

NFPA 1962

Standard for the Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose

2003 Edition



NFPA, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101
An International Codes and Standards Organization

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NFPA 1962

Standard for the

Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose

2003 Edition

This edition of NFPA 1962, *Standard for the Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose*, was prepared by the Technical Committee on Fire Hose and acted on by NFPA 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 1962 was approved as an American National Standard on January 17, 2003.

Origin and Development of NFPA 1962

NFPA originally developed a Recommended Practice for the care, maintenance, and use of fire hose in 1936 through its Committee on Field Practices. This document was designated NFPA 198 and was revised extensively through the years. In 1954, the Fire Hose Committee assumed responsibility for the document.

In 1979, NFPA 1962 was issued as a new standard. The standard was completely rewritten but still contained portions of NFPA 198. The requirements were carefully developed to ensure a reasonable level of reliability for fire hose that is in service.

The 1993 edition recognized the increased use of hose testing machines in the test procedure section. The test requirements for booster and suction hose were revised by incorporating the information in the standard rather than referring to a different standard.

The 1998 edition defined a separate test procedure when using a hose testing machine from the procedure when using a stationary fire pump or pumper as the pressure source. It also required that unlined fire hose be replaced with lined fire hose when the unlined fire hose came due for testing.

With this edition, the title has been changed to *Standard for the Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose*. The requirements for service testing new hose for the first time have been revised. Discussion about using supply hose was revised to remove the implication it can be used in certain attack applications, and the requirements related to the use of relief valves was more closely tied to the service test pressure of the hose. New requirements were added for inspection of the hose liner and attachment of shank-type couplings. Recordkeeping requirements for occupant-use hose were revised to reflect that such hose is inspected and serviced similar to a fire extinguisher. The document was completely reviewed as part of formatting it into the revised NFPA *Manual of Style* and changes made to improve understanding of the requirements.

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Committee Scope: This Committee shall have primary responsibility for documents on the size and design of fire hose connections, and the performance, maintenance, and selection of all types of fire hose, couplings, nozzles, and accessory equipment.

This list represents the membership at the time the Committee was balloted on the final text of this edition. Since that time, changes in the membership may have occurred. A key to classifications is found at the back of the document.

NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

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NFPA 1962**Standard for the****Inspection, Care, and Use of Fire Hose,
Couplings, and Nozzles and the Service
Testing of Fire Hose****2003 Edition**

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

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, Annex B lists the complete title and edition of the source documents for both mandatory and nonmandatory extracts. Editorial changes to extracted material consist of revising references to an appropriate division in this document or the inclusion of the document number with the division number when the reference is to the original document. Requests for interpretations or revisions of extracted text shall be sent to the appropriate technical committee.

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

Chapter 1 Administration

1.1 Scope. This standard shall apply to the inspection, care, and use of fire hose, fire hose couplings, and fire-fighting nozzles; the service testing of fire hose; and the associated record-keeping.

1.2 Purpose. The purpose of this standard is to provide requirements for the inspection, care, and use of fire hose, couplings, and nozzles and the testing of fire hose so that the reliability of fire hose and nozzles is increased when they are used at an incident.

1.3 Application. Unless otherwise noted, this standard shall apply to fire hose, coupling assemblies, and nozzles, regardless of year of manufacture, while they are in storage, in service, in use, and after use.

1.4 Equivalency. Nothing in this standard shall prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard. Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency. The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.5* Units of Measurement. In this standard inch-pound units for measurement are followed by an equivalent in metric units, but only the value that first appears shall be considered as the requirement since the value in metric units could be approximate.

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, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances*, 1995 edition.

NFPA 1961, *Standard on Fire Hose*, 2002 edition.

NFPA 1963, *Standard for Fire Hose Connections*, 1998 edition.

2.3 Other Publications. (Reserved)**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* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.

3.2.3 Shall. Indicates a mandatory requirement.

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

3.3 General Definitions.

3.3.1* Attack Hose. Hose designed for use by trained fire fighters and fire brigade members to combat fires beyond the incipient stage. [1961:3.3]

3.3.2* Booster Hose. A non-collapsible hose used under positive pressure having an elastomeric or thermoplastic tube, a braided or spiraled reinforcement, and an outer protective cover.

3.3.3 Braided Reinforcement. A hose reinforcement consisting of one or more layers of interlaced spiraled strands of yarn or wire, with a layer of rubber between each braid.

3.3.4 Coating. A protective material impregnated, saturated, or coated on the outside reinforcement layer of the hose to provide additional reinforcement or protection for the hose. [1961:3.3]

3.3.5 Covered Hose. A hose with a jacket covered and lined with a continuous synthetic rubber or plastic. The cover is usually thicker than a coating.

3.3.6 Fire Hose. A flexible conduit used to convey water. [1961:3.3]

3.3.7 Fold. A transverse bend (fold) occurring where the hose is lengthwise doubled over on itself, as on a pin rack.

3.3.8* Forestry Fire Hose. A hose designed to meet specialized requirements for fighting wildland fires. [1961:3.3]

3.3.9 Hose Size. An expression of the internal diameter of the hose. [1961:3.3]

3.3.10* In Service. The status of hose stored in a hose house, on a rack or reel, or on a fire apparatus that is available and ready for immediate use at an incident.

3.3.11 In Storage. The status of hose not readily available for use because it is not at the scene of an incident and not loaded on a vehicle that can transport it to the scene.

3.3.12 In Use. The status of hose that has actually been deployed at an incident or during training whether or not water is running through the hose.

3.3.13 Large-Diameter Hose. A hose size of 3½-in. (90-mm) or larger. [1961:3.3]

3.3.14 Multiple Jacket. A construction consisting of a combination of two separately woven reinforcements (double jacket) or two or more reinforcements interwoven.

3.3.15 Occupant-Use Hose. Fire hose designed to be used by the building's occupants to fight incipient fires prior to the arrival of trained fire fighters or fire brigade members. [1961:3.3]

3.3.16 Relay-Supply Hose. A single-jacket fire hose of 3½-in. (90-mm) diameter or larger used to move large volumes of water at low pressure and manufactured prior to January 1987 to meet the requirements of the 1979 and previous editions of NFPA 1961, *Standard on Fire Hose*.

3.3.17 Service Test. Hydrostatic test conducted by users on all in-service hose to determine suitability for continued service.

3.3.18 Single Jacket. A construction consisting of one woven jacket.

3.3.19 Slow Operating Valve. A valve that has a mechanism to prevent movement of the flow regulating element from the fully closed position to the fully opened position or vice versa in less than 3 seconds. [1901:1-7]

3.3.20* Soft Suction Hose. See Supply Hose.

3.3.21 Spiral Reinforcement. A hose reinforcement consisting of pairs of layers of yarn spiraled with no interlacing between the individual layers. The layers of yarn in each pair are spirally wound in opposite directions. A layer of rubber separates each pair of spiraled layers.

3.3.22 Suction Hose. A hose that is designed to prevent collapse under vacuum conditions so that it can be used for drafting water from below the pump (lakes, rivers, wells, etc.). [1961:3.3]

3.3.23* Supply Hose. Hose designed for the purpose of moving water between a pressurized water source and a pump that is supplying attack lines. [1961:3.3]

3.3.24 Unlined Hose. A hose consisting of only a woven jacket that is usually of linen yarns and is of such quality that the yarn swells when wet, tending to seal the hose.

3.3.25* Water Hammer. The surge of pressure caused when a high-velocity flow of water is abruptly shut off. The pressure exerted by the flowing water against the closed system can be seven or more times that of the static pressure.

Chapter 4 Care and Use of Fire Hose

4.1 Attack Hose, Supply Hose, and Forestry Hose.

4.1.1 Hose shall be inspected in accordance with Section 4.6 when it is placed in service.

4.1.2* Hose that is in service shall be service-tested as specified in Chapter 7 at least annually.

4.1.3 Hose shall be service-tested in accordance with Chapter 7 the later of 1 year after its date of manufacture or before it is placed in service for the first time.

4.1.4 Hose held in storage for longer than 1 year shall be service-tested in accordance with Chapter 7 before it is placed in service.

4.1.5* Only clean hose shall be placed into service.

4.1.6* Hose carried on fire apparatus shall be loaded in such a way that air can circulate under the hose load to eliminate or reduce the growth of mildew in the hose jackets and rust and corrosion in the hose compartment.

4.1.7* Hose shall be removed from the apparatus and reloaded so that the folds occur at different positions with sufficient frequency to prevent damage and the setting of permanent folds in the rubber lining.

4.1.8 Large-diameter hose used to supply a pump from a hydrant shall be protected from chafing with chafing blocks or similar protection where it comes in contact with pavement or curbing.

4.1.9 When connecting a pump to a hydrant, the hose shall be bent slightly to avoid kinks when the water is turned on.

4.1.10 Supply Hose.

4.1.10.1* Hose marked SUPPLY HOSE shall not be used at operating pressures exceeding 185 psi (12.8 bar or 1275 kPa).

4.1.10.2* Discharge Relief Devices.

4.1.10.2.1 A relief device that discharges to atmosphere shall be used on the discharge side of the pump when pumping into supply hose.

4.1.10.2.2 The relief device shall be set so that the discharge pressure does not exceed the service test pressure of the hose being used.

4.1.10.2.3 The relief device shall be capable of dumping enough water to atmosphere to prevent the pressure in the discharge hose from exceeding the service test pressure of the hose if the flow is shut off downstream of the device.

4.1.10.3 Only slow-operating valves shall be used with supply hose.

4.1.10.4 Relay Operations.

4.1.10.4.1 Where supply hose is used in relay operations between pumps on fire department apparatus, the intake of each receiving pump shall be equipped with a relief valve.

4.1.10.4.2 The maximum pressure setting of the relief valve(s) shall be not more than 10 psi (0.7 bar or 69 kPa) over the static pressure of the water source to which it is connected or not more than 10 psi (0.7 bar or 69 kPa) over the discharge pressure of the supply pump in the relay.

4.1.10.4.3 In no event shall the relief valve be set to relieve at a pressure that exceeds 90 percent of the service test pressure of the hose used with the system.

4.1.11 Damage Prevention.

4.1.11.1* Hose, while in use, shall be positioned to minimize mechanical damage and heat exposure.

4.1.11.2* Vehicles shall not be driven over fire hose unless the hose is bridged.

4.1.11.3* Nozzles and valves shall be opened and closed slowly to prevent pressure surges and water hammer that can burst the hose and in turn cause injury to people or damage to the pump.