

NFPA®

102

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

2021



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NFPA® 102

Standard for

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

2021 Edition

This edition of NFPA 102, *Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures*, was prepared by the Technical Committee(s) on Assembly Occupancies and released by the Correlating Committee on Safety to Life. It was issued by the Standards Council on October 5, 2020, with an effective date of October 25, 2020, and supersedes all previous editions.

This edition of NFPA 102 was approved as an American National Standard on October 25, 2020.

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.

As with the 2016 edition, the 2021 edition continues the extract policy.

Correlating Committee on Safety to Life

Wayne G. Chip Carson, *Chair*
Carson Associates, Inc., VA [SE]

Gregory E. Harrington, *Administrative Secretary*
National Fire Protection Association, MA

Kenneth E. Bush, Maryland State Fire Marshal's Office, MD [E]

Stanley C. Harbuck, School of Building Inspection, MA [C]
Rep. American Public Health Association

Howard Hopper, UL LLC, CA [RT]

Jeffrey M. Hugo, National Fire Sprinkler Association, Inc., MI [M]

Jeffrey A. Lucas, Fort Lauderdale Fire Rescue, FL [E]
Rep. International Fire Marshals Association

James R. Quiter, Arup, CA [SE]

Rodger Reiswig, Johnson Controls, FL [M]
Rep. National Electrical Manufacturers Association

Eric R. Rosenbaum, JENSEN HUGHES, IL [U]
Rep. American Health Care Association

Jon Taluba, Greenwood Sales, NH [M]

Alternates

Sharon S. Gilyeat, Koffel Associates, Inc., MD [SE]
(Voting Alt.)

Robert J. James, UL LLC, IL [RT]
(Alt. to Howard Hopper)

Dale L. Lyman, Greeley Fire Department, CO [U]
(Voting Alt.)

Maria B. Marks, Siemens Industry, Inc., MD [M]
(Alt. to Rodger Reiswig)

Jake Pauls, Jake Pauls Consulting Services, Canada [C]
(Alt. to Stanley C. Harbuck)

Jeffrey S. Tubbs, Arup, MA [SE]
(Alt. to James R. Quiter)

Nonvoting

David S. Collins, The Preview Group, Inc., OH [SE]
Rep. TC on Means of Egress

Nicholas A. Dawe, Cobb County Fire Marshal's Office, GA [E]
Rep. TC on Interior Finish and Contents

John F. Devlin, JENSEN HUGHES, MD [SE]
Rep. TC on Fire Protection Features

Randy Gaw, DET-CORR Fire Safety Consulting, Canada [SE]
Rep. TC on Detention and Correctional Occupancies

Raymond A. Grill, Arup, DC [SE]
Rep. TC on Building Service and Fire Protection Equipment

Chris Jelenewicz, Society of Fire Protection Engineers, MD [SE]
Rep. TC on Fundamentals

William E. Koffel, Koffel Associates, Inc., MD [SE]
Rep. TC on Health Care Occupancies

Josh Lambert, University of Texas at Austin, TX [U]
Rep. TC on Assembly Occupancies

Gregory E. Harrington, NFPA Staff Liaison

Peter A. Larrimer, US Department of Veterans Affairs, PA [U]
Rep. TC on Alternative Approaches to Life Safety

James K. Lathrop, Koffel Associates, Inc., CT [SE]
Rep. TC on Residential Occupancies

Matthew J. Mertens, North Shore Fire Department, WI [E]
Rep. TC on Educational and Day-Care Occupancies

Wayne D. Moore, JENSEN HUGHES, RI [SE]
Rep. Signaling Systems Correlating Committee

Amy J. Murdock, Code Consultants, Inc., MO [SE]
Rep. TC on Mercantile and Business Occupancies

John A. Rickard, P3 Consulting, TX [SE]
Rep. TC on Board and Care Facilities

Carl D. Wren, City of Austin, TX [E]
Rep. TC on Industrial, Storage, and Miscellaneous Occupancies

Shane M. Clary, Bay Alarm Company, CA [IM]
Rep. Signaling Systems Correlating Committee

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Technical Committee on Assembly Occupancies

Josh Lambert, *Chair*

University of Texas at Austin, TX [U]

Gregory E. Harrington, *Administrative Secretary*

National Fire Protection Association, MA

George D. Bushey, Ewing Cole, PA [SE]

Eric Center, Cedar Hammock Fire Rescue, FL [E]

Rep. Florida Fire Marshals and Inspectors Association

William Conner, Bill Conner Associates LLC, NY [SE]

Rep. American Society of Theater Consultants

Nils Deacon, Mutual Service Office, Inc., NJ [I]

Daniel P. Finnegan, Siemens Industry, Inc., IL [M]

Rep. National Electrical Manufacturers Association

Max L. Gandy, The Church of Jesus Christ of Latter-day Saints, UT [U]

Donald G. Goosman, Wiss Janney Elstner Associates, Inc., IL [SE]

Harold C. Hansen, Venue Management Consultants Group, LLC, IL [SE]

Mark A. Herrera, International Association of Venue Managers, TX [U]

Stephen C Hesson, Gainesville Fire Rescue, FL [E]

Rep. International Fire Marshals Association

David W. Hollinger, Drexel University, PA [U]

Jonathan Humble, American Iron and Steel Institute, CT [M]

Kenneth F. Keberle, Arena Americas, AZ [U]

Kevin D. Morin, Code Consultants, Inc., NY [U]

Rep. National Association of Theatre Owners

Jake Pauls, Jake Pauls Consulting Services, Canada [SE]

Ryan Lee Peterson, Wayne Auto Fire Sprinklers, FL [M]

Rep. National Fire Sprinkler Association

Vincent Quintero, Rhode Island State Fire Marshal's Office, RI [E]

Ed Roether, Ed Roether Consulting LLC, KS [SE]

Karl G. Ruling, Entertainment Services and Technology Association, NY [U]

Rep. US Institute for Theatre Technology, Inc.

Steven J. Scandaliato, SDG, LLC, TX [IM]

Rep. American Fire Sprinkler Association

Charles J. Schweitzer, City of Lincoln, NE [E]

Philip R. Sherman, Philip R. Sherman, PE, NH [SE]

Jeffrey Shirey, University of Maryland - Office of the Fire Marshal, MD [E]

Elbert R. Thomas, Jr., New Orleans Fire Department, LA [E]

Jeffrey S. Tubbs, Arup, MA [SE]

Alternates

Farid Alfawakhiri, American Iron and Steel Institute, IL [M]
(Alt. to Jonathan Humble)

Gene Boecker, Code Consultants, Inc., MO [U]
(Alt. to Kevin D. Morin)

David Cook, Ralph Gerdes Consultants, LLC, IN [SE]
(Voting Alt.)

Robert D. Fiedler, City of Lincoln, NE [E]
(Alt. to Charles J. Schweitzer)

Jerrold S. Gorrell, Theatre Safety Programs, AZ [U]
(Alt. to Karl G. Ruling)

Shawn M. Hanson, Greater Naples Fire Rescue District, FL [E]
(Alt. to Eric Center)

Christopher M. Jenkins, Church of Jesus Christ of Latter-day Saints, UT [U]
(Alt. to Max L. Gandy)

David Kurasz, New Jersey Fire Sprinkler Advisory Board, NJ [M]
(Alt. to Ryan Lee Peterson)

Julie A. Little, Office of State Fire Marshal, LA [E]
(Alt. to Elbert R. Thomas, Jr.)

Jason A. Lupa, Siemens Industry, Inc., NJ [M]
(Alt. to Daniel P. Finnegan)

Van Hoover Patterson, State of Florida NE Region Jacksonville Office, FL [E]
(Voting Alt.)

Janet A. Washburn, Bonita Springs Fire Control District, FL [E]
(Alt. to Stephen C Hesson)

Toby J. White, Arup, MA [SE]
(Alt. to Jeffrey S. Tubbs)

Gregory E. Harrington, NFPA Staff Liaison

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NFPA 102

Standard for

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2021 Edition

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Information on referenced and extracted 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*, 2018 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2019 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2021 edition.

NFPA 31, *Standard for the Installation of Oil-Burning Equipment*, 2020 edition.

NFPA 54, *National Fuel Gas Code*, 2021 edition.

NFPA 55, *Compressed Gases and Cryogenic Fluids Code*, 2020 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2020 edition.

NFPA 70®, *National Electrical Code®*, 2020 edition.

NFPA 72®, *National Fire Alarm and Signaling Code®*, 2019 edition.