

Standard for Fire Doors and Other Opening Protectives





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NFPA® 80

Standard for

Fire Doors and Other Opening Protectives

2019 Edition

This edition of NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, was prepared by the Technical Committee on Fire Doors and Windows. It was issued by the Standards Council on May 4, 2018, with an effective date of May 24, 2018, and supersedes all previous editions.

This edition of NFPA 80 was approved as an American National Standard on May 24, 2018.

Origin and Development of NFPA 80

The Standard for Fire Doors and Other Opening Protectives can be traced to the early days of the NFPA. Reports covering various phases of the problems of protectives for openings were submitted to the Association by several of the committees concerned and were adopted in 1897, 1898, 1899, 1900, 1901, 1902, and 1908. In 1911, a standard on door openings was presented and adopted, and in 1912, *Rules for Fire Protection Coverings for Openings in Walls and Partitions on the Interior of Buildings* was adopted. In 1915, the existing rules were recodified and reorganized. In 1916, the committee in charge of this document was renamed the Committee on Protection of Openings in Walls and Partitions. Revisions recommended by the committee were adopted by the NFPA in 1916, 1917, 1918, 1926, 1927, 1928, 1931, 1937, and 1941.

In 1955, the committee was renamed the Committee on Fire Doors and Windows. In 1959, a complete revision of the 1941 edition, including changing the title to correspond with the name of the committee, was adopted. The standard was revised again in 1961, 1962, 1965, 1966, 1967, 1968, 1970, 1973, 1974, 1975, 1977, 1979, 1981, 1983, 1986, and 1990.

In 1992, the committee changed the title of the document to *Standard for Fire Doors and Fire Windows*. Major changes in the 1992 edition included additions to the standard that recognized the technological changes in glazing materials for fire barrier openings and appendix material on radiant heat transfer. Radiant heat transfer, while not included in the performance requirements for fire doors and fire windows, is a consideration in the design of fire barriers.

The 1995 edition reorganized Chapter 2 for better usability, with many changes to improve consistency. Appendix J was updated to provide more current information on radiant heat transfer.

The chapters were reorganized in the 1999 edition to correlate the section numbers and their requirements. Requirements that are common to all doors, such as clearances and detection, were moved to Chapter 1.

The 2007 edition included a major reorganization in accordance with the *Manual of Style for NFPA Technical Committee Documents* and a title change to accommodate the broader scope of the document. (The 8-year gap between the 1999 and 2007 editions was due to NFPA 80 being returned to committee during the Fall 2002 revision cycle.) New chapters on fabric fire safety curtains and the installation, testing, and maintenance of fire dampers were added. Major technical changes pertained to the maximum clearance permitted under the bottom of doors, new provisions regarding the care and maintenance of fire doors and fire windows, the option for developing performance-based maintenance activities provisions, and provisions regarding chute doors, fire shutters, rolling steel doors, and service counter doors. New information concerning floor fire door assemblies and ratings associated with glazing materials also was added.

The 2010 edition included technical changes for the installation of glazing material in vision panels for new wood doors, installation of glazing and light kits, repair of doors and windows, operation of chute doors, and replacement provisions. The terms *fire protection glazing* and *fire resistance glazing* were made consistent throughout the document to clarify the distinctions between fire protection glazing and fire resistance glazing. Updates also were made to several definitions in

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Chapter 3. The document continued to make editorial changes and update terminology to be consistent with industry practices.

The 2013 edition of NFPA 80 included a complete editorial reorganization of Chapter 5 to better organize and present the provisions for the inspection, testing, and maintenance of fire doors. Technical revisions were made to Chapter 5 to clarify its application to include all fire doors, fire shutters, and fire window assemblies, as well as update provisions to field modifications and the requirement that acceptance testing for fire doors must be completed by a qualified person. Multiple annex notes were added to aid in the application of field modifications, generic use of opening protectives, periodic inspections, and inspection and testing reports. A new section on records for acceptance tests was included in Chapter 5.

In addition, the 2013 edition of NFPA 80 included provisions for the installation of fusible links in sleeves, new language to address continuous hinges, and revisions related to power operators for special-purpose horizontally sliding accordion or folding doors. The committee also updated definitions and terminology throughout the document to reflect the current industry practices.

The 2016 edition of NFPA 80 recognized several new technical issues, including provisions for drilling raceways for wires when performed at the job site; detailed provisions for information required to be included on a label for fire doors, fire door frames, fire windows, and oversized doors; provisions for addressing fire doors too large to be fire tested; recognition of the use of products evaluated for fire doors that exceed the maximum allowable bottom clearance; provisions for field labeling procedures and field label information; and new provisions for the maximum allowable clearance between a pair of swinging doors and between the door and frame, depending on the door material. New provisions for the acceptable testing of fire dampers and new detailed requirements for the specific test methods required during periodic tests of fire dampers were also included. A new opening protective was addressed in the new Chapter 21, Fire Protective Curtain Assemblies, which provides requirements related to the installation, inspection, testing, and maintenance of those assemblies installed to protect vertical openings.

Requirements for glazing labeling were included in Chapter 4 and duplicated the information found in model building and life safety codes to make the application of glazing provisions more user friendly. Additional technical updates were made to provisions for actuation devices for fire doors, fire shutters, and fire windows, as well as fire door maintenance procedures. Provisions for chute doors were revised to include extracted text from NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment.* Finally, definitions were added and updated along with referenced publications to maintain the requirements and application of NFPA 80 current with industry trends and practices.

The 2019 edition includes new definitions in Chapter 3 for *inspection mark* and *field label* to assist in the application of inspection, testing, and maintenance provisions in Chapter 5. Chapter 4 contains updated provisions for job site preparation of fire doors for fire pins. Subsection 4.8.4 has been updated with new provisions for measuring clearance under the bottom of fire doors and with a new requirement addressing bottom clearance with the presence of latching hardware devices. Chapter 5 has been updated to include fire protective curtain assemblies in its application and a new section that addresses inspection marks. New subsection 19.2.2 requires damper manufacturer's installation and maintenance instructions be maintained on site for new damper installations. The detailed damper installation criteria from Chapter 19 have been deleted and left with reliance on the damper manufacturer's installation instructions and the damper listing. Chapter 19 also continues to update the requirements for the inspection method. A new 19.5.1.3 clarifies application of inspection requirements for single inaccessible dampers. Annex A contains new and revised figures for typical steel door frame installations. Globally, ANSI UL 10B, *Fire Tests of Door Assemblies*, and ANSI UL 10C, *Standard for Positive Pressure Fire Tests of Door Assemblies*, have been added as equivalent standards to NFPA 252. Editorial updates have been made to Chapter 4 and Chapter 5 to clean up duplicate language and relocate text to the appropriate sections. Referenced publications and extracted sections have been updated as needed.

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Committee Scope: This Committee shall have primary responsibility for documents on the installation and maintenance of fire doors, windows, shutters, and other equipment used to restrict the spread of fire, including arrangements for automatic operation in case of fire. This includes installation to protect buildings against external fire and to restrict the spread of fire within buildings. Vault and record room doors are covered by the Technical Committee on Record Protection.

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A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex L. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

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

Chapter 1 Administration

1.1* Scope. This standard regulates the installation and maintenance of assemblies and devices used to protect openings in walls, floors, and ceilings against the spread of fire and smoke within, into, or out of buildings.

1.1.1* With the exception of fabric fire safety curtain assemblies, this standard addresses assemblies that have been subjected to standardized fire tests. (*See Chapter 20.*)

1.1.2* Incinerator doors, record room doors, and vault doors are not covered in this standard.

1.1.3* Requirements for horizontally sliding, vertically sliding, and swinging doors as used in this standard do not apply to hoistway doors for elevators and dumbwaiters.

1.1.4* This standard does not cover fire resistance glazing materials and horizontally sliding accordion or folding assem-

blies fabricated for use as walls and tested as wall assemblies in accordance with ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, or ANSI/UL 263, *Standard for Fire Tests of Building Construction and Materials*.

1.2 Purpose.

1.2.1 The purpose of this document is to set national standards for the installation and maintenance of assemblies used to protect openings in walls, floors, and ceilings to prevent or retard the spread of fire and smoke within, into, or out of buildings.

1.2.2 This document is also intended to give guidance to authorities having jurisdiction (AHJs) so they can determine in the field if an assembly meets the requirements and standards outlined in this document and if maintenance standards have been maintained.

1.2.3* It is not the purpose of this standard to establish the degree of protection required or to constitute the approval of any product.

1.3* Retroactivity.

1.3.1 This standard is based on product and engineering practices recognized as acceptable at the date of issue.

1.3.2 Unless otherwise noted, it is not intended that the provisions of this document be applied to facilities, equipment, structures, or installations that were existing or approved for construction or installation prior to the effective date of the document.

1.3.3 In those cases where it is determined by the AHJ that the existing situation involves a distinct hazard to life or property, retroactive application of the provisions of this document shall be permitted.

1.4 Equivalency.

1.4.1* This standard shall not prohibit the development of new, modified, or improved devices that meet the intent of these requirements.

1.4.2 It shall be the responsibility of the manufacturer to furnish the information necessary to update the requirements pertaining to such new and improved devices.

1.4.3 For devices not described in this standard, the AHJ shall request descriptive information from manufacturers that is provided by a testing laboratory concerning acceptable methods for satisfactory field installation based on fire tests and engineering studies for operation and maintenance considerations, where applicable.

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 4, Standard for Integrated Fire Protection and Life Safety System Testing, 2018 edition.

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

Shaded text = Revisions. Δ = Text deletions and figure/table revisions. • = Section deletions. N = New material.