	<u>21</u>	<u>11</u>

For SI: 1 inch = 25.4 mm.

(b) 1028.10.2 Single access. For rows of seating served by an aisle or doorway at only one end of the row, the minimum clear width of 12 inches (305 mm) between rows shall be increased by 0.6 inch (15.2 mm) for every additional seat beyond seven seats, but the minimum clear width is not required to exceed 22 inches (559 mm).

Exception: For smoke-protected assembly seating, the row length limits for a 12-inch-wide (305 mm) aisle accessway, beyond which the aisle accessway minimum clear width shall be increased, are in Table 1028.10.1 of this rule.

(11) 1028.11 Assembly aisle walking surfaces. Aisles with a slope not exceeding one unit vertical in eight units horizontal (12.5-per cent slope) shall consist of a ramp having a slip-resistant walking surface. Aisles with a slope exceeding one unit vertical in eight units horizontal (12.5-per cent slope) shall consist of a series of risers and treads that extend across the full width of aisles and

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complies with paragraphs (BB)(11)(a)(1028.11.1) to (BB)(11)(c)(1028.11.3) of this rule.

(a) 1028.11.1 Treads. Tread depths shall be a minimum of 11 inches (279 mm) and shall have dimensional uniformity.

Exception: The tolerance between adjacent treads shall not exceed 0.188 inch (4.8 mm).

(b) 1028.11.2 Risers. Where the gradient of aisle stairs is to be the same as the gradient of adjoining seating areas, the riser height shall not be less than 4 inches (102 mm) nor more than 8 inches (203 mm) and shall be uniform within each flight.

Exceptions:

1. Riser height nonuniformity shall be limited to the extent necessitated by changes to the gradient of the adjoining seating area to maintain adequate sightlines. Where nonuniformities exceed 0.188 inch (4.8 mm) between adjacent risers, the exact location of such nonuniformities shall be indicated with a distinctive marking stripe on each tread at the nosing or leading edge adjacent to the nonuniform risers. Such stripe shall be a minimum of 1 inch (25 mm), and a maximum of 2 inches (51 mm) wide. The edge marking strip shall be distinctively different from the contrasting marking stripe.

2. Riser heights not exceeding 9 inches (229 mm) shall be permitted where they are necessitated by the slope of the adjacent seating areas to maintain sightlines.

(c) 1028.11.3 Tread contrasting marking stripe. A contrasting marking stripe shall be provided on each tread at the nosing or leading edge such that the location of each tread is readily apparent when viewed in descent. Such stripe shall be a minimum of 1 inch (25 mm), and a maximum of 2 inches (51 mm), wide.

Exception: The contrasting marking stripe is permitted to be omitted where tread surfaces are such that the location of each tread is readily apparent when viewed in descent.

(12) 1028.12 Seat stability. In places of assembly, the seats shall be securely fastened to the floor.

Exceptions:

1. In places of assembly or portions thereof without ramped or tiered floors for seating and with 200 or fewer seats, the seats shall not be required to be

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fastened to the floor.

2. In places of assembly or portions thereof with seating at tables and without ramped or tiered floors for seating, the seats shall not be required to be fastened to the floor.

3. In places of assembly or portions thereof without ramped or tiered floors for seating and with greater than 200 seats, the seats shall be fastened together in groups of not less than three or the seats shall be securely fastened to the floor.

4. In places of assembly where flexibility of the seating arrangement is an integral part of the design and function of the space and seating is on tiered levels, a maximum of 200 seats shall not be required to be fastened to the floor. Plans showing seating, tiers and aisles shall be submitted for approval.

5. Groups of seats within a place of assembly separated from other seating by railings, guards, partial height walls or similar barriers with level floors and having not more than 14 seats per group shall not be required to be fastened to the floor.

6. Seats intended for musicians or other performers and separated by railings, guards, partial height walls or similar barriers shall not be required to be fastened to the floor.

(13) 1028.13 Handrails. Ramped aisles having a slope exceeding one unit vertical in 15 units horizontal (6.7-per cent slope) and aisle stairs shall be provided with handrails located either at the side or within the aisle width.

Exceptions:

1. Handrails are not required for ramped aisles having a gradient no greater than one unit vertical in eight units horizontal (12.5-per cent slope) and seating on both sides.

2. Handrails are not required if, at the side of the aisle, there is a guard that complies with the graspability requirements of handrails.

3. Handrail extensions are not required at the top and bottom of aisle stairs and aisle ramp runs to permit crossovers within the aisles.

(a) 1028.13.1 Discontinuous handrails. Where there is seating on both sides of the aisle, the handrails shall be discontinuous with gaps and breaks at intervals not exceeding five rows to facilitate access to seating and to permit crossing from one side of the aisle to the other. These gaps or breaks shall have a clear width of at least 22 inches (559 mm) and not

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greater than 36 inches (914 mm), measured horizontally, and the handrail shall have rounded terminations or bends.

(b) 1028.13.2 Intermediate handrails. Where handrails are provided in the middle of aisle stairs, there shall be an additional intermediate handrail located approximately 12 inches (305 mm) below the main handrail.

(14) 1028.14 Assembly guards. Assembly guards shall comply with paragraphs (BB)(14)(a)(1028.14.1) to (BB)(14)(c)(1028.14.3) of this rule.

(a) 1028.14.1 Cross aisles. Cross aisles located more than 30 inches (762 mm) above the floor or grade below shall have guards in accordance with paragraph (M)(1013) of this rule.

Where an elevation change of 30 inches (762 mm) or less occurs between a cross aisle and the adjacent floor or grade below, guards not less than 26 inches (660 mm) above the floor shall be provided.

Exception: Where the backs of seats on the front of the cross aisle project 24 inches (610 mm) or more above the adjacent floor of the aisle, a guard need not be provided.

(b) 1028.14.2 Sightline-constrained guard heights. Unless subject to the requirements of paragraph (BB)(14)(c)(1028.14.3) of this rule, a fascia or railing system in accordance with the guard requirements of paragraph (M)(1013) of this rule and having a minimum height of 26 inches (660 mm) shall be provided where the floor or footboard elevation is more than 30 inches (762 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of immediately adjacent seating. At bleachers, a guard must be provided where required by ICC 300 as listed in rule 1301:7-7-47 of the Administrative Code.

(c) 1028.14.3 Guards at the end of aisles. A fascia or railing system complying with the guard requirements of paragraph (M)(1013) of this rule shall be provided for the full width of the aisle where the foot of the aisle is more than 30 inches (762 mm) above the floor or grade below. The fascia or railing shall be a minimum of 36 inches (914 mm) high and shall provide a minimum 42 inches (1067 mm) measured diagonally between the top of the rail and the nosing of the nearest tread.

(15) 1028.15 Bench seating. Where bench seating is used, the number of persons shall be based on one person for each 18 inches (457 mm) of length of the bench.

(CC) [B] Section 1029 Emergency escape and rescue

*Note: for copyright claim information, please see the notice on the last page of this rule.*

(1) 1029.1 General. In addition to the means of egress required by this rule, provisions shall be made for emergency escape and rescue in Group R and I-1 occupancies. Basements and sleeping rooms below the fourth story above grade plane shall have at least one exterior emergency escape and rescue opening in accordance with this paragraph. Where basements contain one or more sleeping rooms, emergency escape and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such openings shall open directly into a public way or to a yard or court that opens to a public way.

Exceptions:

1. In other than Group R-3 occupancies, buildings equipped throughout with an approved automatic sprinkler system in accordance with paragraph (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) of rule 1301:7-7-09 of the Administrative Code.

2. In other than Group R-3 occupancies, sleeping rooms provided with a door to a fire-resistance-rated corridor having access to two remote exits in opposite directions.

3. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of section 404 of the building code as listed in rule 1301:7-7-47 of the Administrative Code, provided the balcony provides access to an exit and the dwelling unit or sleeping unit has a means of egress that is not open to the atrium.

4. Basements with ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue windows.

5. High-rise buildings in accordance with section 403 of the building code as listed in rule 1301:7-7-47 of the Administrative Code.

6. Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior exit balcony that opens to a public way.

7. Basements without habitable spaces and having no more than 200 square feet (18.6 m<sup>2</sup>) in floor area shall not be required to have emergency escape windows.

(2) 1029.2 Minimum size. Emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.53 m<sup>2</sup>).

Exception: The minimum net clear opening for emergency escape and rescue

*Note: for copyright claim information, please see the notice on the last page of this rule.*

grade-floor openings shall be 5 square feet (0.46 m<sup>2</sup>).

- (a) 1029.2.1 Minimum dimensions. The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.
- (3) 1029.3 Maximum height from floor. Emergency escape and rescue openings shall have the bottom of the clear opening not greater than 44 inches (118 mm) measured from the floor.
- (4) 1029.4 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with paragraph (CC)(2)(1029.2) of this rule and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening. Where such bars, grilles, grates or similar devices are installed in existing buildings, smoke alarms shall be installed in accordance with paragraph (G)(2)(k)(907.2.11) of rule 1301:7-7-09 of the Administrative Code regardless of the valuation of the alteration.
- (5) 1029.5 Window wells. An emergency escape and rescue opening with a finished sill height below the adjacent ground level shall be provided with a window well in accordance with paragraphs (CC)(5)(1029.5.1) and (CC)(5)(b)(1029.5.2) of this rule.
- (a) 1029.5.1 Minimum size. The minimum horizontal area of the window well shall be 9 square feet (0.84 m<sup>2</sup>), with a minimum dimension of 36 inches (914 mm). The area of the window well shall allow the emergency escape and rescue opening to be fully opened.
- (b) 1029.5.2 Ladders or steps. Window wells with a vertical depth of more than 44 inches (1118 mm) shall be equipped with an approved permanently affixed ladder or steps. Ladders or rungs shall have an inside width of at least 12 inches (305 mm), shall project at least 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center (o.c.) vertically for the full height of the window well. The ladder or steps shall not encroach into the required dimensions of the window well by more than 6 inches (152 mm). The ladder or steps shall not be obstructed by the emergency escape and rescue opening. Ladders or steps required by this paragraph are exempt from the stairway requirements of paragraph (I)(1009) of this rule.

*Note: for copyright claim information, please see the notice on the last page of this rule.*

(DD) Section 1030 Maintenance of the means of egress

- (1) 1030.1 General. The means of egress for buildings or portions thereof shall be maintained in accordance with this paragraph.
- (2) 1030.2 Reliability. Required exit accesses, exits or exit discharges shall be continuously maintained free from obstructions or impediments to full instant use in the case of fire or other emergency when the areas served by such exits are occupied. Security devices affecting means of egress shall be subject to approval of the fire code official.
- (3) 1030.3 Obstructions. A means of egress shall be free from obstructions that would prevent its use, including the accumulation of snow and ice.
- (4) 1030.4 Exit signs. Exit signs shall be installed and maintained in accordance with paragraph (K)(1011) of this rule. Decorations, furnishings, equipment or adjacent signage that impairs the visibility of exit signs, creates confusion or prevents identification of the exit shall not be allowed.
- (5) 1030.5 Nonexit identification. Where a door is adjacent to, constructed similar to and can be confused with a means of egress door, that door shall be identified with an approved sign that identifies the room name or use of the room.
- (6) 1030.6 Furnishings and decorations. Furnishings, decorations or other objects shall not be placed so as to obstruct exits, access thereto, egress therefrom, or visibility thereof. Hangings and draperies shall not be placed over exit doors or otherwise be located to conceal or obstruct an exit. Mirrors shall not be placed on exit doors. Mirrors shall not be placed in or adjacent to any exit in such a manner as to confuse the direction of exit.
- (7) 1030.7 Emergency escape openings. Required emergency escape openings shall be maintained in accordance with the code in effect at the time of construction, and the following: Required emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are allowed to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with the code that was in effect at the time of construction and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening.
- (8) 1030.8 Testing and maintenance. All two-way communication systems for areas of refuge shall be inspected and tested on a yearly basis to verify that all components are operational. When required, the tests shall be conducted in the presence of the fire code official.

*Note: for copyright claim information, please see the notice on the last page of this rule.*

Replaces: 1301:7-7-10

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