



# EXIT Sign and Emergency Lighting

Code reference and guide based on 2020 Fire Code of New York State

## 1031.4 Exit signs.

Exit signs shall be installed and maintained in accordance with the building code that was in effect at the time of construction and the applicable provisions in Section 1104. Decorations, furnishings, equipment or adjacent signage that impairs the visibility of exit signs, creates confusion or prevents identification of the exit shall not be allowed.

**1031.10 Emergency lighting equipment inspection and testing.** Emergency lighting shall be maintained in accordance with Section 1008 and shall be inspected and tested in accordance with Sections 1031.10.1 and 1031.10.2.

**1031.10.1 Activation test.** Emergency lighting equipment shall be tested monthly for a duration of not less than 30 seconds. The test shall be performed manually or by an automated self-testing and self-diagnostic routine. Where testing is performed by self-testing and self-diagnostics, a visual inspection of the emergency lighting equipment shall be conducted monthly to identify any equipment displaying a trouble indicator or that has become damaged or otherwise impaired.

**1031.10.2 Power test.** Battery-powered emergency lighting equipment shall be tested annually by operating the equipment on battery power for not less than 90 minutes.

**1008.1 Means of egress illumination.** Illumination shall be provided in the means of egress in accordance with Section 1008.2. Under emergency power, means of egress illumination shall comply with Section 1008.3.

**1008.2 Illumination required.** The means of egress serving a room or space shall be illuminated at all times that the room or space is occupied.

### Exceptions:

1. Occupancies in Group U.
2. Aisle accessways in Group A.
3. Dwelling units and sleeping units in Groups R-1, R-2 and R-3.
4. Sleeping units of Group I occupancies.

**1008.2.1 Illumination level under normal power.** The means of egress illumination level shall be not less than 1 footcandle (11 lux) at the walking surface.

**Exception:** For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' fire alarm system:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of ramps shall be permitted to be marked with self-luminous materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems listed in accordance with UL 1994.

## 1008.2.2 Group I-2.

In Group I-2 occupancies where two or more exits are required, on the exterior landings required by Section 1010.6.1, means of egress illumination levels for the exit discharge shall be provided such that failure of a single lamp in a luminaire shall not reduce the illumination level on that landing to less than 1 footcandle (11 lux).

### **1008.2.3 Exit discharge.**

Illumination shall be provided along the path of travel for the exit discharge from each exit to the public way.

**Exception:** Illumination shall not be required where the path of the exit discharge meets both of the following requirements:

1. The path of exit discharge is illuminated from the exit to a safe dispersal area complying with Section 1028.5.
2. A dispersal area shall be illuminated to a level not less than 1 footcandle (11 lux) at the walking surface.

**1008.3 Emergency power for illumination.** The power supply for means of egress illumination shall normally be provided by the premises' electrical supply.

**1008.3.1 General.** In the event of power supply failure in rooms and spaces that require two or more means of egress an emergency electrical system shall automatically illuminate all of the following areas:

1. Aisles.
2. Corridors.
3. Exit access stairways and ramps.

### **1008.3.2 Buildings.**

In the event of power supply failure, in buildings that require two or more means of egress, an emergency electrical system shall automatically illuminate all of the following areas:

1. Interior exit access stairways and ramps.
2. Interior and exterior exit stairways and ramps.
3. Exit passageways.
4. Vestibules and areas on the level of discharge used for exit discharge in accordance with Section 1028.1.
5. Exterior landings as required by Section 1010.1.6 for exit doorways that lead directly to the exit discharge.

### **1008.3.3 Rooms and spaces.**

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

1. Electrical equipment rooms.
2. Fire command centers.
3. Fire pump rooms.
4. Generator rooms.
5. Public restrooms with an area greater than 300 square feet (27.87 m<sup>2</sup>).

### **1008.3.4 Duration.**

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702 of the Building Code of New York State.

### **1008.3.5 Illumination level under emergency power.**

Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 footcandle (6 lux) average and a minimum at any point of 0.06 footcandle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. In Group I-2 occupancies, failure of a single lamp in a luminaire shall not reduce the illumination level to less than 0.2 foot-candle (2.2 lux).

### **1104.3 Exit sign illumination.**

Exit signs shall be internally or externally illuminated. The face of an exit sign illuminated from an external source shall have an intensity of not less than 5 foot-candles (54 lux). Internally illuminated signs shall provide equivalent luminance and be listed for the purpose.

**Exception:** Approved self-luminous signs that provide evenly illuminated letters shall have a minimum luminance of 0.06 foot-lamberts (0.21 cd/m<sup>2</sup>).

### **1104.4 Power source.**

Where emergency illumination is required in Section 1104.5, exit signs shall be visible under emergency illumination conditions.

**Exception:** Approved signs that provide continuous illumination independent of external power sources are not required to be connected to an emergency electrical system.

### **1104.5 Illumination emergency power.**

Where means of egress illumination is provided, the power supply for means of egress illumination shall normally be provided by the premises' electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for the following occupancies where such occupancies require two or more means of egress:

1. Group A having 50 or more occupants.

**Exception:** Assembly occupancies used exclusively as a place of worship and having an occupant load of less than 300.

2. Group B buildings three or more stories in height, buildings with 100 or more occupants above or below a level of exit discharge serving the occupants or buildings with 1,000 or more total occupants.
3. Group E in interior exit access and exit stairways and ramps, corridors, windowless areas with student occupancy, shops and laboratories.
4. Group F having more than 100 occupants.

**Exception:** Buildings used only during daylight hours and that are provided with windows for natural light in accordance with the Building Code of New York State.

5. Group I.
6. Group M.

**Exception:** Buildings less than 3,000 square feet (279 m<sup>2</sup>) in gross sales area on one story only, excluding mezzanines.

7. Group R-1.

**Exception:** Where each sleeping unit has direct access to the outside of the building at grade.

8. Group R-2.

**Exception:** Where each dwelling unit or sleeping unit has direct access to the outside of the building at grade.

#### **1104.5.1 Emergency power duration and installation.**

Emergency power for means of egress illumination shall be provided in accordance with Section 1203. In other than Group I-2, emergency power shall be provided for not less than 60 minutes for systems requiring emergency power.

# EXIT Sign and Emergency Light Testing

Emergency lighting provides two safeguards for a building in the event of power failure:

First, safe and prompt access to emergency exits (egress), and second, to provide lighting of sufficient levels, and for a sufficiently long duration, to permit safe and orderly shutdown of processes that might become hazardous if simply abandoned.

Frequently, inspectors find that emergency lighting units have been installed and subsequently forgotten. Most emergency lighting units use batteries, which have a limited life span, and are subject to failure without warning. The “charging” light may be lit on the units, but this does not guarantee the lights will come on when the power fails.

The 2020 Fire Code of New York State requires that emergency lighting units be able to provide illumination for 1-1/2 hours after power failure at a level sufficiently bright enough to allow persons to see their way to exits, or to safely shut down processes and machinery, etc.

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

1. 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.

This means that approximately monthly, the “push-button” test should be conducted by pressing the “test” button on the unit and holding it for 30 seconds. If the device does not light, the lamps are dim or it fails to light at full brilliance for 30 seconds, the unit should be serviced, repaired or replaced.

2. Functional testing shall be conducted annually for a minimum of 1-1/2 hours if the emergency lighting system is battery powered.

The annual test requires that the power actually be interrupted to the emergency lighting unit, by unplugging it, throwing a circuit breaker or other safe means, so no line power reaches it. If the unit does not provide light of normal brilliance for 1-1/2 hours it should be serviced, repaired or replaced.

3. Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.

A simple log should be maintained, containing the following information: description of the building’s emergency lighting equipment, by numbering system, or other system; test dates and times; the tester’s name; results of the test; and comments for referring failed tests to the appropriate persons for repair or replacement.