

SECTION 7.8 ILLUMINATION OF MEANS OF EGRESS

7.8.1 General.

7.8.1.1 Illumination of means of egress shall be provided in accordance with this section for every building and structure where required in Chapters 11 through 42. 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 purpose of this requirement, exit discharge shall include only designated stairs, aisles, corridors, ramps, escalators, walkways, and exit passageways leading to a public way.

7.8.1.2 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. Artificial lighting shall be employed at such places and for such periods of time as required to maintain the illumination to the minimum values herein specified.

7.8.1.3* The floors of means of egress shall be illuminated at all points including angles and intersections of corridors and passageways, stairways, landings of stairs, and exit doors to values of not less than 1 footcandle (10 lux) measured at the floor. Exception: In assembly occupancies, the illumination of the floors of exit access shall be at least 0.2 footcandle (2 lux) during periods of performance or projections involving directed light.

7.8.1.4 Any required illumination shall be so arranged that the failure of any single lighting unit, such as the burning out of an electric bulb, will not leave any area less than 0.2 ft candle (2 lux) in any designated area.

7.8.1.5 The equipment or units installed to meet the requirements of Section 7-10 also shall be permitted to serve the function of illumination of means of egress, provided that all applicable requirements of this section for such illumination are met.

7.8.2 Sources of Illumination.

7.8.2.1 Illumination of means of egress shall be from a source considered by the authority having jurisdiction.

7.8.2.2 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 7-9.

SECTION 7.9 EMERGENCY LIGHTING

7.9.1 General.

7.9.1.1 Emergency lighting facilities for means of egress shall be provided in accordance with Section 7.9 for the following: (1) Buildings or structures where required in Chapters 11 through 42. (2) Underground and windowless structures as addressed in Section 11.7; (3) High rise buildings as required by other sections of this Code; (4) Doors equipped with delayed egress locks.; (5) The stair shaft and vestibule of smokeproof enclosures, which shall be permitted to include a standby generator that is installed for the smokeproof enclosure mechanical ventilation equipment and used for the stair shaft and vestibule emergency lighting power supply. 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 purpose of this requirement, exit discharge shall include only designated stairs, ramps, aisles, walkways and escalators leading to a public way.

7.9.1.2 Where maintenance of illumination depends upon changing from one energy source to another a delay of not more than 10 seconds shall be permitted.

7.9.2 Performance of System.

7.9.2.1* Emergency illumination shall be provided for a period of 1-1/2 hours in the event of failure of normal lighting. Emergency lighting facilities shall be arranged to provide initial illumination that is no less than an average of 1 footcandle (10 lux) and a minimum at any point of .1 footcandle (1 lux) measured along the path of egress at floor level. Illumination levels may decline to .6 footcandle (6 lux) average and a minimum at any point of .06 footcandle (.6 lux) at the end of the emergency lighting time duration. A maximum to minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

7.9.2.2* The emergency lighting system shall be so arranged as to provide the required illumination automat-

ically in the event of any interruption of normal lighting, such as any failure of public utility or other outside electrical power supply, opening of a circuit breaker or fuse, or any manual act(s), including accidental opening of a switch controlling normal lighting facilities.

7.9.2.3 Emergency generators used to provide power to emergency lighting systems shall be installed, tested, and maintained in accordance with NFPA 110, Emergency and Standby Power Systems.

7.9.2.4* Battery-operated emergency lights shall use only reliable types of rechargeable batteries provided with suitable facilities for maintaining them in properly charged condition. Batteries used in such lights or units shall be approved for their intended use and shall comply with NFPA 70, National Electrical Code.®

7.9.2.5 The emergency lighting system shall be either continuously in operation or capable of repeated automatic operation without manual intervention.

7.9.3 Periodic Testing of Emergency Lighting Equipment. A functional test shall be conducted on every required emergency lighting system at 30-day intervals for not less than 30 seconds. An annual test shall be conducted on every required battery-powered emergency lighting system for not less than 1-1/2 hours. Equipment shall be fully operational for the duration of the test. Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.

Exception: Self-testing/self-diagnostic, battery-operated emergency lighting equipment that automatically performs a minimum 30-second test and diagnostic routine at least once every 30 days and indicates failures by a status indicator shall be exempt from the 30-day functional test, provided a visual inspection is performed at 30-day intervals.

SECTION 7.10 MARKING OF MEANS OF EGRESS

7.10.1 General.

7.10.1.1 Where required. Means of egress shall be marked in accordance with Section 7.10 where required in Chapters 11 through 42.

7.10.1.2* Exits shall be marked by an approved sign readily visible from any direction of exit access.

Exception: Main exterior exit doors that obviously and clearly are identifiable as exits.

7.10.1.4 Access to exits shall be marked by approved readily visible signs in all cases where the exit or way to reach it is not readily apparent to the occupants. Sign placement shall be such that no point in the exit access is more than 100 ft (30 m) from the nearest visible sign.

Exception: Signs in existing buildings need not meet the 100-ft (30 m) distance requirement.

7.10.1.5 Where floor proximity exit signs are specifically required by Chapters 11 through 42, exit signs shall be placed near the floor level in addition to those signs required for doors or corridors. These signs shall be sized and illuminated in accordance with the requirements of 7-10.5 and 7.10.6.1. The bottom of the sign shall be not less than 6 in. (15.2 cm) nor more than 8 in. (20.3 cm) above the floor. For exit doors, the sign shall be mounted on the door or adjacent to the door with the closest edge of the sign within 4 in. (10.2cm) of the door frame.

7.10.1.6 Where floor proximity egress path marking is specifically required by Chapters 11 through 42, a listed and approved floor proximity egress path marking system that is internally illuminated shall be installed within 8 in. (20.3 cm) of the floor. 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.

7.10.1.7 Every sign required by Section 7-10 shall be so located and of such size, distinctive color, and design as to be readily visible and shall provide contrast with decorations, interior finish, or other signs. No decorations, furnishings, or equipment that impair visibility of an exit sign shall be permitted, nor shall there be any brightly illuminated sign (for other than exit purposes), display, or object in or near the line of vision of the required exit sign of such a character as to so detract attention from the exit sign.

7.10.2* Directional Signs. A sign complying with 7.10.3

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.

7.10.3* Sign Legend. Signs required by 7.10.1 and 7.10.2 shall have the word EXIT or other appropriate wording in plainly legible letters.

7.10.4* Power Source. Where emergency lighting facilities are required by the applicable provisions of Chapters 11 through 42 for individual occupancies, the signs, other than approved self-luminous signs shall be illuminated by the emergency lighting facilities. The level of illumination of the signs shall be in accordance with 7.10.6.3 or 7.10.7 for the required emergency lighting duration as specified in 7.9.2.1. However, the level of illumination shall be permitted to decline to 60 percent at the end of the emergency lighting duration.

7.10.5 Illumination of Signs.

7.10.5.1* General. Every sign required by 7.10.1.2 or 7.10.1.4, 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.

7.10.5.2* Continuous Illumination. Every sign required to be illuminated by 7.10.6.3 and 7.10.7 shall be continuously illuminated as required under the provisions of Section 7.8.

Exception:* Illumination for signs shall be permitted to flash on and off upon activation of fire alarm system.

7.10.6 Externally Illuminated Signs.

7.10.6.1* Size of Signs. Externally illuminated signs required by 5-10.1 and 5-10.4.11 shall have the word "EXIT" or other appropriate wording in plainly legible letters not less than 6 in. (15.2 cm) high with the principal strokes of letters not less than 3/4 in. (1.9 cm) wide. The word "EXIT" shall have letters of a width not less than 2 in. (5 cm) except the letter "I," and the minimum spacing between letters shall be not less than 3/8 in. (1 cm). Signs larger than the minimum established in this paragraph shall have letter widths, strokes, and spacing in proportion to their height.

Exception 1: This requirement shall not apply to existing signs having the required wording in plainly legible letters not less than 4 in. (10.2 cm) high.

Exception 2: This requirement shall not apply to marking required by 7.10.1.3 and 7.10.1.5.

7.10.6.2* Size and location of Directional Indicator. The directional indicator shall be located outside of the EXIT legend, not less than 3/8" (1cm) from any letter. The directional indicator shall be of a chevron type, as shown in Figure 7.10.6.2. The directional indicator shall be identifiable as a direction indicator at a distance of 40 ft. (12.2m). A directional indicator larger than the minimum established in this paragraph 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.

Exception: This requirement shall not apply to approved existing signs.

7.10.6.3* Level of Illumination. Externally illuminated signs shall be illuminated by not less than 5 ft-candles (54 lux) at the illuminated surface and shall have a contrast ratio of not less than 0.5.

7.10.7 Internally Illuminated Signs.

7.10.7.1 Listing. Internally illuminated signs, other than approved existing signs, or existing signs having the required wording in legible letters not less than 4 in. (10.2 cm) high, shall be listed in accordance with UL 924 Standard for Safety Emergency Lighting and Power Equipment

Exception: The requirement shall not apply to signs that are in accordance with 7.10.1.3 and 7.10.1.5.

7.10.9 Testing and Maintenance.

7.10.9.1 Inspection. Exit signs shall be visually inspected for operation of the illumination sources at intervals not to exceed 30 days.

7.10.9.2 Testing. Exit signs connected to or provided with a battery-operated emergency illumination source, where required in 7.10.4, shall be tested and maintained in accordance with 7.9.3.

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