

NFPA® 102

Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures

2016 Edition



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NFPA® 102

Standard for

Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures

2016 Edition

This edition of NFPA 102, *Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures*, was prepared by the Technical Committee on Assembly Occupancies and Membrane Structures and released by the Correlating Committee on Safety to Life. It was issued by the Standards Council on January 28, 2015, with an effective date of February 17, 2015, and supersedes all previous editions.

This edition of NFPA 102 was approved as an American National Standard on February 17, 2015.

Origin and Development of NFPA 102

This standard is the result of a committee project inaugurated shortly after the circus fire in Hartford, CT, on July 6, 1944, in which 168 lives were lost.

A committee was organized under the joint sponsorship of the Building Officials Conference of America and the National Fire Protection Association under the procedure of the American Standards Association. As a result of extensive deliberation during the winter of 1944–1945, this committee prepared a draft of a proposed standard, which was submitted at the annual meeting of the National Fire Protection Association in June, 1945. This was then printed and sent to all of the members of the Association, to a representative group of leaders in the outdoor amusement industry, and to all others who filed requests for copies. As a result, numerous constructive suggestions were received, all duly considered by the committee in several meetings, and the 1946 standard was completed by the committee. It was then adopted by the sponsoring organizations, the National Fire Protection Association, and the Building Officials Conference of America, and approved by the American Standards Association as an American Standard on May 22, 1946.

As a result of circulation and use of the 1946 standard, various proposals were made for revision in the interest of clarification. These were considered by the committee and revisions recommended by the committee and circulated to all concerned for comment, further amended, and adopted by the National Fire Protection Association and the Building Officials Conference of America in 1948; the American Standards Association approved the 1948 edition as an American Standard on January 5, 1949.

In 1949 the committee recommended further changes to include the essential features of an earlier standard on grandstands, Z20.1, which covered certain types of grandstands not covered in the 1946–1948 standard, Z20.2, thus making the continuance of the earlier separate standard unnecessary. The 1949 revision, Z20.3, also made the standard applicable to foldable grandstands in buildings that had not been previously covered. After the usual circulation for comment, the revisions were adopted in 1949 by the sponsors, and the revised text was approved by the American Standards Association as an American Standard on April 5, 1950.

Revised editions of the standard have been prepared by the committee and adopted by the sponsors in 1957, 1966, and 1967. The 1972 edition was a reconfirmation of the 1967 edition.

The 1978 edition was prepared by the Committee on Tents, Grandstands, and Air-Supported Structures and represented a complete revision of the 1972 edition, complete with a new title, *Standard for Assembly Seating, Tents, and Air-Supported Structures*. The means of egress section was coordinated with the provisions of NFPA 101, *Life Safety Code*.

The 1986 edition further coordinated with the *Life Safety Code*. It was prepared by the Technical Committee on Safety to Life through its Subcommittee on Tents and Membrane Structures. Its scope was extended beyond assembly occupancies to include tents and membrane structures used for any occupancy.

The 1992 and 1995 editions deleted all means of egress provisions that were adequately covered by NFPA 101, *Life Safety Code*, so as to avoid redundancy and inconsistencies between the two documents. The 1995 edition was retitled *Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures* to reflect more accurately the scope and contents of the document.

The 2006 edition was the first to be wholly comprised of requirements extracted from NFPA 101, *Life Safety Code*, and NFPA 5000, *Building Construction and Safety Code*.

The 2011 edition continued the extract policy.

For future revision cycles, users were advised to submit public proposals on extracted text to the source documents (that is, NFPA 101 and NFPA 5000) and not to NFPA 102

The 2016 edition continues the extract policy.



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Committee Scope: This Committee shall have primary responsibility for documents on the protection of human life from fire and other circumstances capable of producing similar consequences and for the non-emergency and emergency movement of people.

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Information on referenced publications can be found in Chapter 2 and Annex B.

Chapter 1 Administration

1.1 Scope. This standard addresses the following:

- (1) The construction, location, protection, and maintenance of grandstands and bleachers, folding and telescopic seating, tents, and membrane structures
- (2) Seating facilities located in the open air or within enclosed or semi-enclosed structures such as tents, membrane structures, and stadium complexes.

1.2 Purpose. The purpose of this standard is to provide minimum requirements for life safety in relation to fire, storm, collapse, and crowd behavior in tents, membrane structures, and assembly seating as covered in Section 1.1.

1.3 Application. The requirements of this standard shall apply to the following:

- (1) New facilities
- (2) Existing facilities where specifically noted

1.4 Equivalency.

1.4.1 General. Nothing in this standard shall prohibit methods of construction, materials, and designs not specifically prescribed in this standard where equivalent alternatives are approved by the authority having jurisdiction (AHJ).

1.4.2 Approval of Alternatives. Alternative systems, methods, or devices approved as equivalent by the authority having jurisdiction shall be recognized as being in compliance with this standard.

1.4.3 Tests.

1.4.3.1 Whenever the authority having jurisdiction determines that there is insufficient evidence of proof of equivalency with the prescribed requirements of this standard, the authority having jurisdiction shall be authorized to require tests showing proof of equivalency.

1.4.3.2 Tests required by the authority having jurisdiction shall be provided by the owner at no expense to the jurisdiction.

1.4.3.3 Tests shall be conducted as specified in this standard or, where test methods are not specified in this standard, they shall be conducted as required by the authority having jurisdiction.

1.4.4 Approval. The authority having jurisdiction shall determine whether the proposed alternate methods of construction, materials, and designs are at least equivalent to the prescribed requirements of this standard.

1.5 Units.

1.5.1 SI Units. Metric units of measurement in this standard are in accordance with the modernized metric system known as the International System of Units (SI).

1.5.2 Primary Values. The inch-pound value for a measurement, and the SI value given in parentheses, shall each be acceptable for use as primary units for satisfying the requirements of this standard.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2013 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2013 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2015 edition.

NFPA 31, *Standard for the Installation of Oil-Burning Equipment*, 2011 edition.

NFPA 54, *National Fuel Gas Code*, 2015 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2014 edition.

NFPA 70®, *National Electrical Code®*, 2014 edition.

NFPA 72®, *National Fire Alarm and Signaling Code*, 2013 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2015 edition.

NFPA 90B, *Standard for the Installation of Warm Air Heating and Air-Conditioning Systems*, 2015 edition.

NFPA 91, *Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids*, 2015 edition.

NFPA 101®, *Life Safety Code®*, 2015 edition.

NFPA 160, *Standard for the Use of Flame Effects Before an Audience*, 2011 edition.

NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances*, 2013 edition.

NFPA 701, *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*, 2015 edition.

