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NFPA 101®
Life Safety Code®

2003 Edition

This edition of NFPA 101®, *Life Safety Code®*, was adopted by the National Fire Protection Association, Inc., at its November Association Technical Meeting held November 16–20, 2002, in Atlanta, GA. It was issued by the Standards Council on January 17, 2003, with an effective date of February 6, 2003, and supersedes all previous editions.

This edition of NFPA 101 was approved as an American National Standard on January 17, 2003.

Origin and Development of NFPA 101

The *Life Safety Code* had its origin in the work of the Committee on Safety to Life of the National Fire Protection Association, which was appointed in 1913. In 1912 a pamphlet titled *Exit Drills in Factories, Schools, Department Stores and Theaters* was published following its presentation by the late Committee member R. H. Newbern at the 1911 Annual Meeting of the Association. Although the pamphlet's publication antedated the organization of the Committee, it was considered a Committee publication.

For the first few years of its existence, the Committee on Safety to Life devoted its attention to a study of the notable fires involving loss of life and to analyzing the causes of this loss of life. This work led to the preparation of standards for the construction of stairways, fire escapes, and other egress routes for fire drills in various occupancies, and for the construction and arrangement of exit facilities for factories, schools, and other occupancies. These reports were adopted by the National Fire Protection Association and published in pamphlet form as *Outside Stairs for Fire Exits* (1916) and *Safeguarding Factory Workers from Fire* (1918). These pamphlets served as a groundwork for the present *Code*. These pamphlets were widely circulated and put into general use.

In 1921 the Committee on Safety to Life was enlarged to include representatives of certain interested groups not previously participating in the standard's development. The Committee then began to further develop and integrate previous Committee publications to provide a comprehensive guide to exits and related features of life safety from fire in all classes of occupancy. Known as the *Building Exits Code*, various drafts were published, circulated, and discussed over a period of years, and the first edition of the *Building Exits Code* was published by the National Fire Protection Association in 1927. Thereafter, the Committee continued its deliberations, adding new material on features not originally covered and revising various details in the light of fire experience and practical experience in the use of the *Code*. New editions were published in 1929, 1934, 1936, 1938, 1939, 1942, and 1946 to incorporate the amendments adopted by the National Fire Protection Association.

National attention was focused on the importance of adequate exits and related fire safety features after the Coconut Grove Night Club fire in Boston in 1942 in which 492 lives were lost. Public attention to exit matters was further stimulated by the series of hotel fires in 1946 (LaSalle, Chicago — 61 dead; Canfield, Dubuque — 19 dead; and the Wincoff, Atlanta — 119 dead). The *Building Exits Code*, thereafter, was used to an increasing extent for regulatory purposes. However, the *Code* was not written in language suitable for adoption into law, because it had been drafted as a reference document and contained advisory provisions that were useful to building designers but inappropriate for legal use. This led to a decision by the Committee to re-edit the entire *Code*, limiting the body of the text to requirements suitable for mandatory application and placing advisory and explanatory material in notes. The re-editing expanded *Code* provisions to cover additional occupancies and building features to produce a complete document. The *Code* expansion was carried on concurrently with development of the 1948, 1949, 1951, and 1952 editions. The results were incorporated in the 1956 edition and further refined in subsequent editions dated 1957, 1958, 1959, 1960, 1961, and 1963.

In 1955, NFPA 101B, on nursing homes and NFPA 101C, on interior finish, were published. NFPA 101C was revised in 1956. These publications have since been withdrawn.

In 1963 the Committee on Safety to Life was restructured to represent all interested factions and to include only those members with broad knowledge of fire matters. The Committee served as a review and correlating committee for seven sectional committees whose personnel included members having a special knowledge and interest in various portions of the *Code*.

Under the revised structure, the sectional committees, through the Committee on Safety to Life, prepared the 1966 edition of the *Code*, which was a complete revision of the 1963 edition. The *Code* title was changed from *Building Exits Code* to the *Code for Safety to Life from Fire in Buildings and Structures*. The *Code* text was written in enforceable "code language," and all explanatory notes were placed in an appendix.

13.1.4* **Classification of Occupancy.** See 6.1.2.

13.1.5 **Classification of Hazard of Contents.** Contents of assembly occupancies shall be classified in accordance with the provisions of Section 6.2.

13.1.6 **Minimum Construction Requirements.** The location of an assembly occupancy shall be limited as shown in Table 13.1.6, unless otherwise permitted by the following (see 8.2.1.):

- (1) This requirement shall not apply to outdoor grandstands of Type I or Type II construction.
- (2) This requirement shall not apply to outdoor grandstands of Type III, Type IV, or Type V construction and that meet the requirements of 13.4.8.
- (3) This requirement shall not apply to grandstands of noncombustible construction supported by the floor in a building meeting the construction requirements of Table 13.1.6.
- (4) This requirement shall not apply to assembly occupancies within mall buildings in accordance with 37.4.4.

13.1.7 **Occupant Load.**

13.1.7.1* **General.** The occupant load, in number of persons for whom means of egress and other provisions are required, shall be determined on the basis of the occupant load factors of Table 7.3.1.2 that are characteristic of the use of the space or shall be determined as the maximum probable population of the space under consideration, whichever is greater.

13.1.7.1.1 In areas not in excess of 930 m² (10,000 ft²), the occupant load shall not exceed one person in 0.46 m² (5 ft²).

13.1.7.1.2 In areas in excess of 930 m² (10,000 ft²), the occupant load shall not exceed one person in 0.65 m² (7 ft²).

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

Table 13.1.6 Construction Type Limitations

Type of Construction	Below LED	LED	Number of Levels above LED			
			1	2	3	≥4
I(443) ^{1,2} I(332) ^{1,2} II(222) ^{1,2}	Any assembly ³	Any assembly	Any assembly	Any assembly	Any assembly	Any assembly; If OL > 1000 ³
II(111) ^{1,2}	Any assembly ³ Limited to 1 level below LED	Any assembly	Any assembly	Any assembly; If OL > 1000 ³	Assembly with OL ≤ 1000 ³	NP
III(211) IV(2HH) V(111)	Any assembly ³ Limited to 1 level below LED	Any assembly	Any assembly	Any assembly; If OL > 300 ³	Assembly with OL ≤ 1000 ³	NP
II(000)	Assembly with OL ≤ 1000 ³ Limited to 1 level below LED	Any assembly; If OL > 1000 ³	Assembly with OL ≤ 300 ³	NP	NP	NP
III(200) V(000)	Assembly with OL ≤ 1000 ³ Limited to 1 level below LED	Any assembly; If OL > 1000 ³	Assembly with OL ≤ 300 ³	NP	NP	NP

NP: Not permitted.

LED: Level of exit discharge.

OL: Occupant load.

Note: For the purpose of this table, a mezzanine is not counted as a level.

¹Where every part of the structural framework of roofs in Type I or Type II construction is 6100 mm (240 in.) or more above the floor immediately below, omission of all fire protection of the structural members shall be permitted, including protection of trusses, roof framing, decking, and portions of columns above 6100 mm (240 in.).

²In open-air fixed seating facilities, including stadia, omission of fire protection of structural members exposed to the outside atmosphere shall be permitted where substantiated by an approved engineering analysis.

³Permitted if all the following are protected throughout by an approved automatic sprinkler system in accordance with Section 9.7:

- (1) The level of the assembly occupancy
- (2) Any level intervening between the level of the assembly occupancy and the level of exit discharge
- (3) The level of the exit discharge if there are any openings between the level of exit discharge and the exits serving the assembly occupancy

13.1.7.2 Waiting Spaces. In theaters and other assembly occupancies where persons are admitted to the building at times when seats are not available, or when the permitted occupant load has been reached based on 13.1.7.1 and persons are allowed to wait in a lobby or similar space until seats or space is available, the following requirements shall apply:

- (1) Such use of a lobby or similar space shall not encroach upon the required clear width of exits.
- (2) The waiting spaces shall be restricted to areas other than the required means of egress.
- (3) Exits shall be provided for the waiting spaces on the basis of one person for each 0.28 m² (3 ft²) of waiting space area.
- (4) Exits for waiting spaces shall be in addition to the exits specified for the main auditorium area and shall conform in construction and arrangement to the general rules for exits given in this chapter.

13.1.7.3 Life Safety Evaluation. Where the occupant load of an assembly occupancy exceeds 6000, a life safety evaluation shall be performed in accordance with 13.1.1.

13.1.7.4 Outdoor Facilities. In outdoor facilities, where approved by the authority having jurisdiction the number of occupants who are each provided with not less than 1.4 m² (15 ft²) of lawn surface shall be permitted to be excluded from the maximum occupant load of 6000 of 13.1.7.3 in determining the need for a life safety evaluation.

13.2 Means of Egress Requirements.

13.2.1 General. All means of egress shall be in accordance with Chapter 7 and this chapter.

13.2.2 Means of Egress Components.

13.2.2.1 Components of means of egress shall be limited to the types described in 13.2.2.2 through 13.2.2.12.

13.2.2.2 Doors.

13.2.2.2.1 Doors complying with 7.2.1 shall be permitted.

13.2.2.2.2 Assembly occupancies with occupant loads of 300 or less in malls (*see* 37.4.4.2.2) shall be permitted to have horizontal or vertical security grilles or doors complying with 7.2.1.4.1.4 on the main entrance/exits.

13.2.2.2.3 Any door in a required means of egress from an area having an occupant load of 100 or more persons shall be permitted to be provided with a latch or lock only if the latch or lock is panic hardware or fire exit hardware complying with 7.2.1.7, unless otherwise permitted by the following:

- (1) This requirement shall not apply to delayed-egress locks as permitted in 13.2.2.2.5.
- (2) This requirement shall not apply to access-controlled egress doors as permitted in 13.2.2.2.6.

13.2.2.2.4 Locking devices complying with 7.2.1.5.4 shall be permitted to be used on a single door or a single pair of doors if both of the following conditions apply:

- (1) The door or pair of doors serve as the main exit from assembly occupancies having an occupant load not greater than 600.
- (2) Any latching devices on such a door(s) from an assembly occupancy having an occupant load of 100 or more are released by panic hardware or fire exit hardware.

13.2.2.2.5 Delayed-egress locks complying with 7.2.1.6.1 shall be permitted on doors other than main entrance/exit doors.

13.2.2.2.6 Doors in the means of egress shall be permitted to be equipped with an approved access control system complying with 7.2.1.6.2, and such doors shall not be locked from the egress side when the assembly occupancy is occupied. (*See* 7.2.1.1.3.)

13.2.2.2.7 Revolving doors complying with the requirements of 7.2.1.10 for new construction shall be permitted.

13.2.2.2.8 The provisions of 7.2.1.11.1.1 to allow turnstiles where revolving doors are permitted shall not apply.

13.2.2.2.9 No turnstiles or other devices that restrict the movement of persons shall be installed in any assembly occupancy in such a manner as to interfere with required means of egress facilities.

13.2.2.3 Stairs.

13.2.2.3.1 General. Stairs complying with 7.2.2 shall be permitted, unless one of the following criteria applies:

- (1) *Stairs serving seating that is designed to be repositioned shall not be required to comply with 7.2.2.3.1.
- (2) This requirement shall not apply to stages and platforms as permitted by 13.4.5.

13.2.2.3.2 Catwalk, Gallery, and Gridiron Stairs.

13.2.2.3.2.1 Noncombustible grated stair treads and landing floors shall be permitted in means of egress from lighting and access catwalks, galleries, and gridirons.

13.2.2.3.2.2 Spiral stairs complying with 7.2.2.2.3 shall be permitted in means of egress from lighting and access catwalks, galleries, and gridirons.

13.2.2.4 Smokeproof Enclosures. Smokeproof enclosures complying with 7.2.3 shall be permitted.

13.2.2.5 Horizontal Exits. Horizontal exits complying with 7.2.4 shall be permitted.

13.2.2.6 Ramps. Ramps complying with 7.2.5 shall be permitted.

13.2.2.7 Exit Passageways. Exit passageways complying with 7.2.6 shall be permitted.

13.2.2.8 Escalators and Moving Walks. Escalators and moving walks complying with 7.2.7 shall be permitted.

13.2.2.9 Fire Escape Stairs. Fire escape stairs complying with 7.2.8 shall be permitted.

13.2.2.10 Fire Escape Ladders.

13.2.2.10.1 Fire escape ladders complying with 7.2.9 shall be permitted.

13.2.2.10.2 For ladders serving catwalks, the three-person limitation in 7.2.9.1(3) shall be permitted to be increased to ten persons.

13.2.2.11 Alternating Tread Devices. Alternating tread devices complying with 7.2.11 shall be permitted.

13.2.2.12 Areas of Refuge. Areas of refuge complying with 7.2.12 shall be permitted.

above ambient at the end of 30 minutes of the fire exposure specified in the test method referenced in 8.3.3.2. Elevator lobby doors shall be self-closing or automatic-closing in accordance with 7.2.1.8.

7.2.13.5 Door Activation. The elevator lobby doors shall close in response to a signal from a smoke detector located directly outside the elevator lobby adjacent to or on each door opening. Elevator lobby doors shall be permitted to close in response to a signal from the building fire alarm system. Where one elevator lobby door closes by means of a smoke detector or a signal from the building fire alarm system, all elevator lobby doors serving that elevator evacuation system shall close.

7.2.13.6* Water Protection. Building elements shall be used to restrict water exposure of elevator equipment.

7.2.13.7* Power and Control Wiring. Elevator equipment, elevator communications, elevator machine room cooling, and elevator controller cooling shall be supplied by both normal and standby power. Wiring for power and control shall be located and properly protected to ensure at least 1 hour of operation in the event of a fire.

7.2.13.8* Communications. Two-way communication systems shall be provided between elevator lobbies and a central control point and between elevator cars and a central control point. Communications wiring shall be protected to ensure at least 1 hour of operation in the event of fire.

7.2.13.9* Elevator Operation. Elevators shall be provided with fire fighter service in accordance with ASME A17.1, *Safety Code for Elevators and Escalators*.

7.2.13.10 Maintenance. Where an elevator lobby is served by only one elevator car, the elevator evacuation system shall have a program of scheduled maintenance during times of building shutdown or low building activity. Repairs shall be performed within 24 hours of breakdown.

7.2.13.11 Earthquake Protection. Elevators shall have the capability of orderly shutdowns during earthquakes at locations where such shutdowns are an option of ASME A17.1, *Safety Code for Elevators and Escalators*.

7.2.13.12 Signage. Signage shall comply with 7.10.8.2.

7.3 Capacity of Means of Egress.

7.3.1 Occupant Load.

7.3.1.1 Sufficient Capacity for Occupant Load. 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.

7.3.1.2* Occupant Load Factor. 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 7.3.1.2, Figure 7.3.1.2(a), and Figure 7.3.1.2(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.

Table 7.3.1.2 Occupant Load Factor

Use	m ² (per person) ¹	ft ² (per person) ¹
Assembly Use		
Concentrated use, without fixed seating	0.65 net	7 net
Less concentrated use, without fixed seating	1.4 net	15 net
Bench-type seating	1 person/455 linear mm	1 person/18 linear in.
Fixed seating	Number of fixed seats	Number of fixed seats
Waiting spaces	See 12.1.7.2 and 13.1.7.2	See 12.1.7.2 and 13.1.7.2
Kitchens	9.3	100
Library stack areas	9.3	100
Library reading rooms	4.6 net	50 net
Swimming pools	4.6 (water surface)	50 (water surface)
Swimming pool decks	2.8	30
Exercise rooms with equipment	4.6	50
Exercise rooms without equipment	1.4	15
Stages	1.4 net	15 net
Lighting and access catwalks, galleries, gridirons	9.3 net	100 net
Casinos and similar gaming areas	1	11
Skating rinks	4.6	50
Educational Use		
Classrooms	1.9 net	20 net
Shops, laboratories, vocational rooms	4.6 net	50 net
Day-Care Use	3.3 net	35 net
Health Care Use		
Inpatient treatment departments	22.3	240
Sleeping departments	11.1	120
Detention and Correctional Use	11.1	120
Residential Use		
Hotels and dormitories	18.6	200
Apartment buildings	18.6	200
Board and care, large	18.6	200
Industrial Use		
General and high hazard industrial	9.3	100
Special purpose industrial	NA	NA
Business Use	9.3	100
Storage Use (other than mercantile storerooms)	NA	NA

(continues)

Table 7.3.1.2 Continued

Use	m ² (per person) ¹	ft ² (per person) ¹
Mercantile Use		
Sales area on street floor ^{2,3}	2.8	30
Sales area on two or more street floors ²	3.7	40
Sales area on floor below street floor ³	2.8	30
Sales area on floors above street floor ³	5.6	60
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	27.9	300
Mall buildings ¹	Per factors applicable to use of space ³	Per factors applicable to use of space ³

Note: NA = not applicable. The occupant load is the maximum probable number of occupants present at any time.

¹All factors are expressed in gross area unless marked "net."

²For the purpose of determining occupant load in mercantile occupancies where, due to differences in grade 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 3.7 m² (40 ft²) of gross floor area of sales space.

³For the purpose of determining occupant load in mercantile occupancies with no street floor, as defined in 3.3.216, 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.

⁴For any food court or other assembly use areas located in the mall that are not included as a portion of the gross leasable area of the mall building, the occupant load is calculated based on the occupant load factor for that use as specified in Table 7.3.1.2. The remaining mall area is not required to be assigned an occupant load.

⁵The portions of the mall that are considered a pedestrian way and not used as gross leasable area are not required to be assessed an occupant load based on Table 7.3.1.2. However, means of egress from a mall pedestrian way are required to be provided for an occupant load determined by dividing the gross leasable area of the mall building (not including anchor stores) by the appropriate lowest whole number occupant load factor from Figure 7.3.1.2(a) or Figure 7.3.1.2(b).

Each individual tenant space is required to have means of egress to the outside or to the mall based on occupant loads calculated by using the appropriate occupant load factor from Table 7.3.1.2.

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

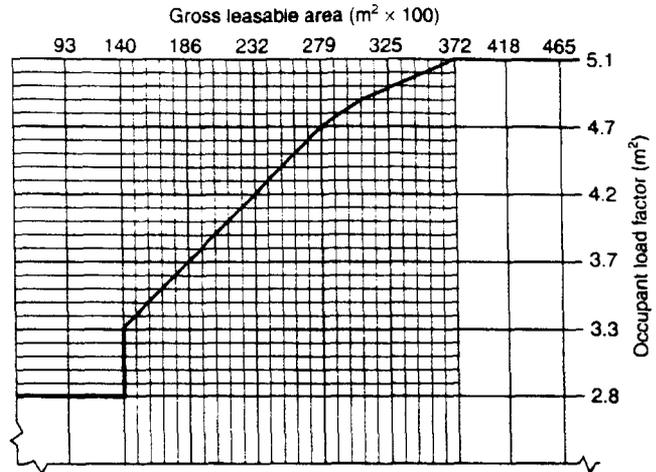


FIGURE 7.3.1.2(a) Mall Building Occupant Load Factors.

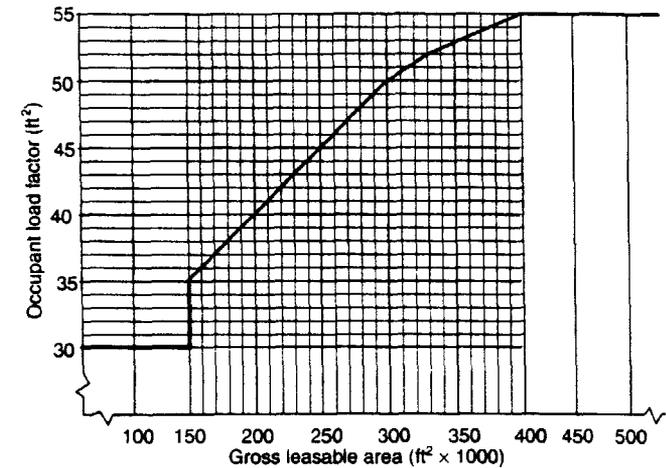


FIGURE 7.3.1.2(b) Mall Building Occupant Load Factors.

7.3.1.3 Occupant Load Increases.

7.3.1.3.1 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 7.3.1.2 where all other requirements of this Code are also met, based on such increased occupant load.

7.3.1.3.2 The authority having jurisdiction 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.

7.3.1.4 Exits Serving More than One Story. 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.



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Press Room/ NFPA codes to be more stringent

NFPA codes to be more stringent in wake of disasters

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July 28, 2003—The Standards Council of the NFPA (National Fire Protection Association) on Friday issued amendments to the Association's two key safety codes. Precipitated by recent nightclub tragedies in both Rhode Island and Chicago, the amendments institute requirements that are believed at this time to be among the nation's most stringent.

Effective in 20 days, the new requirements, also known as amendments, will strengthen NFPA safety codes: NFPA 101, Life Safety Code®, and NFPA 5000™, Building Construction and Safety Code™. The requirements call for fire sprinklers in all new nightclub-type facilities, and for existing nightclubs with occupancies exceeding 100. Also issued were restrictions to festival seating when occupancies exceed 250 (unless a life-safety evaluation is performed), a requirement for crowd managers for all places of assembly, and requirements for regular egress inspection and record-keeping for existing nightclubs.

"History will show the importance of these code changes," said James M. Shannon NFPA president and CEO. "Once again, we see the NFPA codes and standards being responsive to these kinds of terrible tragedies."

Appointed by NFPA's board of directors, the Standards Council is a 13-member body charged with overseeing the Association's codes and standards development activities and regulations.

Before the Standards Council made its decision, however, recommendations for changes to the codes from various parties, including members of the public, had earlier this year been submitted to NFPA's Technical Committee on Assembly Occupancies, the technical experts responsible for this subject. After exhaustively studying all recommendations the last several months, the technical committee reached agreement on the above amendments and recommended to the Standards Council on July 25 that the amendments be issued to the 2003 editions of both codes.

The genesis of these amendments is traced back to discussions that originated at a public forum and special meeting of the technical committee, held on March 13 in Chicago. This meeting was held in response to the E2 nightclub crowd crush incident in Chicago and The Station nightclub fire in West Warwick, RI, both of which occurred in February and collectively resulted in 121 fatalities.

ALSO SEE

- [Read the Council's decision \(PDF*, 162 KB\).](#)
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NFPA has been a worldwide leader in providing fire, electrical, building, and life safety information to the public since 1896. The mission of the international nonprofit organization is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating scientifically-based consensus codes and standards, research, training, and education. NFPA headquarters is located in Quincy, MA, USA.

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