**Chapter 14 Means of Egress**

14.1 Application

Diagram

Means of egress in new and existing buildings shall comply with this Code and NFPA 101.

UpCodes Diagrams

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Means of Egress: Basic Components (NFPA)

14.2 Exit Access Corridors

Corridors used as exit access and serving an area having an occupant load exceeding 30 shall be separated from other parts of the building by walls having not less than a 1-hour fire resistance rating in accordance with Section 12.7, unless otherwise permitted by one of the following:

This requirement shall not apply to existing buildings, provided that the occupancy classification does not change.

This requirement shall not apply where otherwise provided in Chapters 11 through 43 of NFPA 101.

[101:7.1.3.1]

14.3 Exits

14.3.1

Where this Code requires an exit to be separated from other parts of the building, the separating construction shall meet the requirements of Section 8.2 of NFPA 101 and the following:

\* The separation shall have a minimum 1-hour fire resistance rating where the exit connects three or fewer stories.

The separation specified in 14.3.1(1), other than an existing separation, shall be supported by construction having not less than a 1-hour fire resistance rating.

\* The separation shall have a minimum 2-hour fire resistance rating where the exit connects four or more stories, unless one of the following conditions exists:

In existing non-high-rise buildings, existing exit stair enclosures shall have a minimum 1-hour fire resistance rating.

In existing buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 13.3, existing exit stair enclosures shall have a minimum 1-hour fire resistance rating.

The minimum 1-hour enclosures in accordance with 28.2.2.1.2, 29.2.2.1.2, 30.2.2.1.2, and 31.2.2.1.2 of NFPA 101 shall be permitted as an alternative to the requirement of 14.3.1(3).

The minimum 2-hour fire-resistance-rated separation required by 14.3.1(3) shall be constructed of an assembly of noncombustible or limited-combustible materials and shall be supported by construction having a minimum 2-hour fire resistance rating, unless otherwise permitted by 14.3.1 (6).

\* Structural elements, or portions thereof, that support exit components and either penetrate into a fire-resistance-rated assembly or are installed within a fire-resistance-rated wall assembly shall be protected, as a minimum, to the fire resistance rating required by 14.3.1(1) or 14.3.1(3).

Fire-retardant-treated wood enclosed in noncombustible or limited-combustible materials shall be permitted in accordance with NFPA 220.

Openings in the separation shall be protected by fire door assemblies equipped with door closers complying with 14.5.4.

\* Openings in exit enclosures shall be limited to door assemblies from normally occupied spaces and corridors and door assemblies for egress from the enclosure, unless one of the following conditions exists:

Vestibules that separate normally unoccupied spaces from an exit enclosure shall be permitted provided the vestibule is separated from adjacent spaces by corridor walls and related opening protectives as required for the occupancy involved but not less than a smoke partition in accordance with Section 8.4 of NFPA 101.

In buildings of Type I or Type II construction as defined in NFPA 220 (see 8.2.1.2 of NFPA 101), fire-protection-rated door assemblies to normally unoccupied building service equipment support areas as addressed in Section 7.14 of NFPA 101 shall be permitted, provided the space is separated from the exit enclosure by fire barriers as required by 14.3.1(3).

Openings in exit passageways in mall buildings as provided in Chapters 36 and 37 of NFPA 101 shall be permitted.

In buildings of Type I or Type II construction, as defined in NFPA 220 (see 8.2.1.2 of NFPA 101), existing fire-protection-rated door assemblies to interstitial spaces shall be permitted, provided that such spaces meet all of the following criteria:

The space is used solely for distribution of pipes, ducts, and conduits.

The space contains no storage.

The space is separated from the exit enclosure in accordance with Section 12.7.

Existing openings to mechanical equipment spaces protected by approved existing fire-protection-rated door assemblies shall be permitted, provided that the following criteria are met:

The space is used solely for non-fuel-fired mechanical equipment.

The space contains no storage of combustible materials.

The building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 13.3 or the mechanical equipment space is provided with sprinkler protection in accordance with Section 13.3 and provided with complete smoke detection in accordance with Section 13.7.

Penetrations into, and openings through, an exit enclosure assembly shall be limited to the following:

Door assemblies permitted by 14.3.1(8)

\* Electrical conduit serving the exit enclosure

Pathways for devices for security and communication systems serving the exit enclosure, where pathways are installed in metal conduit

\* Required exit door openings

Ductwork and equipment necessary for independent stair pressurization

Water or steam piping necessary for the heating or cooling of the exit enclosure

Sprinkler piping

Standpipes

Existing penetrations

Penetrations for fire alarm circuits, where the circuits are installed in metal conduit

Penetrations or communicating openings shall be prohibited between adjacent exit enclosures.

All penetrations in fire barriers separating the exit from other parts of the building shall be protected in accordance with 12.7.8.

Membrane penetrations shall be permitted on the exit access side of the exit enclosure and shall be protected in accordance with 12.7.5.6.

[101:7.1.3.2.1]

14.3.2

An exit enclosure shall provide a continuous protected path of travel to an exit discharge. [101:7.1.3.2.2]

14.3.3\*

An exit enclosure shall not be used for any purpose that has the potential to interfere with its use as an exit and, if so designated, as an area of refuge. (See also 14.6.3.) [101:7.1.3.2.3]

14.4 Means of Egress Reliability

14.4.1\* Maintenance

Means of egress shall be continuously maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency. [101:7.1.10.1]

14.4.2 Furnishings and Decorations in Means of Egress

14.4.2.1

No furnishings, decorations, or other objects shall obstruct exits or their access thereto, egress therefrom, or visibility thereof. [101:7.1.10.2.1]

14.4.2.2

No obstruction by railings, barriers, or gates shall divide the means of egress into sections appurtenant to individual rooms, apartments, or other occupied spaces. Where the AHJ finds the required path of travel to be obstructed by furniture or other movable objects, the authority shall be permitted to require that such objects be secured out of the way or shall be permitted to require that railings or other permanent barriers be installed to protect the path of travel against encroachment. [101:7.1.10.2.2]

14.4.2.3

Mirrors shall not be placed on exit door leaves. Mirrors shall not be placed in or adjacent to any exit in such a manner as to confuse the direction of egress. [101:7.1.10.2.3]

14.4.2.4

Every door opening and every principal entrance that is required to serve as an exit shall be designed and constructed so that the path of egress travel is obvious and direct. Windows that, because of their physical configuration or design and the materials used in their construction, have the potential to be mistaken for door openings shall be made inaccessible to the occupants by barriers or railings. [101:7.2.1.1.2]

14.4.3 Impediments to Egress

Any device or alarm installed to restrict the improper use of a means of egress, and any device or system installed to monitor or record use of a means of egress, shall be designed and installed so that it cannot, even in case of failure, impede or prevent emergency use of such means of egress unless otherwise provided in 14.5.3 and Chapters 18, 19, 22, and 23 of NFPA 101. [101:7.1.9]

14.5 Door Openings

14.5.1 Swing and Force to Open

14.5.1.1\* Swinging-Type Door Assembly Requirement

Any door assembly in a means of egress shall be of the side-hinged or pivoted-swinging type, and shall be installed to be capable of swinging from any position to the full required width of the opening in which it is installed, unless otherwise specified as follows:

Door assemblies in dwelling units, as provided in Chapter 24 of NFPA 101, shall be permitted.

Door assemblies in residential board and care occupancies, as provided in Chapters 32 and 33 of NFPA 101, shall be permitted.

Horizontal-sliding or vertical-rolling security grilles or door assemblies that are part of the required means of egress, where permitted in Chapters 11 through 43 of NFPA 101, shall be permitted, provided that all of the following criteria are met:

Such grilles or door assemblies shall remain secured in the fully open position during the period of occupancy by the general public.

On or adjacent to the grille or door opening, there shall be a readily visible, durable sign in letters not less than 1 in. (25 mm) high on a contrasting background that reads as follows: THIS DOOR TO REMAIN OPEN WHEN THE SPACE IS OCCUPIED.

Door leaves or grilles shall not be brought to the closed position when the space is occupied.

Door leaves or grilles shall be operable from within the space without the use of any special knowledge or effort.

Where two or more means of egress are required, not more than half of the means of egress shall be equipped with horizontal-sliding or vertical-rolling grilles or door assemblies.

Horizontal-sliding door assemblies shall be permitted under any of the following conditions:

Horizontal-sliding door assemblies in detention and correctional occupancies, as provided in Chapters 22 and 23 of NFPA 101, shall be permitted.

Special-purpose horizontally sliding accordion or folding door assemblies complying with 7.2.1.13 of NFPA 101 shall be permitted.

Unless prohibited by Chapters 11 through 43 of NFPA 101, horizontal-sliding door assemblies serving a room or area with an occupant load of fewer than 10 shall be permitted, provided that all of the following criteria are met:

The area served by the door assembly has no high-hazard contents.

The door assembly is readily operable from either side without special knowledge or effort.

The force required to operate the door assembly in the direction of door leaf travel is not more than 30 lbf (133 N) to set the door leaf in motion and is not more than 15 lbf (67 N) to close the door assembly or open it to the minimum required width.

The door assembly complies with any required fire protection rating, and, where rated, is self-closing or automatic-closing by means of smoke detection in accordance with 14.5.4 and is installed in accordance with NFPA 80.

Corridor door assemblies required to be self-latching shall have a latch or other mechanism that ensures that the door leaf will not rebound into a partially open position if forcefully closed.

Where private garages, business areas, industrial areas, and storage areas with an occupant load not exceeding 10 contain only low- or ordinary-hazard contents, door openings to such areas and private garages shall be permitted to be horizontal-sliding door assemblies.

Vertical-rolling door assemblies shall be permitted in door openings to private garages, business areas, industrial areas, and storage areas where such areas have an occupant load not exceeding 10 and contain only low or ordinary hazard contents.

Revolving door assemblies complying with 7.2.1.10 of NFPA 101 shall be permitted.

Existing fusible link-operated horizontal-sliding or vertical-rolling fire door assemblies shall be permitted to be used as provided in Chapters 39, 40, and 42 of NFPA 101.

[101:7.2.1.4.1]

14.5.1.2\* Door Leaf Swing Direction

Door leaves required to be of the side-hinged or pivoted-swinging type shall swing in the direction of egress travel under any of the following conditions:

Where serving a room or area with an occupant load of 50 or more, except under any of the following conditions:

Door leaves in horizontal exits shall not be required to swing in the direction of egress travel where permitted by 7.2.4.3.8.1 or 7.2.4.3.8.2 of NFPA 101.

Door leaves in smoke barriers shall not be required to swing in the direction of egress travel in existing health care occupancies, as provided in Chapter 19 of NFPA 101.

Where the door assembly is used in an exit enclosure, unless the door opening serves an individual living unit that opens directly into an exit enclosure

Where the door opening serves a high hazard contents area

[101:7.2.1.4.2]

14.5.1.3\* Door Leaf Encroachment

14.5.1.3.1

During its swing, any door leaf in a means of egress shall leave not less than one-half of the required width of an aisle, a corridor, a passageway, or a landing unobstructed, unless both of the following conditions are met:

The door opening provides access to a stair in an existing building.

The door opening meets the requirement of 14.5.1.3.2.

[101:7.2.1.4.3.1]

14.5.1.3.2

When fully open, any door leaf in a means of egress shall not project more than 7 in. (180 mm) into the required width of an aisle, a corridor, a passageway, or a landing, unless the door leaf is equipped with an approved self-closing device and is not required by the provisions of 14.5.1.2 to swing in the direction of egress travel. [101:7.2.1.4.3.2]

14.5.1.3.3

Surface-mounted latch release hardware on the door leaf shall be exempt from being included in the maximum 7 in. (180 mm) projection requirement of 14.5.1.3.2, provided that both of the following criteria are met:

The hardware is mounted to the side of the door leaf that faces the aisle, corridor, passageway, or landing when the door leaf is in the open position.

The hardware is mounted not less than 34 in. (865 mm), and not more than 48 in. (1220 mm), above the floor.

[101:7.2.1.4.3.3]

14.5.1.4 Screen Door Assemblies and Storm Door Assemblies

Screen door assemblies and storm door assemblies used in a means of egress shall be subject to the requirements for direction of swing that are applicable to other door assemblies used in a means of egress. [101:7.2.1.4.4]

14.5.1.5 Door Unlatching and Leaf Operating Forces

14.5.1.5.1

The forces required to fully unlock and unlatch any door leaf manually in a means of egress shall not exceed 15 lbf (67 N) where the door hardware operates by push, pull, or slide, or 28 in.-lbf (3.16 N-m) where the door hardware operates by rotation. [101:7.2.1.4.5.1]

14.5.1.5.2

The forces required to fully open any door leaf manually in a means of egress shall not exceed 30 lbf (133 N) to set the leaf in motion, and 15 lbf (67 N) to open the leaf to the minimum required width, unless otherwise specified as follows:

The door opening forces for interior side-hinged or pivoted-swinging door leaves without closers shall not exceed 5 lbf (22 N).

The door opening forces for existing door leaves in existing buildings shall not exceed 50 lbf (222 N) applied to the latch stile.

The door opening forces for horizontal-sliding door leaves in detention and correctional occupancies shall be as provided in Chapters 22 and 23 of NFPA 101.

The opening forces for power-operated door leaves shall be as provided in 7.2.1.9 of NFPA 101.

[101:7.2.1.4.5.2]

14.5.1.5.3

The forces specified in 14.5.1.5 shall be applied to the latch stile. [101:7.2.1.4.5.3]

14.5.2 Locks and Latches

14.5.2.1

Door leaves shall be arranged to be opened readily from the egress side whenever the building is occupied. [101:7.2.1.5.1]

14.5.2.2

Locks and latches shall not require the use of a key, a tool, or special knowledge or effort for operation from the egress side. [101:7.2.1.5.2]

14.5.2.3\* Latch-Release Devices

All locks, latches, and all other fastening device on a door leaf shall be provided with a releasing device that has an obvious method of operation and that is readily operated under all lighting conditions. [101:7.2.1.5.3]

14.5.2.3.1

The releasing mechanism for locks and latches shall be located as follows:

Not less than 34 in. (865 mm) above the finished floor for other than existing installations

Not more than 48 in. (1220 mm) above the finished floor

[101:7.2.1.5.3.1]

14.5.2.3.2\*

The operation of the releasing mechanism shall release all latching and all locking devices of the door leaf with not more than one motion in a single linear or rotational direction, unless otherwise specified in 14.5.2.3.4, 14.5.2.3.5, 14.5.2.3.7 or 14.5.2.3.8. [101:7.2.1.5.3.2]

14.5.2.3.3

The releasing mechanism for new installations shall be capable of being operated with one hand and shall not require tight grasping, tight pinching, or twisting of the wrist to operate. [101:7.2.1.5.3.3]

14.5.2.3.4\*

Egress door assemblies from individual living units and guest rooms of residential occupancies shall be permitted to be provided with devices, including automatic latching devices, that require not more than one additional releasing operation, provided that such device is operable from the inside without the use of a key or tool and is mounted at a height not exceeding 48 in. (1220 mm) above the finished floor. [101:7.2.1.5.3.4]

14.5.2.3.5

Existing security devices permitted by 14.5.2.3.4 shall be permitted to have two additional releasing motions. [101:7.2.1.5.3.5]

14.5.2.3.6

Existing security devices permitted by 14.5.2.3.4, other than automatic latching devices, shall be located not more than 60 in. (1525 mm) above the finished floor. [101:7.2.1.5.3.6]

14.5.2.3.7

Two releasing motions shall be permitted for existing hardware on a door leaf serving an area having an occupant load not exceeding three, provided that releasing does not require simultaneous operations. [101:7.2.1.5.3.7]

14.5.2.3.8

Two releasing motions shall be permitted in existing educational occupancies in accordance with 15.2.2.2.4 of NFPA 101 and in existing day care occupancies in accordance with 17.2.2.2.6 of NFPA 101. [101:7.2.1.5.3.8]

14.5.2.4

The requirements of 14.5.2.1 and 14.5.2.2 shall not apply where otherwise provided in Chapters 18 through 23 of NFPA 101. [101:7.2.1.5.4]

14.5.2.5\*

The requirement of 14.5.2.1 shall not apply to door leaves of listed fire door assemblies after exposure to elevated temperature in accordance with the listing, based on laboratory fire test procedures. [101:7.2.1.5.5]

14.5.2.6 Key-Operated Locks

14.5.2.6.1

Where permitted in Chapters 11 through 43 of NFPA 101, key operation shall be permitted, provided that the key cannot be removed when the door leaf is locked from the side from which egress is to be made. [101:7.2.1.5.6.1]

14.5.2.6.2\*

Exterior door assemblies and interior door assemblies to an individual tenant space or to a single tenant space shall be permitted to have key-operated locks from the egress side, provided that all of the following criteria are met:

This alternative is permitted in Chapters 11 through 43 of NFPA 101 for the specific occupancy.

Doors remain unlocked when the building or space is occupied.

Doors marked with a readily visible, durable sign in letters not less than 1 in. (25 mm) high on a contrasting background that reads as follows and is located on or adjacent to the door leaf: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED, or THIS DOOR TO REMAIN UNLOCKED WHEN THE BUILDING IS OCCUPIED, as applicable.

The locking device is of a type that is readily distinguishable as locked.

A key is immediately available to any occupant inside the building when it is locked.

[101:7.2.1.5.6.2]

14.5.2.6.3

The alternative provisions of 14.5.2.6.2 shall be permitted to be revoked by the AHJ for cause. [101:7.2.1.5.6.3]

14.5.2.7\* Stair Enclosure Re-entry

Every door assembly in a stair enclosure serving more than four stories, unless permitted by 14.5.2.7.2, shall meet one of the following conditions:

Re-entry from the stair enclosure to the interior of the building shall be provided.

An automatic release shall be provided that meets all of the following:

The automatic release shall unlock all stair enclosure door assemblies to allow re-entry.

The automatic release shall be actuated with the initiation of the building fire alarm system.

Door hardware for new installations shall be listed in accordance with UL 294, Access Control System Units.

Selected re-entry shall be provided in accordance with 14.5.2.7.1.

[101:7.2.1.5.7]

14.5.2.7.1

Door assemblies on stair enclosures shall be permitted to be equipped with hardware that prevents re-entry into the interior of the building, provided that the following criteria are met:

There shall be not less than two levels where it is possible to leave the stair enclosure to access another exit.

There shall be not more than four stories intervening between stories where it is possible to leave the stair enclosure to access another exit.

Re-entry shall be possible on the top story or next-to-top story served by the stair enclosure, and such story shall allow access to another exit.

Door assemblies allowing re-entry shall be identified as such on the stair side of the door leaf.

Door assemblies not allowing re-entry shall be provided with a sign on the stair side indicating the location of the nearest door opening, in each direction of travel, that allows re-entry or exit.

[101:7.2.1.5.7.1]

14.5.2.7.2

The requirements of 14.5.2.7, except as provided in 14.5.2.7.3, shall not apply to the following:

Existing installations in buildings that are not high-rise buildings as permitted in Chapters 11 through 43 of NFPA 101.

Existing installations in high-rise buildings as permitted in Chapters 11 through 43 of NFPA 101 where the occupancy is within a building protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 13.3.

Existing approved stairwell re-entry installations as permitted by Chapters 11 through 43 of NFPA 101.

Stair enclosures serving a building permitted to have a single exit in accordance with Chapters 11 through 43 of NFPA 101.

Stair enclosures in health care occupancies where otherwise provided in Chapter 18 of NFPA 101.

Stair enclosures in detention and correctional occupancies where otherwise provided in Chapter 22 of NFPA 101.

[101:7.2.1.5.7.2]

14.5.2.7.3

When the provisions of 14.5.2.7.2 are used, signage on the stair door leaves shall be required as follows;

Door assemblies allowing re-entry shall be identified as such on the stair side of the door leaf.

Door assemblies not allowing re-entry shall be provided with a sign on the stair side indicating the location of the nearest door opening, in each direction of travel, that allows re-entry or exit.

[101:7.2.1.5.7.3]

14.5.2.8

If a stair enclosure allows access to the roof of the building, the door assembly to the roof either shall be kept locked preventing access to the roof or shall allow re-entry from the roof. [101:7.2.1.5.8]

14.5.2.9

Where pairs of door leaves are required in a means of egress, one of the following criteria shall be met:

Each leaf of the pair shall be provided with a releasing device that does not depend on the release of one leaf before the other.

Approved automatic flush bolts shall be used and arranged such that both of the following criteria are met:

The door leaf equipped with the automatic flush bolts shall have no doorknob or surface-mounted hardware on the egress side of the door.

Unlatching of any leaf shall not require more than one operation.

[101:7.2.1.5.9]

14.5.2.10\*

On doors required to release all latching and all locking devices of the door leaf with not more than one releasing motion in accordance with 14.5.2.3.2, devices shall not be installed in connection with any door assembly where such devices prevent or are intended to prevent the free use of the leaf for purposes of egress, unless otherwise provided in 14.5.3. [101:7.2.1.5.10]

14.5.3\* Special Locking Arrangements

14.5.3.1\* Delayed-Egress Electrical Locking Systems

14.5.3.1.1

Approved, delayed-egress electrical locking systems shall be permitted to be installed on door assemblies serving low- and ordinary-hazard contents in buildings protected throughout by an approved, supervised automatic fire detection system in accordance with Section 13.7 or an approved, supervised automatic sprinkler system in accordance with Section 13.3, and where permitted in Chapters 11 through 43 of NFPA 101, provided that the following criteria are met:

The delay of the delayed-egress electrical locking system shall deactivate allowing unobstructed egress upon actuation of one of the following:

Approved, supervised automatic sprinkler system in accordance with Section 13.3

Not more than one heat detector of an approved, supervised automatic fire detection system in accordance with Section 13.7

Not more than two smoke detectors of an approved, supervised automatic fire detection system in accordance with Section 13.7

The delay of the delayed-egress electrical locking system shall deactivate allowing unobstructed egress upon loss of power controlling the lock or locking mechanism.

\* An irreversible process shall release the electrical lock in the direction of egress within 15 seconds, or 30 seconds where approved by the AHJ, upon application of a force to the release device required in 14.5.2.3 under all of the following conditions:

The force shall not be required to exceed 15 lbf (67 N).

The force shall not be required to be continuously applied for more than 3 seconds.

The initiation of the release process shall activate an audible signal in the vicinity of the door opening.

Once the electrical lock has been released by the application of force to the releasing device, rearming the delay electronics shall be by manual means only.

\* A readily visible, durable sign that conforms to the visual characters requirements of ICC A117.1, Accessible and Usable Buildings and Facilities, shall be located on the door leaf adjacent to the release device in the direction of egress, and shall read as follows:

PUSH UNTIL ALARM SOUNDS, DOOR CAN BE OPENED IN 15 SECONDS, for doors that swing in the direction of egress travel

PULL UNTIL ALARM SOUNDS, DOOR CAN BE OPENED IN 15 SECONDS, for doors that swing against the direction of egress travel

The egress side of doors equipped with delayed-egress electrical locking system shall be provided with emergency lighting in accordance with Section 7.9 of NFPA 101.

Hardware for new installations shall be listed in accordance with UL 294, Access Control System Units.

[101:7.2.1.6.1.1]

14.5.3.1.2

The provisions of 14.5.3.2 for sensor-release of electrical locking systems and 14.5.3.3, for door hardware release of electrically locked egress door assemblies shall not apply to door assemblies with delayed-egress electrical locking systems. [101:7.2.1.6.1.2]

14.5.3.2\* Sensor-Release of Electrical Locking Systems

14.5.3.2.1

Where permitted in Chapters 11 through 43 of NFPA 101, door assemblies in the means of egress shall be permitted to be equipped with sensor-release electrical locking system hardware provided that all of the following criteria are met:

A sensor shall be provided on the egress side, arranged to electrically unlock the door leaf in the direction of egress upon detection of an approaching occupant.

Door leaves shall automatically electrically unlock in the direction of egress upon loss of power to the sensor or to the part of the locking system that electrically locks the door leaves.

Door locks shall be arranged to electrically unlock in the direction of egress from a manual release device complying with all of the following criteria:

The manual release device shall be located on the egress side, 40 in. to 48 in. (1015 mm to 1220 mm) vertically above the floor, and within 60 in. (1525 mm) of the secured door openings, except as otherwise permitted by 14.5.3.2.1(3)(c).

The requirement of 14.5.3.2.1(3)(a) to locate the manual release device within 60 in. (1525 mm) of the secured door opening shall not apply to previously approved existing installations.

The manual release device shall be readily accessible and clearly identified by a sign that reads as follows: PUSH TO EXIT.

When operated, the manual release device shall result in direct interruption of power to the electrical lock — independent of the locking system electronics — and the lock shall remain unlocked for not less than 30 seconds.

Activation of the building fire-protective signaling system, if provided, shall automatically electrically unlock the door leaves in the direction of egress, and the door leaves shall remain electrically unlocked until the fire-protective signaling system has been manually reset.

The activation of manual fire alarm boxes that activate the building fire-protective signaling system specified in 14.5.3.2.1(4) shall not be required to unlock the door leaves.

Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically electrically unlock the door leaves in the direction of egress, and the door leaves shall remain electrically unlocked until the fire-protective signaling system has been manually reset.

The egress side of sensor-release electrically locked egress doors, other than existing sensor-release electrically locked egress doors, shall be provided with emergency lighting in accordance with Section 14.13.

Hardware for new installations shall be listed in accordance with UL 294, Access Control System Units.

[101:7.2.1.6.2.1]

14.5.3.2.2

The provisions of 14.5.3.1 for delayed-egress electrical locking systems and 14.5.3.3 for door hardware release of electrically locked egress door assemblies shall not apply to door assemblies with sensor-release of electrical locking systems. [101:7.2.1.6.2.2]

14.5.3.3 Door Hardware Release of Electrically Locked Egress Door Assemblies

14.5.3.3.1

Door assemblies in the means of egress shall be permitted to be equipped with approved electrical locking systems released by the operation of door hardware provided that all of the following conditions are met:

The hardware for egress-side occupant release of the electrical lock is affixed to the door leaf.

The hardware has an obvious method of operation that is readily operated in the direction of egress under all lighting conditions.

The hardware is capable of being operated with one hand in the direction of egress.

Operation of the hardware directly and immediately interrupts the power supply to the electric lock to unlock the door assembly in the direction of egress.

\* Loss of power to the listed releasing hardware automatically electrically unlocks the door assembly in the direction of egress.

Hardware for new installations is listed in accordance with UL 294, Access Control System Units.

[101:7.2.1.6.3.1]

14.5.3.4\* Elevator Lobby Exit Access Door Assemblies Locking

14.5.3.4.1

Where permitted in Chapters 11 through 43 of NFPA 101, door assemblies separating the elevator lobby from the exit access required by 14.9.1.6.1 shall be permitted to be electrically locked, provided that all the following criteria are met:

The electrical locking hardware is listed in accordance with UL 294, Access Control System Units.

The building is protected throughout by a fire alarm system in accordance with Section 13.7.

The building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 13.3.

Waterflow in the sprinkler system required by 14.5.3.4.1 is arranged to initiate the building fire alarm system.

The elevator lobby is protected by an approved, supervised smoke detection system in accordance with Section 13.7.

Detection of smoke by the detection system required by 14.5.3.4.1 is arranged to initiate the building fire alarm system and notify building occupants.

Initiation of the building fire alarm system by other than manual fire alarm boxes unlocks the electrical locks on the elevator lobby door assembly.

Loss of power to the elevator lobby electrical lock system unlocks the electrical locks on the elevator lobby door assemblies.

Once unlocked, the elevator lobby door assemblies remain electrically unlocked until the building fire alarm system has been manually reset.

Where the elevator lobby door assemblies remain mechanically latched after being electrically unlocked, latch-releasing hardware in accordance with 14.5.2.3 is affixed to the door leaves.

A two-way communication system is provided for communication between the elevator lobby and a central control point that is constantly staffed.

The central control point staff required by 14.5.3.4.1 is capable, trained, and authorized to provide emergency assistance.

(101:7.2.1.6.4.1]

14.5.3.4.2

Elevator lobby exit access doors equipped with electrical locking systems shall not be required to comply with 14.5.3.1, 14.5.3.2, or 14.5.3.3. [101:7.2.1.6.4.2]

14.5.3.5\* Panic Hardware and Fire Exit Hardware

14.5.3.5.1

Where a side-hinged, a pivoted-swinging door assembly, or a balanced door assembly is required to be equipped with panic or fire exit hardware, such hardware shall meet all of the following criteria:

It shall consist of a cross bar or a push pad, with the length of the actuating portion of the cross bar or push pad not less than one-half of the width of the door leaf measured from the latch stile unless otherwise required by 14.5.3.5.2.

It shall be mounted as follows:

New installations shall be not less than 34 in. (865 mm), and not more than 48 in. (1220 mm), above the floor.

Existing installations shall be not less than 30 in. (760 mm), and not more than 48 in. (1220 mm), above the floor.

It shall be constructed so that a horizontal force not to exceed 15 lbf (67 N) actuates the cross bar or push pad and latches.

[101:7.2.1.7.1]

14.5.3.5.2

Where panic or fire exit hardware is installed on a balanced door assembly or pivoted-swinging door assembly, the panic or fire exit hardware shall be of the push-pad type, and the pad shall extend approximately one-half the width of the door leaf, measured from the latch stile. [101:7.2.1.7.2]

14.5.3.5.3\*

Only approved fire exit hardware shall be used on fire-protection-rated door assemblies. New panic hardware and new fire exit hardware shall comply with UL 305, Panic Hardware, and ANSI/BHMA A156.3, Exit Devices. [101:7.2.1.7.3]

14.5.3.5.4

Required panic hardware and fire exit hardware, in other than detention and correctional occupancies as otherwise provided in Chapters 22 and 23 of NFPA 101, shall not be equipped with any locking device, set screw, or other arrangement that prevents the release of the latch when pressure is applied to the releasing device. [101:7.2.1.7.4]

14.5.3.5.5

Devices that hold the latch in the retracted position shall be prohibited on fire exit hardware, unless such devices are listed and approved for such a purpose. [101:7.2.1.7.5]

14.5.4 Self-Closing Devices

14.5.4.1\*

A door leaf normally required to be kept closed shall not be secured in the open position at any time and shall be self-closing or automatic-closing in accordance with 14.5.4.2, unless otherwise permitted by 14.5.4.3. [101:7.2.1.8.1]

14.5.4.2

In any building of low- or ordinary-hazard contents, as defined in 3.3.154.2 and 3.3.154.3, or where approved by the AHJ, door leaves shall be permitted to be automatic-closing, provided that all of the following criteria are met:

Upon release of the hold-open mechanism, the leaf becomes self-closing.

The release device is designed so that the leaf instantly releases manually and, upon release, becomes self-closing, or the leaf can be readily closed.

The automatic releasing mechanism or medium is activated by the operation of approved smoke detectors installed in accordance with the requirements for smoke detectors for door leaf release service in NFPA 72.

Upon loss of power to the hold-open device, the hold-open mechanism is released and the door leaf becomes self-closing.

The release by means of smoke detection of one door leaf in a stair enclosure results in closing all door leaves serving that stair.

[101:7.2.1.8.2]

14.5.4.3

The elevator car doors, and the associated hoistway enclosure doors, at the floor level designated for recall in accordance with the requirements of 11.3.1 shall be permitted to remain open during Phase I Emergency Recall Operation. [101:7.2.1.8.3]

14.5.4.4 Delayed Action Closers

Doors required to be self-closing and not required to be automatic closing shall be permitted to be equipped with delayed action closers. [101:7.2.1.8.4]

14.5.5\* Powered Door Leaf Operation

14.5.5.1\* General

Where means of egress door leaves are operated by power by any automatic mechanism or are provided with power-assisted manual operation, the design shall be such that, in the event of power failure, the leaves open manually to allow egress travel or close when necessary to safeguard the means of egress. [101:7.2.1.9.1]

14.5.5.1.1

New power-operated swinging doors, power-operated sliding doors, and power-operated folding doors shall comply with ANSI/BHMA A156.10, Power Operated Pedestrian Doors. [101:7.2.1.9.1.1]

14.5.5.1.2

New power-assisted swinging doors and low-energy power-operated swinging doors shall comply with ANSI/BHMA A156.19, Power Assist and Low Energy Power Operated Doors. [101:7.2.1.9.1.2]

14.5.5.1.3

New low-energy power-operated sliding doors and low-energy power-operated folding doors shall comply with ANSI/BHMA A156.38, Low Energy Power Operated Sliding and Folding Doors. [101:7.2.1.9.1.3]

14.5.5.1.4

The forces required to manually open the door leaves specified in 14.5.5.1 shall not exceed those required in 14.5.1.5, except that the force required to set the leaf in motion shall not exceed 50 lbf (222 N). [101:7.2.1.9.1.4]

14.5.5.1.5

The door assembly shall be designed and installed so that, when a force is applied to the door leaf on the egress side, the door leaf shall be capable of swinging from any position to provide full use of the required width of the opening in which it is installed. (See 14.5.1.) [101:7.2.1.9.1.5]

14.5.5.1.6

A readily visible, durable sign in letters not less than 1 in. (25 mm) high on a contrasting background that reads as follows shall be located on the egress side of each door opening:

IN EMERGENCY, PUSH TO OPEN

[101:7.2.1.9.1.6]

14.5.5.1.7

Sliding, power-operated door assemblies in an exit access serving an occupant load of fewer than 50 that manually open in the direction of door leaf travel, with forces not exceeding those required in 14.5.1.5, shall not be required to have the swing-out feature required by 14.5.5.1.5. The required sign shall be in letters not less than 1 in. (25 mm) high on a contrasting background and shall read as follows:

IN EMERGENCY, SLIDE TO OPEN

[101:7.2.1.9.1.7]

14.5.5.1.8\*

In the emergency breakout mode, a door leaf located within a two-leaf opening shall be exempt from the minimum 32 in. (810 mm) single-leaf requirement of 7.2.1.2.3.2(1) of NFPA 101, provided that the clear width of the single leaf is not less than 30 in. (760 mm). [101:7.2.1.9.1.8]

14.5.5.1.9

For a biparting sliding door assembly in the emergency breakout mode, a door leaf located within a multiple-leaf opening shall be exempt from the minimum 32 in. (810 mm) single-leaf requirement of 7.2.1.2.3.2(1) of NFPA 101 if a clear opening of not less than 32 in. (810 mm) is provided by all leafs broken out. [101:7.2.1.9.1.9]

14.5.5.1.10

Door assemblies complying with 14.5.9 shall be permitted to be used. [101:7.2.1.9.1.10]

14.5.5.1.11

The requirements of 14.5.5.1.1 through 14.5.5.1.10 shall not apply in detention and correctional occupancies where otherwise provided in Chapters 22 and 23 of NFPA 101. [101:7.2.1.9.1.11]

14.5.5.2 Self-Closing or Self-Latching Door Leaf Operation

Where door leaves are required to be self-closing or self-latching and are operated by power by any automatic device, or are provided with power-assisted manual operation, they shall be permitted in the means of egress where they meet the following criteria:

The door leaves can be opened manually in accordance with 14.5.5.1 to allow egress travel in the event of power failure.

New door leaves remain in the closed position, unless actuated or opened manually.

When actuated, new door leaves remain open for not more than 30 seconds.

Door leaves held open for any period of time close — and the power-assist mechanism ceases to function — upon operation of approved smoke detectors installed in such a way as to detect smoke on either side of the door opening in accordance with the provisions of NFPA 72.

Door leaves required to be self-latching are either self-latching or become self-latching upon operation of approved smoke detectors per 14.5.5.2(4).

New power-assisted swinging door assemblies comply with BHMA/ANSI A156.19, Power Assist and Low Energy Power Operated Doors.

[101:7.2.1.9.2]

14.5.6 Revolving Door Assemblies

14.5.6.1

Revolving door assemblies, whether used or not used in the means of egress, shall comply with all of the following:

New revolving doors shall comply with ANSI/BHMA A156.27, Power and Manual Operated Revolving Pedestrian Doors, and shall be installed in accordance with the manufacturer's installation instructions.

Revolving door wings shall be capable of book-fold or breakout for egress in accordance with ANSI/BHMA A156.27, unless they are existing revolving doors approved by the AHJ.

When revolving door wings are collapsed into the book-fold position, the parallel egress paths formed shall provide an aggregate width of 36 in. (915 mm), unless they are approved existing revolving door assemblies.

Revolving door assemblies shall not be used within 10 ft (3050 mm) of the foot or the top of stairs or escalators.

A dispersal area acceptable to the authority having jurisdiction shall be located between stairs or escalators and the revolving door assembly.

The revolutions per minute (rpm) of door wings shall not exceed the following:

The values in Table 14.5.6.1 for existing revolving doors

The values in ANSI/BHMA A156.27 for new revolving doors

Each revolving door assembly shall have a conforming side-hinged swinging door assembly in the same wall as the revolving door within 10 ft (3050 mm) of the revolving door, unless one of the following conditions applies:

Revolving door assemblies shall be permitted without adjacent swinging door assemblies, as required by 14.5.6.1(6), in street floor elevator lobbies, provided that no stairways or door openings from other parts of the building discharge through the lobby and the lobby has no occupancy other than as a means of travel between the elevators and street.

The requirement of 14.5.6.1(6) shall not apply to existing revolving door assemblies where the number of revolving door assemblies does not exceed the number of swinging door assemblies within 20 ft (6100 mm) of the revolving door assembly.

[101:7.2.1.10.1]

Table 14.5.6.1 Existing Revolving Door Assembly Maximum Speed

Inside Diameter Power-Driven

Speed Control

(rpm) Manual Speed

Control (rpm)

ft/in. mm

6 ft 6 in. 1980 11 12

7 ft 2135 10 11

7 ft 6 in. 2285 9 11

8 ft 2440 9 10

8 ft 6 in. 2590 8 9

9 ft 2745 8 9

9 ft 6 in. 2895 7 8

10 ft 3050 7 8

[101: Table 7.2.1.10.1]

14.5.6.2

Where permitted in Chapters 11 through 43 of NFPA 101, revolving door assemblies shall be permitted as a component in a means of egress, provided that all of the following criteria are met:

Revolving door openings shall not be given credit for more than 50 percent of the required egress capacity.

Each revolving door opening shall not be credited with more than a 50-person capacity or, if of not less than a 9 ft (2745 mm) diameter, a revolving door assembly shall be permitted egress capacity based on the clear opening width provided when collapsed into a book-fold position.

Revolving door wings shall be capable of being collapsed into a book-fold position when a force not exceeding 130 lbf (580 N) is applied to the wings within 3 in. (75 mm) of the outer edge.

[101:7.2.1.10.2]

14.5.6.3

Revolving door assemblies not used as a component of a means of egress shall have a collapsing force not exceeding 180 lbf (800 N) applied at a point 3 in. (75 mm) from the outer edge of the outer wing stile and 40 in. (1015 mm) above the floor. [101:7.2.1.10.3]

14.5.6.4

The requirement of 14.5.6.3 shall not apply to revolving door assemblies, provided that the collapsing force is reduced to a force not to exceed 130 lbf (580 N) under all of the following conditions:

Power failure, or removal of power to the device holding the wings in position

Actuation of the automatic sprinkler system, where such a system is provided

Actuation of a smoke detection system that is installed to provide coverage in all areas within the building that are within 75 ft (23 m) of the revolving door assemblies

Actuation of a clearly identified manual control switch in an approved location that reduces the holding force to a force not to exceed 130 lbf (580 N)

[101:7.2.1.10.4]

14.5.7 Turnstiles and Similar Devices

14.5.7.1

Turnstiles or similar devices that restrict travel to one direction or are used to collect fares or admission charges shall not be placed so as to obstruct any required means of egress, unless otherwise specified in 14.57.1.1, 14.5.7.1.2, and 14.5.7.1.3. [101:7.2.1.11.1]

14.5.7.1.1

Approved turnstiles not exceeding 39 in. (990 mm) in height that turn freely in the direction of egress travel shall be permitted where revolving door assemblies are permitted in Chapters 11 through 43 of NFPA 101. [101:7.2.1.11.1.1]

14.5.7.1.2

Where turnstiles are approved by the AHJ and permitted in Chapters 11 through 43 of NFPA 101, each turnstile shall be credited for a capacity of 50 persons, provided that such turnstiles meet all of the following criteria:

They freewheel in the egress direction when primary power is lost, and freewheel in the direction of egress travel upon manual release by an employee assigned in the area.

They are not given credit for more than 50 percent of the required egress width.

They are not in excess of 39 in. (990 mm) in height and have a clear width of not less than 161/2 in. (420 mm).

[101:7.2.1.11.1.2]

14.5.7.1.3\*

Security access turnstiles that impede travel in the direction of egress utilizing a physical barrier shall be permitted to be considered as a component of the means of egress, where permitted in Chapters 11 through 43 of NFPA 101, provided that all the following criteria are met:

The building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 13.3.

Each security access turnstile lane configuration has a minimum clear passage width of 22 in. (560 mm).

Any security access turnstile lane configuration providing a clear passage width of less than 32 in. (810 mm) shall be given an egress capacity of 50 persons.

Any security access turnstile lane configuration providing a clear passage width of 32 in. (810 mm) or more shall be given an egress capacity as calculated in accordance with Section 14.8.

Each secured physical barrier shall automatically retract or swing to an unobstructed open position in the direction of egress, under each of the following conditions:

Upon loss of power to the turnstile or any part of the access control system that secures the physical barrier.

Upon actuation of a readily accessible and clearly identified manual release device that results in direct interruption of power to each secured physical barrier, remains in the open position for not less than 30 seconds, and is positioned at one of the following locations:

The manual release device is located on the egress side of each security access turnstile lane.

The manual release device is located at an approved location where it can be actuated by an employee assigned to the area.

Upon actuation of the building fire-protective signaling system, if provided, and for which the following apply:

The physical barrier remains in the open position until the fire-protective signaling system is manually reset.

The actuation of manual fire alarm boxes that actuate the building fire-protective signaling system is not required to meet the requirements specified in 14.5.7.1.3(5) (c) (i).

Upon actuation of the building automatic sprinkler or fire detection system, and for which the physical barrier remains in the open position until the fire-protective signaling system is manually reset.

[101:7.2.1.11.1.3]

14.5.7.2

Turnstiles exceeding 39 in. (990 mm) in height shall meet the requirements for revolving door assemblies in 14.5.6 or the requirements of 14.5.7.1.3 for security access turnstiles. [101:7.2.1.11.2]

14.5.7.3

Turnstiles located in, or furnishing access to, required exits shall provide not less than 161/2 in. (420 mm) clear width at and below a height of 39 in. (990 mm) and at least 22 in. (560 mm) clear width at heights above 39 in. (990 mm). [101:7.2.1.11.3]

14.5.8 Door Openings in Folding Partitions

Where permanently mounted folding or movable partitions divide a room into smaller spaces, a swinging door leaf or open doorway shall be provided as an exit access from each such space, unless otherwise specified in 14.5.8.1 and 14.5.8.2. [101:7.2.1.12]

14.5.8.1

A door leaf or opening in the folding partition shall not be required, provided that all of the following criteria are met:

The subdivided space is not used by more than 20 persons at any time.

The use of the space is under adult supervision.

The partitions are arranged so that they do not extend across any aisle or corridor used as an exit access to the required exits from the story.

The partitions conform to the interior finish and other requirements of this Code.

The partitions are of an approved type, have a simple method of release, and are capable of being opened quickly and easily by experienced persons in case of emergency.

[101:7.2.1.12.1]

14.5.8.2

Where a subdivided space is provided with not less than two means of egress, the swinging door leaf in the folding partition specified in 14.5.8 shall not be required, and one such means of egress shall be permitted to be equipped with a horizontal-sliding door assembly complying with 14.5.9. [101:7.2.1.12.2]

14.5.9 Special-Purpose Horizontally Sliding Accordion or Folding Door Assemblies

Special-purpose horizontally sliding accordion or folding door assemblies shall be permitted in means of egress, provided that all of the following criteria are met:

The door is readily operable from the egress side without special knowledge or effort.

The force that, when applied to the operating device in the direction of egress, is required to operate the door is not more than 15 lbf (67 N).

The force required to operate the door in the direction of travel is not more than 30 lbf (133 N) to set the door in motion and is not more than 15 lbf (67 N) to close the door or open it to the minimum required width.

The door is operable using a force of not more than 50 lbf (222 N) when a force of 250 lbf (1100 N) is applied perpendicularly to the door adjacent to the operating device, unless the door opening is an existing special-purpose horizontally sliding accordion or folding exit access door assembly serving an area with an occupant load of fewer than 50.

The door assembly complies with the fire protection rating, if required, and, where rated, is self-closing or automatic-closing by means of smoke detection in accordance with 14.5.4 and is installed in accordance with NFPA 80.

[101:7.2.1.13]

14.5.10 Inspection of Door Openings

14.5.10.1\*

Where required by Chapters 11 through 43 of NFPA 101, the following door assemblies shall be inspected and tested not less than annually in accordance with 14.5.10.2 through 14.5.10.7:

Door leaves equipped with panic hardware or fire exit hardware in accordance with 14.5.3.5

Door assemblies in exit enclosures

Door hardware-release of electrically locked egress door assemblies

Door assemblies with special locking arrangements subject to 14.5.3.4

[101:7.2.1.14.1]

14.5.10.2\*

The inspection and testing interval for fire-rated and nonrated door assemblies shall be permitted to exceed 12 months under a written performance-based program. [101:7.2.1.14.2]

14.5.10.2.1

Goals established under a performance-based program shall provide assurance that the door assembly will perform its intended function. [101:7.2.1.14.2.1]

14.5.10.2.2

Technical justification for inspection, testing, and maintenance intervals shall be documented. [101:7.2.1.14.2.2]

14.5.10.2.3

The performance-based option shall include historical data. [101:7.2.1.14.2.3]

14.5.10.3

A written record of the inspections and testing shall be signed and kept for inspection by the authority having jurisdiction. [101:7.2.1.14.3]

14.5.10.4

Functional testing of door assemblies shall be performed by individuals who can demonstrate knowledge and understanding of the operating components of the type of door being subjected to testing. [101:7.2.1.14.4]

14.5.10.5

Door assemblies shall be visually inspected from both sides of the opening to assess the overall condition of the assembly. [101:7.2.1.14.5]

14.5.10.6

As a minimum, the following items shall be verified:

Floor space on both sides of the openings is clear of obstructions, and door leaves open fully and close freely.

Forces required to set door leaves in motion and move to the fully open position do not exceed the requirements in 14.5.1.5.

Latching and locking devices comply with 14.5.2.

Releasing hardware devices are installed in accordance with 14.5.2.3.1.

Door leaves of paired openings are installed in accordance with 14.5.2.9.

Door closers are adjusted properly to control the closing speed of door leaves in accordance with accessibility requirements.

Projection of door leaves into the path of egress does not exceed the encroachment permitted by 14.5.1.3.

Powered door openings operate in accordance with 14.5.5.

Signage required by 14.5.1.1(3), 14.5.2.6, 14.5.3, and 14.5.5 is intact and legible.

Door openings with special locking arrangements function in accordance with 14.5.3.

Security devices that impede egress are not installed on openings, as required by 14.5.2.10.

Where required by 7.2.2.5.5.7 of NFPA 101, door hardware marking is present and intact.

Emergency lighting on sensor-release of electrical locking systems and doors equipped with delayed-egress electrical locking systems is present in accordance with Section 14.13.

[101:7.2.1.14.6]

14.5.10.7\*

Door openings not in proper operating condition shall be repaired or replaced without delay. [101:7.2.1.14.7]

14.6 Enclosure and Protection of Stairs

14.6.1 Enclosures

14.6.1.1

All inside stairs serving as an exit or exit component shall be enclosed in accordance with Section 14.3. [101:7.2.2.5.1.1]

14.6.1.2

Inside stairs, other than those serving as an exit or exit component, shall be protected in accordance with Section 8.6 of NFPA 101. [101:7.2.2.5.1.2]

14.6.1.3

In existing buildings, where a two-story exit enclosure connects the story of exit discharge with an adjacent story, the exit shall be permitted to be enclosed only on the story of exit discharge, provided that not less than 50 percent of the number and capacity of exits on the story of exit discharge are independent of such enclosures. [101:7.2.2.5.1.3]

14.6.2\* Exposures

14.6.2.1

Where nonrated walls or unprotected openings enclose the exterior of a stairway, other than an existing stairway, and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees, the building enclosure walls within 10 ft (3050 mm) horizontally of the nonrated wall or unprotected opening shall be constructed as required for stairway enclosures, including opening protectives. [101:7.2.2.5.2.1]

14.6.2.2

Construction shall extend vertically from the finished ground level to a point 10 ft (3050 mm) above the topmost landing of the stairs or to the roofline, whichever is lower. [101:7.2.2.5.2.2]

14.6.2.3

The fire resistance rating of the separation extending 10 ft (3050 mm) from the stairs shall not be required to exceed 1 hour where openings have a minimum 3/4-hour fire protection rating. [101:7.2.2.5.2.3]

14.6.3\* Usable Space

Enclosed, usable spaces, within exit enclosures shall be prohibited, including under stairs, unless otherwise permitted by 14.6.3.2. [101:7.2.2.5.3]

14.6.3.1

Open space within the exit enclosure shall not be used for any purpose that has the potential to interfere with egress. [101:7.2.2.5.3.1]

14.6.3.2

Enclosed, usable space shall be permitted under stairs, provided that both of the following criteria are met:

The space shall be separated from the stair enclosure by the same fire resistance as the exit enclosure.

Entrance to the enclosed, usable space shall not be from within the stair enclosure. (See also 14.3.3.)

[101:7.2.2.5.3.2]

14.7\* Exit Passageways

14.7.1\* General

Exit passageways used as exit components shall conform to the general requirements of Section 7.1 of NFPA 101 and to the special requirements of Section 14.7. [101:7.2.6.1]

14.7.2 Enclosure

An exit passageway shall be separated from other parts of the building as specified in Section 14.3, and the following alternatives shall be permitted:

Fire windows in accordance with 12.7.6 shall be permitted to be installed in the separation in a building protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 13.3.

Existing fixed wired glass panels in steel sash shall be permitted to be continued in use in the separation in buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 13.3.

[101:7.2.6.2]

14.7.3 Stair Discharge

An exit passageway that serves as a discharge from a stair enclosure shall have not less than the same fire resistance rating and opening protective fire protection rating as those required for the stair enclosure. [101:7.2.6.3]

14.7.4 Width

14.7.4.1

The width of an exit passageway shall be sized to accommodate the aggregate required capacity of all exits that discharge through it, unless one of the following conditions applies:

\* Where an exit passageway serves occupants of the level of exit discharge as well as other stories, the capacity shall not be required to be aggregated.

As provided in Chapters 36 and 37 of NFPA 101, an exit passageway in a mall structure shall be permitted to accommodate occupant loads independently from the mall concourse and the tenant spaces. (See 36.2.2.7.2 and 37.2.2.7.2 of NFPA 101.)

[101:7.2.6.4.1]

14.7.4.2

In new construction, the minimum width of any exit passageway into which an exit stair discharges, or that serves as a horizontal transfer within an exit stair system, shall meet the following criteria:

The minimum width of the exit passageway shall be not less than two-thirds of the width of the exit stair.

Where stairs are credited with egress capacity in accordance with 14.8.3.2, the exit passageway width shall be sized to accommodate the same capacity as the stair, with such capacity determined by use of the capacity factors in Table 14.8.3.1.

[101:7.2.6.4.2]

14.8 Capacity of Means of Egress

14.8.1 Occupant Load

14.8.1.1 Sufficient Capacity

14.8.1.1.1

The total capacity of the means of egress for any story, balcony, tier, or other occupied space shall be sufficient for the occupant load thereof unless one of the following conditions exists:

The AHJ shall be permitted to establish the occupant load as the number of persons for which existing means of egress is adequate, provided that measures are established to prevent occupancy by a greater number of persons.

The egress capacity shall have been previously approved as being adequate.

[101:7.3.1.1.1]

14.8.1.1.2

For other than existing means of egress, where more than one means of egress is required, the means of egress shall be of such width and capacity that the loss of any one means of egress leaves available not less than 50 percent of the required capacity. [101:7.3.1.1.2]

14.8.1.2\* Occupant Load Factor

Diagram

The occupant load in any building or portion thereof shall be not less than the number of persons determined by dividing the floor area assigned to that use by the occupant load factor for that use as specified in Table 14.8.1.2, Figure 14.8.1.2(a), and Figure 14.8.1.2(b). Where both gross and net area figures are given for the same occupancy, calculations shall be made by applying the gross area figure to the gross area of the portion of the building devoted to the use for which the gross area figure is specified and by applying the net area figure to the net area of the portion of the building devoted to the use for which the net area figure is specified. [101:7.3.1.2]

Table 14.8.1.2 Occupant Load Factor

Use (ft2/person)a (m2/person)b

Assembly Use - -

Concentrated use, without fixed seating 7 net 0.65 net

Less concentrated use, without fixed seating 15 net 1.4 net

Bench-type seating

1 person/

18 linear in.

1 person/

455 linear mm

Fixed seating Use number of

fixed seats Use number of

fixed seats

Waiting spaces See 12.1.7.2 and

13.1.7.2 of

NFPA 101 See 12.1.7.2 and

13.1.7.2 of

NFPA 101

Kitchens 100 9.3

Library stack areas 100 9.3

Library reading rooms 50 net 4.6 net

Swimming pools 50 (water surface) 4.6 (water surface)

Swimming pool decks 30 2.8

Exercise rooms with equipment 50 4.6

Exercise rooms without equipment 15 1.4

Stages 15 net 1.4 net

Lighting and access catwalks, galleries, gridirons 100 net 9.3 net

Casinos and similar gaming areas 11 1

Skating rinks 50 4.6

Business Use (other than below) 150 14

Concentrated Business Useb 50 4.6

Airport control tower observation levels 40 3.7

Collaboration rooms/spaces ≤450 ft2 (41.8 m2) in areab 30 2.8

Collaboration rooms/spaces >450 ft2 (41.8 m2) in areab 15 1.4

Day-Care Use 35 net 3.3 net

Detention and Correctional Use 120 11.1

Educational Use - -

Classrooms 20 net 1.9 net

Shops, laboratories, vocational rooms 50 net 4.6 net

Health Care Use - -

Inpatient treatment departments 240 22.3

Sleeping departments 120 11.1

Ambulatory health care 150 14

Industrial Use - -

General and high hazard industrial 100 9.3

Special-purpose industrial MP MP

Mercantile Use - -

Sales area on street floorc,d 30 2.8

Sales area on two or more street floorsd 40 3.7

Sales area on floor below street floord 30 2.8

Sales area on floors above street floord 60 5.6

Floors or portions of floors used only for offices See business use. See business use.

Floors or portions of floors used only for storage, receiving, and shipping, and not open to general public 300 27.9

Mall structurese Per factors applicable to use of spacef

Residential Use - -

Hotels and dormitories 200 18.6

Apartment buildings 200 18.6

Board and care, large 200 18.6

Storage Use - -

In storage occupancies MP MP

In mercantile occupancies 300 27.9

In other than storage and mercantile occupancies 500 46.5

MP: The occupant load is the maximum probable number of occupants present at any time.

aAll factors are expressed in gross area unless marked "net."

bSee A.14.8.1.2.

cFor determining occupant load in mercantile occupancies where, due to differences in the finished ground level of streets on different sides, two or more floors directly accessible from streets (not including alleys or similar back streets) exist, each such floor is permitted to be considered a street floor. The occupant load factor is one person for each 40 ft2 (3.7 m2) of gross floor area of sales space.

dFor determining occupant load in mercantile occupancies with no street floor, as defined in 3.3.234, but with access directly from the street by stairs or escalators, the floor at the point of entrance to the mercantile occupancy is considered the street floor.

eFor any food court or other assembly use areas located in the mall concourse that are not included as a portion of the gross leasable area of the mall structure, the occupant load is calculated based on the occupant load factor for that use as specified in Table 14.8.1.2. The remaining mall concourse area is not required to be assigned an occupant load.

fThe portions of the mall concourse not used as gross leasable area are not required to be assessed an occupant load based on Table 14.8.1.2. However, means of egress from a mall concourse are required to be provided for an occupant load determined by dividing the gross leasable area of the mall building (not including anchor buildings) by the appropriate lowest whole number occupant load factor from Figure 14.8.1.2(a) or Figure 14.8.1.2(b).

Each individual tenant space is required to have means of egress to the outside or to the mall concourse based on occupant loads calculated by using the appropriate occupant load factor from Table 14.8.1.2.

Each individual anchor store is required to have means of egress independent of the mall concourse.

[101:Table 7.3.1.2]

FIGURE 14.8.1.2(a) Mall Structure Occupant Load Factors (U.S. Customary Units). [101:Figure 7.3.1.2(a)]

FIGURE 14.8.1.2(b) Mall Structure Occupant Load Factors (SI Units). [101:Figure 7.3.1.2(b)]

Upcodes Diagrams

14.8.1.3 Occupant Load Increases

14.8.1.3.1

The occupant load in any building or portion thereof shall be permitted to be increased from the occupant load established for the given use in accordance with 14.8.1.2 where all other requirements of this Code are also met, based on such increased occupant load. [101:7.3.1.3.1]

14.8.1.3.2

The AHJ shall be permitted to require an approved aisle, seating, or fixed equipment diagram to substantiate any increase in occupant load and shall be permitted to require that such a diagram be posted in an approved location. [101:7.3.1.3.2]

14.8.1.4 Exits Serving More Than One Story

Diagram

Where an exit serves more than one story, only the occupant load of each story considered individually shall be used in computing the required capacity of the exit at that story, provided that the required egress capacity of the exit is not decreased in the direction of egress travel. [101:7.3.1.4]

Upcodes Diagrams

14.8.1.5 Capacity From a Point of Convergence

Where means of egress from a story above and a story below converge at an intermediate story, the capacity of the means of egress from the point of convergence shall be not less than the sum of the required capacity of the two means of egress. [101:7.3.1.5]

Upcodes Diagrams

14.8.1.6 Egress Capacity From Balconies and Mezzanines

Where any required egress capacity from a balcony or mezzanine passes through the room below, that required capacity shall be added to the required egress capacity of the room in which it is located. [101:7.3.1.6]

14.8.2 Measurement of Means of Egress

14.8.2.1

The width of means of egress shall be measured in the clear at the narrowest point of the egress component under consideration, unless otherwise provided in 14.8.2.2 or 14.8.2.3. [101:7.3.2.1]

14.8.2.2

Projections within the means of egress of not more than 41/2 in. (114 mm) on each side shall be permitted at a height of 38 in. (965 mm) and below. In the case of stair and landing handrails forming part of a guard, in accordance with 7.2.2.4.5.3 of NFPA 101, such projections shall be permitted at a height of 42 in. (1065 mm) and below. [101:7.3.2.2]

14.8.2.3

In health care and ambulatory health care occupancies, projections shall be permitted in corridors in accordance with Chapters 18 through 21 of NFPA 101. [101:7.3.2.3]

14.8.3\* Egress Capacity

Upcodes Diagrams

14.8.3.1

Egress capacity for approved components of means of egress shall be based on the capacity factors shown in Table 14.8.3.1, unless otherwise provided in 14.8.3.2. [101:7.3.3.1]

Table 14.8.3.1 Capacity Factors

Area Stairways

(width/person) Level Components

and Ramps

(width/person)

in. mm in. mm

Board and care

0.4 10 0.2 5

Health care, sprinklered

0.3 7.6 0.2 5

Health care, nonsprinklered

0.6 15 0.5 13

High-hazard contents

0.7 18 0.4 10

All others

0.3 7.6 0.2 5

[101:Table 7.3.3.1]

14.8.3.2\*

For stairways wider than 44 in. (1120 mm) and subject to the 0.3 in. (7.6 mm) width per person capacity factor, the capacity shall be permitted to be increased using the following equation:

[14.8.3.2]

where:

C = capacity, in persons, rounded to the nearest integer

Wn = nominal width of the stair as permitted by 14.8.3.2 (in.)

[101:7.3.3.2]

14.8.3.3

The required capacity of a corridor shall be the occupant load that utilizes the corridor for exit access divided by the required number of exits to which the corridor connects, but the corridor capacity shall be not less than the required capacity of the exit to which the corridor leads. [101:7.3.3.3]

14.8.3.4 Minimum Width

Upcodes Diagrams

14.8.3.4.1

The width of any means of egress, unless otherwise provided in 14.8.3.4.1.1 through 14.8.3.4.1.3, shall be as follows:

Not less than that required for a given egress component in this chapter or Chapter 7 or Chapters 11 through 43 of NFPA 101

Not less than 36 in. (915 mm) where another part of this chapter and Chapters 11 through 43 of NFPA 101 do not specify a minimum width.

[101:7.3.4.1]

14.8.3.4.1.1\*

The width of exit access serving not more than six people, and having a length not exceeding 50 ft (15 m) shall meet both of the following criteria:

The width shall be not less than 18 in. (455 mm), at and below a height of 38 in. (965 mm), and not less than 28 in. (710 mm) above a height of 38 in. (965 mm).

A width of not less than 36 in. (915 mm) for new exit access, and not less than 28 in. (710 mm) for existing exit access, shall be capable of being provided without moving permanent walls.

[101:7.3.4.1.1]

14.8.3.4.1.2

In existing buildings, the width of exit access shall be permitted to be not less than 28 in. (710 mm). [101:7.3.4.1.2]

14.8.3.4.1.3

The requirement of 14.8.3.4.1 shall not apply to the following:

Doors as otherwise provided for in 7.2.1.2 of NFPA 101

Aisles and aisle accessways in assembly occupancies as otherwise provided in Chapters 12 and 13 of NFPA 101

Industrial equipment access as otherwise provided in 40.2.5.3 of NFPA 101

[101:7.3.4.1.3]

Upcodes Diagrams

14.8.3.4.2

Where a single exit access leads to an exit, its capacity in terms of width shall be not less than the required capacity of the exit to which it leads. [101:7.3.4.2]

14.8.3.4.3

Where more than one exit access leads to an exit, each shall have a width adequate for the number of persons it accommodates. [101:7.3.4.3]

14.9 Number of Means of Egress

14.9.1 General

14.9.1.1

The number of means of egress from any balcony, mezzanine, story, or portion thereof shall be not less than two, except under one of the following conditions:

A single means of egress shall be permitted where permitted in Chapters 11 through 43 of NFPA 101.

A single means of egress shall be permitted for a mezzanine or balcony where the common path of travel limitations of Chapters 11 through 43 of NFPA 101 are met.

[101:7.4.1.1]

14.9.1.2

The number of means of egress from any story or portion thereof, other than for existing buildings as permitted in Chapters 11 through 43 of NFPA 101, shall be as follows:

Occupant load more than 500 but not more than 1000 — not less than 3

Occupant load more than 1000 — not less than 4

[101:7.4.1.2]

14.9.1.3

Accessible means of egress in accordance with 14.10.4 that do not utilize elevators shall be permitted to serve as any or all of the required minimum number of means of egress. [101:7.4.1.3]

14.9.1.4

The occupant load of each story considered individually shall be required to be used in computing the number of means of egress at each story, provided that the required number of means of egress is not decreased in the direction of egress travel. [101:7.4.1.4]

14.9.1.5

Doors other than the hoistway door; the elevator car door; and doors that are readily openable from the car side without a key, a tool, special knowledge, or special effort shall be prohibited at the point of access to an elevator car. [101:7.4.1.5]

14.9.1.6 Elevator Landing and Lobby Exit Access

14.9.1.6.1

Each elevator landing and lobby shall have access to at least one exit. [101:7.4.1.6.1]

14.9.1.6.2

The elevator landing and lobby exit access required by 14.9.1.6.1 shall not require the use of a key, a tool, special knowledge, or special effort, unless permitted by 14.9.1.6.3. [101:7.4.1.6.2]

14.9.1.6.3

Doors separating the elevator lobby from the exit access required by 14.9.1.6.1 shall be permitted to be electronically locked in accordance with 14.5.3.4. [101:7.4.1.6.3]

14.9.2 Spaces About Electrical Equipment

14.9.2.1 600 Volts, Nominal, or Less

14.9.2.1.1 Number of Means of Egress

The minimum number of means of egress for working space about electrical equipment, other than existing electrical equipment, shall be in accordance with 110.26(C) of NFPA 70. [101:7.4.2.1.1]

14.9.2.1.2 Door Unlatching and Direction of Door Swing

The method of door unlatching and direction of door swing for working space about electrical equipment, other than existing electrical equipment, shall be in accordance with 110.26(C)(3) of NFPA 70. [101:7.4.2.1.2]

14.9.2.2 Over 600 Volts, Nominal

14.9.2.2.1 Number of Means of Egress

The minimum number of means of egress for working space about electrical equipment, other than existing electrical equipment, shall be in accordance with 110.33(A) of NFPA 70. [101:7.4.2.2.1]

14.9.2.2.2 Door Unlatching and Direction of Door Swing

The method of door unlatching and direction of door swing for working space about electrical equipment, other than existing electrical equipment, shall be in accordance with 110.33(A)(3) of NFPA 70. [101:7.4.2.2.2]

14.10 Arrangement of Means of Egress

14.10.1 General

14.10.1.1

Exits shall be located and exit access shall be arranged, so that exits are readily accessible at all times. [101:7.5.1.1]

14.10.1.1.1\*

Where exits are not immediately accessible from an open floor area, continuous passageways, aisles, or corridors leading directly to every exit shall be maintained and shall be arranged to provide access for each occupant to not less than two exits by separate ways of travel, unless otherwise provided in 14.10.1.1.3 and 14.10.1.1.4. [101:7.5.1.1.1]

14.10.1.1.2

Exit access corridors shall provide access to not less than two approved exits, unless otherwise provided in 14.10.1.1.3 and 14.10.1.1.4. [101:7.5.1.1.2]

14.10.1.1.3

The requirements of 14.10.1.1.1 and 14.10.1.1.2 shall not apply where a single exit is permitted in Chapters 11 through 43 of NFPA 101. [101:7.5.1.1.3]

14.10.1.1.4

Where common paths of travel are permitted for an occupancy in Chapters 11 through 43 of NFPA 101, such common paths of travel shall be permitted but shall not exceed the limit specified. [101:7.5.1.1.4]

14.10.1.2

Corridors shall provide exit access without passing through any intervening rooms other than corridors, lobbies, and other spaces permitted to be open to the corridor, unless otherwise provided in 14.10.1.2.2 and 14.10.1.2.3. [101:7.5.1.2]

14.10.1.2.1\*

Exit access shall be arranged so that there are no dead ends in corridors, unless permitted by, and limited to the lengths specified in, Chapters 11 through 43 of NFPA 101. [101:7.5.1.2.1]

14.10.1.2.2

Approved existing corridors that require passage through a room to access an exit shall be permitted to continue to be used, provided that all of the following criteria are met:

The path of travel is marked in accordance with Section 14.14.

Doors to such rooms comply with 7.2.1 of NFPA 101.

Such arrangement is not prohibited by the applicable occupancy chapter in NFPA 101.

[101:7.5.1.2.2]

14.10.1.2.3

Corridors that are not required to be fire resistance rated shall be permitted to discharge into open floor plan areas. [101:7.5.1.2.3]

14.10.1.3

Remoteness shall be provided in accordance with 14.10.1.3.1 through 14.10.1.3.7. [101:7.5.1.3]

Upcodes Diagrams

14.10.1.3.1

Where more than one exit, exit access, or exit discharge is required from a building or portion thereof, such exits, exit accesses, or exit discharges shall be remotely located from each other and be arranged to minimize the possibility that more than one has the potential to be blocked by any one fire or other emergency condition. [101:7.5.1.3.1]

14.10.1.3.2\*

Where two exits, exit accesses, or exit discharges are required, they shall be located at a distance from one another not less than one-half the length of the maximum overall diagonal dimension of the building or area to be served, measured in a straight line between the nearest edge of the exits, exit accesses, or exit discharges, unless otherwise provided in 14.10.1.3.3 through 14.10.1.3.5. [101:7.5.1.3.2]

14.10.1.3.3

In buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 13.3, the minimum separation distance between two exits, exit accesses, or exit discharges, measured in accordance with 14.10.1.3.2, shall be not less than one-third the length of the maximum overall diagonal dimension of the building or area to be served. [101:7.5.1.3.3]

14.10.1.3.4\*

In other than high-rise buildings, where exit enclosures are provided as the required exits specified in 14.10.1.3.2 or 14.10.1.3.3 and are interconnected by not less than a 1-hour fire-resistance-rated corridor, exit separation shall be measured along the shortest line of travel within the corridor [101:7.5.1.3.4]

14.10.1.3.5

In existing buildings, where more than one exit, exit access, or exit discharge is required, such exits, exit accesses, or exit discharges shall be exempt from the diagonal measurement separation distance criteria of 14.10.1.3.2 and 14.10.1.3.3, provided that such exits, exit accesses, or exit discharges are remotely located in accordance with 14.10.1.3.1. [101:7.5.1.3.5]

14.10.1.3.6

Diagram

In other than existing buildings, where more than two exits, exit accesses, or exit discharges are required, at least two of the required exits, exit accesses, or exit discharges shall be arranged to comply with the minimum separation distance requirement. [101:7.5.1.3.6]

Upcodes Diagrams

14.10.1.3.7

The balance of the exits, exit accesses, or exit discharges specified in 14.10.1.3.6 shall be located so that, if one becomes blocked, the others are available. [101:7.5.1.3.7]

Upcodes Diagrams

14.10.1.4

Interlocking or scissor stairs shall comply with 14.10.1.4.1 and 14.10.1.4.2. [101:7.5.1.4]

14.10.1.4.1

New interlocking or scissor stairs shall be permitted to be considered only as a single exit. [101:7.5.1.4.1]

14.10.1.4.2\*

Existing interlocking or scissor stairs shall be permitted to be considered separate exits, provided that they meet all of the following criteria:

They are enclosed in accordance with Section 14.3.

They are separated from each other by 2-hour fire-resistance-rated noncombustible construction.

No protected or unprotected penetrations or communicating openings exist between the stair enclosures.

[101:7.5.1.4.2]

14.10.1.5

Exit access from rooms or spaces shall be permitted to be through adjoining or intervening rooms or areas, provided that such rooms or areas are accessory to the area served. Foyers, lobbies, and reception rooms constructed as required for corridors shall not be construed as intervening rooms. Exit access shall be arranged so that it is not necessary to pass through any area identified under Protection from Hazards in Chapters 11 through 43 of NFPA 101. [101:7.5.1.5]

14.10.2 Impediments to Egress

See also 7.1.9 of NFPA 101, and 14.5.2. [101:7.5.2]

14.10.2.1\*

Access to an exit shall not be through kitchens, storerooms other than as provided in Chapters 36 and 37 of NFPA 101, restrooms, closets, bedrooms or similar spaces, or other rooms or spaces subject to locking, unless passage through such rooms or spaces is permitted for the occupancy by Chapters 18, 19, 22, or 23 of NFPA 101. [101:7.5.2.1]

14.10.2.2\*

Exit access and exit doors shall be designed and arranged to be clearly recognizable. [101:7.5.2.2]

14.10.2.2.1

Hangings or draperies shall not be placed over exit doors or located so that they conceal or obscure any exit, unless otherwise provided in 14.10.2.2.2. [101:7.5.2.2.1]

14.10.2.2.2

Curtains shall be permitted across means of egress openings in tent walls, provided that all of the following criteria are met:

They are distinctly marked in contrast to the tent wall so as to be recognizable as means of egress.

They are installed across an opening that is at least 6 ft (1830 mm) in width.

They are hung from slide rings or equivalent hardware so as to be readily moved to the side to create an unobstructed opening in the tent wall that is of the minimum width required for door openings.

[101:7.5.2.2.2]

14.10.3 Exterior Ways of Exit Access

14.10.3.1

Exit access shall be permitted to be by means of any exterior balcony, porch, gallery, or roof that conforms to the requirements of this chapter and Chapter 7 of NFPA 101. [101:7.5.3.1]

14.10.3.2

The long side of the balcony, porch, gallery, or similar space shall be at least 50 percent open and shall be arranged to restrict the accumulation of smoke. [101:7.5.3.2]

14.10.3.3

Exterior exit access balconies shall be separated from the interior of the building by walls and opening protectives as required for corridors, unless the exterior exit access balcony is served by at least two remote stairs that can be accessed without any occupant traveling past an unprotected opening to reach one of the stairs, or unless dead ends on the exterior exit access do not exceed 20 ft (6100 mm). [101:7.5.3.3]

14.10.3.4

Exterior exit access shall be arranged so that there are no dead ends in excess of those permitted for dead-end corridors in Chapters 11 through 43 of NFPA 101. [101:7.5.3.4]

14.10.4 Accessible Means of Egress

14.10.4.1\*

Areas accessible to people with severe mobility impairment, other than in existing buildings, shall have not less than two accessible means of egress, unless otherwise provided in 14.10.4.1.2 through 14.10.4.1.4. [101:7.5.4.1]

14.10.4.1.1

Access within the allowable travel distance shall be provided to not less than one accessible area of refuge or one accessible exit providing an accessible route to an exit discharge. [101:7.5.4.1.1]

14.10.4.1.2

A single accessible means of egress shall be permitted from buildings or areas of buildings permitted to have a single exit. [101:7.5.4.1.2]

14.10.4.1.3

Accessible means of egress shall not be required in health care occupancies protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 13.3. [101:7.5.4.1.3]

14.10.4.1.4

Exit access travel along the accessible means of egress shall be permitted to be common for the distances permitted as common paths of travel. [101:7.5.4.1.4]

14.10.4.2

Where two accessible means of egress are required, the exits serving such means of egress shall be located at a distance from one another not less than one-half the length of the maximum overall diagonal dimension of the building or area to be served. This distance shall be measured in a straight line between the nearest edge of the exit doors or exit access doors, unless otherwise provided in 14.10.4.2.1 through 14.10.4.2.3. [101:7.5.4.2]

14.10.4.2.1

Where exit enclosures are provided as the required exits specified in 14.10.4.2 and are interconnected by not less than a 1-hour fire-resistance-rated corridor, exit separation shall be permitted to be measured along the line of travel within the corridor. [101:7.5.4.2.1]

14.10.4.2.2

The requirement of 14.10.4.2 shall not apply to buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 13.3. [101:7.5.4.2.2]

14.10.4.2.3

The requirement of 14.10.4.2 shall not apply where the physical arrangement of means of egress prevents the possibility that access to both accessible means of egress will be blocked by any one fire or other emergency condition as approved by the AHJ. [101:7.5.4.2.3]

14.10.4.3

Each required accessible means of egress shall be continuous from each accessible occupied area to a public way or area of refuge in accordance with 7.2.12.2.2 of NFPA 101. [101:7.5.4.3]

14.10.4.4

Diagram

Where an exit stair is used in an accessible means of egress, it shall comply with 7.2.12 of NFPA 101 and either shall incorporate an area of refuge within an enlarged story-level landing or shall be accessed from an area of refuge. [101:7.5.4.4]

UpCodes Diagrams

P

Areas of Refuge

14.10.4.5

To be considered part of an accessible means of egress, an elevator shall be in accordance with 7.2.12.2.4 of NFPA 101. [101:7.5.4.5]

14.10.4.6

To be considered part of an accessible means of egress, a smoke barrier in accordance with Section 12.9 with not less than a 1-hour fire resistance rating, or a horizontal exit in accordance with 7.2.4 of NFPA 101, shall discharge to an area of refuge in accordance with 7.2.12 of NFPA 101. [101:7.5.4.6]

14.10.4.7

Accessible stories that are four or more stories above or below a story of exit discharge shall have not less than one elevator complying with 14.10.4.5, except as modified in 14.10.4.8. [101:7.5.4.7]

14.10.4.8

Where elevators are required by 14.10.4.7, the smokeproof enclosure required by 7.2.12.2.4 of NFPA 101 shall not be required in buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with NFPA 13. [101:7.5.4.8]

14.10.4.9

An area of refuge used as part of a required accessible means of egress shall be in accordance with 7.2.12 of NFPA 101. [101:7.5.4.9]

14.11 Discharge From Exits

14.11.1\* Exit Termination

Exits shall terminate directly, at a public way or at an exterior exit discharge, unless otherwise provided in 14.11.1.3 through 14.11.1.5. [101:7.7.1]

14.11.1.1

Yards, courts, open spaces, or other portions of the exit discharge shall be of the required width and size to provide all occupants with a safe access to a public way. [101:7.7.1.1]

14.11.1.2

New exit discharge paths to a public way shall have a width of not less than 36 in. (915 mm) and existing exit discharge paths to a public way shall have a width of not less than 28 in. (710 mm). [101:7.7.1.2]

14.11.1.3

The requirement of 14.11.1 shall not apply to interior exit discharge as otherwise provided in 14.11.2. [101:7.7.1.3]

14.11.1.4

The requirement of 14.11.1 shall not apply to rooftop exit discharge as otherwise provided in 14.11.6. [101:7.7.1.4]

14.11.1.5

Means of egress shall be permitted to terminate in an exterior area for detention and correctional occupancies as otherwise provided in Chapters 22 and 23 of NFPA 101. [101:7.7.1.5]

14.11.2 Exit Discharge Through Interior Building Areas

Exits shall be permitted to discharge through interior building areas, provided that all of the following are met:

Not more than 50 percent of the required number of exit stairs serving normally occupied areas of each floor, and not more than 50 percent of the exit stair capacity required for normally occupied areas of each floor, shall discharge through areas on any level of discharge, except as otherwise permitted by one of the following:

One hundred percent of the exits shall be permitted to discharge through areas on any level of discharge in detention and correctional occupancies as otherwise provided in Chapters 22 and 23 of NFPA 101.

In existing buildings, the 50 percent limit on egress capacity shall not apply if the 50 percent limit on the required number of exits is met.

Each level of discharge shall discharge directly outside at the finished ground level or discharge directly outside and provide access to the finished ground level by outside stairs or outside ramps.

The interior exit discharge shall lead to a free and unobstructed way to the exterior of the building, and such way shall be readily apparent or shall be identifiable by exit signage from the point of discharge from the exit.

The interior exit discharge shall be protected by one of the following methods:

The level of discharge shall be protected throughout by an approved automatic sprinkler system in accordance with Section 13.3, or the portion of the level of discharge used for interior exit discharge shall be protected by an approved automatic sprinkler system in accordance with Section 13.3 and shall be separated from the nonsprinklered portion of the floor by fire barriers with a fire resistance rating meeting the requirements for the enclosure of exits. (See 14.3.1.)

The interior exit discharge area shall be in a vestibule or foyer that meets all of the following criteria:

The depth from the exterior of the building shall be not more than 10 ft (3050 mm), and the length shall be not more than 30 ft (9.1 m).

The foyer shall be separated from the remainder of the level of discharge by fire barriers with a minimum 1-hour fire resistance rating, and existing installations of wired glass in steel frames shall be permitted to be continued in use.

The foyer shall serve only as means of egress and shall include an exit directly to the outside.

The entire area on the level of discharge shall be separated from areas below by construction having a fire resistance rating not less than that required for the exit enclosure, unless otherwise provided in 14.11.2(6).

Levels below the level of discharge in an atrium shall be permitted to be open to the level of discharge where such level of discharge is protected in accordance with 8.6.7 of NFPA 101.

[101:7.7.2]

14.11.3 Arrangement and Marking of Exit Discharge

14.11.3.1

Where more than one exit discharge is required, exit discharges shall be arranged to meet the remoteness criteria of 14.10.1.3. [101:7.7.3.1]

14.11.3.2

The exit discharge shall be arranged and marked to make clear the direction of egress travel from the exit discharge to a public way. [101:7.7.3.2]

14.11.3.3\*

Stairs and ramps that continue more than one-half story below the level of discharge shall be provided with an approved means to prevent or dissuade occupants from traveling past the level of discharge during emergency building evacuation. [101:7.7.3.3]

14.11.4 Components of Exit Discharge

Doors, stairs, ramps, corridors, exit passageways, bridges, balconies, escalators, moving walks, and other components of an exit discharge shall comply with the detailed requirements of this chapter for such components. [101:7.7.4]

14.11.5 Signs

See 10.11.3. [101:7.7.5]

14.11.6 Discharge to Roofs

Where approved by the AHJ, exits shall be permitted to discharge to roofs or other sections of the building or an adjoining building where all of the following criteria are met:

The roof/ceiling assembly construction has a fire resistance rating not less than that required for the exit enclosure.

A continuous and safe means of egress from the roof is available.

[101:7.7.6]

14.12 Illumination of Means of Egress

14.12.1 General

14.12.1.1\*

Illumination of means of egress shall be provided in accordance with Section 14.12 for every building and structure where required in Chapters 11 through 43 of NFPA 101. For the purposes of this requirement, exit access shall include only designated stairs, aisles, corridors, ramps, escalators, and passageways leading to an exit. For the purposes of this requirement, exit discharge shall include only designated stairs, aisles, corridors, ramps, escalators, walkways, and passageways leading to a public way. [101:7.8.1.1]

Upcodes Diagrams

14.12.1.2

Illumination of means of egress shall be continuous during the time that the conditions of occupancy require that the means of egress be available for use, unless otherwise provided in 14.12.1.2.2. [101:7.8.1.2]

14.12.1.2.1

Artificial lighting shall be employed at such locations and for such periods of time as are necessary to maintain the illumination to the minimum criteria values herein specified. [101:7.8.1.2.1]

14.12.1.2.2\*

Unless prohibited by Chapters 11 through 43 of NFPA 101, automatic lighting control devices shall be permitted to temporarily turn off the illumination within the means of egress, provided that each lighting control device complies with all of the following:

In new installations, the lighting control device is listed.

The lighting control device is equipped to automatically energize the controlled lights upon loss of normal power and is evaluated for this purpose.

Illumination timers are provided and are set for a minimum 15-minute duration.

The lighting control device is activated by any occupant movement in the area served by the lighting units.

In new installations, the lighting control device is activated by activation of the building fire alarm system, if provided.

The lighting control device does not turn off any lights relied upon for activation of photoluminescent exit signs or path markers.

The lighting control device does not turn off any battery-equipped emergency luminaires, unit equipment, or exit signs.

[101:7.8.1.2.2]

14.12.1.2.3\*

Energy-saving sensors, switches, timers, or controllers shall be approved and shall not compromise the continuity of illumination of the means of egress required by 14.12.1.2. [101:7.8.1.2.3]

14.12.1.3

The floors and other walking surfaces within an exit and within the portions of the exit access and exit discharge designated in 14.12.1.1 shall be illuminated as follows:

During conditions of stair use, the minimum illumination for new stairs shall be at least 10 foot-candles (108 lux), measured at the walking surfaces.

The minimum illumination for floors and other walking surfaces, other than new stairs during conditions of stair use, shall be to values of at least 1 foot-candle (10.8 lux), measured at the floor.

In assembly occupancies, the illumination of the walking surfaces of exit access shall be at least 0.2 foot-candle (2.2 lux) during periods of performances or projections involving directed light.

\* The minimum illumination requirements shall not apply where operations or processes require low lighting levels.

[101:7.8.1.3]

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14.12.1.4\*

Diagram

Required illumination shall be arranged so that the failure of any single lighting unit does not result in an illumination level of less than 0.2 foot-candle (2.2 lux) in any designated area. [101:7.8.1.4]

UpCodes Diagrams

P

Means of Egress Illumination (NFPA)

14.12.1.5

The equipment or units installed to meet the requirements of Section 14.14 also shall be permitted to serve the function of illumination of means of egress, provided that all requirements of Section 14.12 for such illumination are met. [101:7.8.1.5]

14.12.2 Sources of Illumination

14.12.2.1

Illumination of means of egress shall be from a source considered reliable by the AHJ. [101:7.8.2.1]

14.12.2.2

Battery-operated electric lights and other types of portable lamps or lanterns shall not be used for primary illumination of means of egress. Battery-operated electric lights shall be permitted to be used as an emergency source to the extent permitted under Section 14.13. [101:7.8.2.2]

14.13 Emergency Lighting

14.13.1 General

14.13.1.1\*

Emergency lighting facilities for means of egress shall be provided in accordance with Section 14.13 for the following:

Buildings or structures where required in Chapters 11 through 43 of NFPA 101

Underground and limited-access structures as addressed in Section 11.7 of NFPA 101

High-rise buildings as required by NFPA 101

Doors equipped with delayed-egress locks

Stair shafts and vestibules of smokeproof enclosures, for which the following also apply:

The stair shaft and vestibule shall be permitted to include a standby generator that is installed for the smokeproof enclosure mechanical ventilation equipment.

The standby generator shall be permitted to be used for the stair shaft and vestibule emergency lighting power supply.

New sensor-release of electrical locking systems in accordance with 14.5.3.2

[101:7.9.1.1]

14.13.1.2

For the purposes of 14.13.1.1, exit access shall include only designated stairs, aisles, corridors, ramps, escalators, and passageways leading to an exit. For the purposes of 14.13.1.1, exit discharge shall include only designated stairs, ramps, aisles, walkways, and escalators leading to a public way. [101:7.9.1.2]

14.13.1.3

Where maintenance of illumination depends on changing from one energy source to another, a delay of not more than 10 seconds shall be permitted. [101:7.9.1.3]

14.13.2 Periodic Testing of Emergency Lighting Equipment

14.13.2.1

Required emergency lighting systems shall be tested in accordance with one of the three options offered by 14.13.2.1.1, 14.13.2.1.2, or 14.13.2.1.3. [101:7.9.3.1]

14.13.2.1.1

Testing of required emergency lighting systems shall be permitted to be conducted as follows:

Functional testing shall be conducted monthly with a minimum of 3 weeks and a maximum of 5 weeks between tests, for not less than 30 seconds, except as otherwise permitted by 14.13.2.1.1(2).

The test interval shall be permitted to be extended beyond 30 days with the approval of the AHJ.

Functional testing shall be conducted annually for a minimum of 11/2 hours if the emergency lighting system is battery powered.

The emergency lighting equipment shall be fully operational for the duration of the tests required by 14.13.2.1.1(1) and 14.13.2.1.1(3).

Written records of visual inspections and tests shall be kept by the owner for inspection by the AHJ.

[101:7.9.3.1.1]

14.13.2.1.2

Testing of required emergency lighting systems shall be permitted to be conducted as follows:

Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be provided.

Not less than once every 30 days, self-testing/self-diagnostic battery-operated emergency lighting equipment shall automatically perform a test with a duration of a minimum of 30 seconds and a diagnostic routine.

Self-testing/self-diagnostic battery-operated emergency lighting equipment shall indicate failures by a status indicator.

A visual inspection shall be performed at intervals not exceeding 30 days.

Functional testing shall be conducted annually for a minimum of 11/2 hours.

Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be fully operational for the duration of the 11/2 hour test.

Written records of visual inspections and tests shall be kept by the owner for inspection by the AHJ.

[101:7.9.3.1.2]

14.13.2.1.3

Testing of required emergency lighting systems shall be permitted to be conducted as follows:

Computer-based, self-testing/self-diagnostic battery-operated emergency lighting equipment shall be provided.

Not less than once every 30 days, emergency lighting equipment shall automatically perform a test with a duration of a minimum of 30 seconds and a diagnostic routine.

The emergency lighting equipment shall automatically perform annually a test for a minimum of 11/2 hours.

The emergency lighting equipment shall be fully operational for the duration of the tests required by 14.13.2.1.3(2) and 14.13.2.1.3(3).

The computer-based system shall be capable of providing a report of the history of tests and failures at all times.

[101:7.9.3.1.3]

14.13.2.1.4

Testing of required emergency lighting systems shall be permitted to be conducted in accordance with 7.9.2.4 of NFPA 101. [101:7.9.3.1.4]

14.14 Marking of Means of Egress

Diagram

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P

Exit Door Sign Req.

14.14.1 General

14.14.1.1 Where Required

Means of egress shall be marked in accordance with Section 14.14 where required in Chapters 11 through 43 of NFPA 101. [101:7.10.1.1]

14.14.1.2 Exits

14.14.1.2.1\*

Exits, other than main exterior exit doors that obviously and clearly are identifiable as exits, shall be marked by an approved sign that is readily visible from any direction of exit access. [101:7.10.1.2.1]

14.14.1.2.2\*

Horizontal components of the egress path within an exit enclosure shall be marked by approved exit or directional exit signs where the continuation of the egress path is not obvious. [101:7.10.1.2.2]

Upcodes Diagrams

14.14.1.3 Exit Stair Door Tactile Signage

Tactile signage shall be provided to meet all of the following criteria, unless otherwise provided in 14.14.1.4:

Tactile signage shall be located at each exit door requiring an exit sign.

Tactile signage shall read as follows: EXIT

Tactile signage shall comply with ICC A117.1, Accessible and Usable Buildings and Facilities.

[101:7.10.1.3]

14.14.1.4 Existing Exemption

The requirements of 14.14.1.3 shall not apply to existing buildings, provided that the occupancy classification does not change. [101:7.10.1.4]

14.14.1.5 Exit Access

14.14.1.5.1

Access to exits shall be marked by approved, readily visible signs in all cases where the exit or way to reach the exit is not readily apparent to the occupants. [101:7.10.1.5.1]

14.14.1.5.2\*

New sign placement shall be such that no point in an exit access corridor is in excess of the rated viewing distance or 100 ft (30 m), whichever is less, from the nearest sign. [101:7.10.1.5.2]

14.14.1.6\* Floor Proximity Exit Signs

Diagram

Where floor proximity exit signs are required in Chapters 11 through 43 of NFPA 101, such signs shall comply with 14.14.3, 14.14.4, 14.14.5, and 14.14.6 for externally illuminated signs and 14.14.7 for internally illuminated signs. Such signs shall be located near the floor level in addition to those signs required for doors or corridors. The bottom of the sign shall be not less than 6 in. (150 mm), but not more than 18 in. (455 mm), above the floor. For exit doors, the sign shall be mounted on the door or adjacent to the door, with the nearest edge of the sign within 4 in. (100 mm) of the door frame. [101:7.10.1.6]

Upcodes Diagrams

14.14.1.7\* Floor Proximity Egress Path Marking

Where floor proximity egress path marking is required in Chapters 11 through 43 of NFPA 101, an approved floor proximity egress path marking system that is internally illuminated shall be installed within 18 in. (455 mm) of the floor. Floor proximity egress path marking systems shall be listed in accordance with UL 1994, Luminous Egress Path Marking Systems. The system shall provide a visible delineation of the path of travel along the designated exit access and shall be essentially continuous, except as interrupted by doorways, hallways, corridors, or other such architectural features. The system shall operate continuously or at any time the building fire alarm system is activated. The activation, duration, and continuity of operation of the system shall be in accordance with 7.9.2 of NFPA 101. The system shall be maintained in accordance with the product manufacturing listing. [101:7.10.1.7]

14.14.1.8\* Visibility

Every sign required in Section 14.14 shall be located and of such size, distinctive color, and design that it is readily visible and shall provide contrast with decorations, interior finish, or other signs. No decorations, furnishings, or equipment that impairs visibility of a sign shall be permitted. No brightly illuminated sign (for other than exit purposes), display, or object in or near the line of vision of the required exit sign that could detract attention from the exit sign shall be permitted. [101:7.10.1.8]

14.14.1.9 Mounting Location

The bottom of new egress markings shall be located at a vertical distance of not more than 6 ft 8 in. (2030 mm) above the top edge of the egress opening intended for designation by that marking. Egress markings shall be located at a horizontal distance of not more than the required width of the egress opening, as measured from the edge of the egress opening intended for designation by that marking to the nearest edge of the marking. [101:7.10.1.9]

14.14.2 Directional Signs

14.14.2.1

A sign complying with 14.14.3, with a directional indicator showing the direction of travel, shall be placed in every location where the direction of travel to reach the nearest exit is not apparent. [101:7.10.2.1]

14.14.2.2

Directional exit signs shall be provided within horizontal components of the egress path within exit enclosures as required by 14.14.1.2.2. [101:7.10.2.2]

14.14.3\* Sign Legend

14.14.3.1

Signs required by 14.14.1 and 14.14.2 shall read as follows in plainly legible letters, or other appropriate wording shall be used:

EXIT

[101:7.10.3.1]

14.14.3.2\*

Where approved by the AHJ, pictograms in compliance with NFPA 170 shall be permitted. [101:7.10.3.2]

14.14.4\* Power Source

Where emergency lighting facilities are required by the applicable provisions of Chapters 11 through 43 of NFPA 101 for individual occupancies, the signs, other than approved self-luminous signs and listed photoluminescent signs in accordance with 14.14.7.2, shall be illuminated by the emergency lighting facilities. The level of illumination of the signs shall be in accordance with 14.14.6.3 or 14.14.7 for the required emergency lighting duration as specified in 7.9.2.1 of NFPA 101. However, the level of illumination shall be permitted to decline to 60 percent at the end of the emergency lighting duration. [101:7.10.4]

14.14.5 Illumination of Signs

14.14.5.1\* General

Every sign required by 14.14.1.2, 14.14.1.5, or 14.14.8.1, other than where operations or processes require low lighting levels, shall be suitably illuminated by a reliable light source. Externally and internally illuminated signs shall be legible in both the normal and emergency lighting mode. [101:7.10.5.1]

14.14.5.2\* Continuous Illumination

14.14.5.2.1

Every sign required to be illuminated by 14.14.6.3, 14.14.7, and 14.14.8.1 shall be continuously illuminated as required under the provisions of Section 14.12, unless otherwise provided in 14.14.5.2.2. [101:7.10.5.2.1]

14.14.5.2.2\*

Illumination for signs shall be permitted to flash on and off upon activation of the fire alarm system. [101:7.10.5.2.2]

14.14.6 Externally Illuminated Signs

14.14.6.1\* Size of Signs

14.14.6.1.1

Externally illuminated signs required by 14.14.1 and 14.14.2, other than approved existing signs, unless otherwise provided in 14.14.6.1.2, shall read EXIT or shall use other appropriate wording in plainly legible letters sized as follows:

For new signs, the letters shall be not less than 6 in. (150 mm) high, with the principal strokes of letters not less than 3/4 in. (19 mm) wide.

For existing signs, the required wording shall be permitted to be in plainly legible letters not less than 4 in. (100 mm) high.

The word EXIT shall be in letters of a width not less than 2 in. (51 mm), except the letter I, and the minimum spacing between letters shall be not less than 3/8 in. (9.5 mm).

Sign legend elements larger than the minimum established in 14.14.6.1.1(1) through 14.14.6.1.1(3) shall use letter widths, strokes, and spacing in proportion to their height.

[101:7.10.6.1.1]

14.14.6.1.2

The requirements of 14.14.6.1.1 shall not apply to marking required by 14.14.1.3 and 14.14.1.7. [101:7.10.6.1,2]

14.14.6.2\* Size and Location of Directional Indicator

14.14.6.2.1

Directional indicators, unless otherwise provided in 14.14.6.2.2, shall comply with all of the following:

The directional indicator shall be located outside of the EXIT legend, not less than 3/8 in. (9.5 mm) from any letter.

The directional indicator shall be of a chevron type, as shown in Figure 14.14.6.2.1.

The directional indicator shall be identifiable as a directional indicator at a distance of 40 ft (12 m).

A directional indicator larger than the minimum established for compliance with 14.14.6.2.1(3) shall be proportionately increased in height, width, and stroke.

The directional indicator shall be located at the end of the sign for the direction indicated.

[101:7.10.6.2.1]

FIGURE 14.14.6.2.1 Chevron-Type Indicator. [101:Figure 7.10.6.2.1]

14.14.6.2.2

The requirements of 14.14.6.2.1 shall not apply to approved existing signs. [101:7.10.6.2.2]

14.14.6.3\* Level of Illumination

Externally illuminated signs shall be illuminated by not less than 5 foot-candles (54 lux) at the illuminated surface and shall have a contrast ratio of not less than 0.5. [101:7.10.6.3]

14.14.7 Internally Illuminated Signs

14.14.7.1 Listing

Internally illuminated signs shall be listed in accordance with UL 924, Emergency Lighting and Power Equipment, unless they meet one of the following criteria:

They are approved existing signs.

They are existing signs having the required wording in legible letters not less than 4 in. (100 mm) high.

They are signs that are in accordance with 14.14.1.3 and 14.14.1.6.

[101:7.10.7.1]

14.14.7.2\* Photoluminescent Signs

The face of a photoluminescent sign shall be continually illuminated while the building is occupied. The illumination levels on the face of the photoluminescent sign shall be in accordance with its listing. The charging illumination shall be a reliable light source as determined by the AHJ. The charging light source shall be of a type specified in the product markings. [101:7.10.7.2]

14.14.8 Special Signs

14.14.8.1 Sign Illumination

14.14.8.1.1\*

Where required by other provisions of this Code, special signs shall be illuminated in accordance with 14.14,5, 14.14.6.3, and 14.14.7. [101:7.10.8.1.1]

14.14.8.1.2

Where emergency lighting facilities are required by the applicable provisions of Chapters 11 through 43 of NFPA 101, the required illumination of special signs shall additionally be provided under emergency lighting conditions. [101:7.10.8.1.2]

14.14.8.2 Characters

Special signs, where required by other provisions of this Code, shall comply with the visual character requirements of ICC A117.1, Accessible and Usable Buildings and Facilities. [101:7.10.8.2]

14.14.8.3\* No Exit

14.14.8.3.1

Any door, passage, or stairway that is neither an exit nor a way of exit access and that is located or arranged so that it is likely to be mistaken for an exit shall be identified by a sign that reads as follows:

NO

EXIT

[101:7.10.8.3.1]

14.14.8.3.2

For other than previously approved existing NO EXIT signs, the sign shall comply with all of the following:

The NO EXIT sign shall have the word NO in letters 2 in. (51 mm) high, with a stroke width of 3/8 in. (9.5 mm).

The word EXIT shall be in letters 1 in. (25 mm) high.

Larger signs shall retain the same letter-height-to-stroke-width ratio for the word NO and a 2:1 letter-height ratio between the words NO and EXIT.

The word EXIT shall be located below the word NO.

[7.10.8.3.2]

14.15 Secondary Means of Escape

14.15.1

Secondary means of escape shall comply with NFPA 101.

14.15.2

Where approved on secondary means of escape, security bars, grates, grilles, or similar devices shall be equipped with approved release mechanisms that are releasable from the inside without the use of a tool, a key, special knowledge, or force greater than that which it takes for normal operation of the door or window.







