

NFPA 252

Standard Methods of Fire Tests of Door Assemblies

2003 Edition



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An International Codes and Standards Organization

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NFPA 252
Standard Methods of
Fire Tests of Door Assemblies

2003 Edition

This edition of NFPA 252, *Standard Methods of Fire Tests of Door Assemblies*, was prepared by the Technical Committee on Fire Tests and acted on by NFPA at its May Association Technical Meeting held May 18–21, 2003, in Dallas, TX. It was issued by the Standards Council on July 18, 2003, with an effective date of August 7, 2003, and supersedes all previous editions.

This edition of NFPA 252 was approved as an American National Standard on July 18, 2003.

Origin and Development of NFPA 252

Standard Methods of Fire Tests of Door Assemblies was adopted as a tentative standard by the ASTM in 1940 and was formally adopted in 1941. In 1942, this standard was adopted by the NFPA and approved by the American Standards Association. It was reaffirmed by the Committee on Fire Tests of Building Construction and Materials and adopted in 1950. In 1953, a new NFPA Committee on Fire Tests was formed by action of the board of directors, and recommendations for revision of the standard made by that committee were adopted in 1958, 1969, 1972, 1976, 1979, 1984, and 1990.

The basic procedure covered by this standard was developed by Underwriters Laboratories Inc. and has not undergone any significant revisions to the original concept of procedures. The 1995 edition introduced a new provision addressing the neutral plane of the furnace. This provision permits the testing agency to establish the neutral plane of the test furnace to the specification of the particular need, for example, positive pressure at a 40-in. level, top of the opening, or test at atmospheric pressure.

The 1999 edition of NFPA 252 contained further editorial refinements to harmonize the procedures and terminology as found in NFPA 251, *Standard Methods of Tests of Fire Endurance of Building Construction and Materials*; NFPA 257, *Standard on Fire Test for Window and Glass Block Assemblies*; and NFPA 80, *Standard for Fire Doors and Fire Windows*. This edition also provided greater clarification for the hose stream application and procedure and the application and reporting of positive pressure testing for door assemblies.

For the 2003 edition, the chapter layout of NFPA 252 was reorganized to meet the NFPA *Manual of Style*, with minor editorial revisions.

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NFPA 252

Standard Methods of Fire Tests of Door Assemblies

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NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

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

Chapter 1 Administration

1.1 Scope. This standard prescribes standardized fire and hose stream test procedures that apply to fire door assemblies intended to be used to retard the spread of fire through door openings in fire-resistive walls.

1.2 Purpose.

1.2.1 The purpose of this standard is to prescribe specific fire and hose stream test procedures for fire door assemblies in order to standardize a method for determining the degree of fire protection provided by such assemblies in retarding the spread of fire (flame, heat, and hot gases) through door openings in fire-resistive walls.

1.2.2 The degree of fire protection measured in units of time is not an absolute value because all possible actual fire scenarios are not represented by the standard fire exposure described herein.

1.2.3 This standard allows different fire door assemblies to be compared with each other in order to evaluate their relative performance as measured against a standard fire exposure.

1.3 Application.

1.3.1 This standard is intended to evaluate the ability of a door assembly to remain in a wall opening during a prescribed fire test exposure, which is then followed by the application of a prescribed hose stream.

1.3.2 Tests conducted as described in these standard test methods measure the performance of fire door assemblies during the test exposure and develop data that enable regulatory bodies to require fire door assemblies for use in wall openings where fire protection is required.

1.3.3 The tests described in these standard test methods expose a specimen to a standard fire exposure that is controlled to achieve specified temperatures throughout a specified time period, which is then followed by the application of a specified standard hose stream. The fire exposure, however, is not representative of all fire conditions, which vary with changes in the amount, nature, and distribution of fire loading, ventilation, compartment size and configuration, and heat sink characteristics of the compartment. The fire exposure does, however, provide a relative

measure of the performance of fire door assemblies under these specified fire exposure conditions. Similarly, the hose stream exposure is not representative of all applications of actual hose streams used by a fire department during fire suppression efforts.

1.3.4 Any variation from, or change to, the construction or conditions of the door assembly as tested can change the performance characteristics of the fire door assembly.

1.3.5 These tests shall not be construed as determining the suitability of fire door assemblies for continued use after exposure to real fires.

1.3.6 This standard shall not be used to provide the following:

- (1) Full information regarding the performance of specific fire door assemblies where installed in walls constructed of materials other than those tested
- (2) Evaluation of the degree by which the fire door assembly contributes to the fire hazard by generation of smoke, toxic gases, or other products of combustion
- (3) Measurement that determines a limit on the number and size of vision panels permitted or the number and size of lateral openings permitted between the door and frame
- (4) Measurement of the fire door assembly's ability to control or limit the passage of smoke or similar products of combustion through the assembly
- (5) Measurement that determines a specific temperature limit on the unexposed surface of the fire door assembly

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 Publication. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 251, *Standard Methods of Tests of Fire Endurance of Building Construction and Materials*, 1999 edition.

2.3 Other Publication.

2.3.1 ANSI/UL Publication. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062.

ANSI/UL 385, *Standard for Safety Play Pipes for Water Supply Testing in Fire-Protection Service*, 1994.

Chapter 3 Definitions

3.1 General. The definitions contained in this chapter shall apply to the terms used in this standard. Where terms are not included, common usage of the terms shall apply.

3.2 NFPA Official Definitions.

3.2.1 Shall. Indicates a mandatory requirement.

3.2.2 Should. Indicates a recommendation or that which is advised but not required.

3.2.3 Standard. A document, the main text of which contains only mandatory provisions using the word "shall" to indicate requirements and which is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions shall be located in an annex, footnote, or fine-print note and are not to be considered a part of the requirements of a standard.