

NFPA[®]

17A

**Standard for
Wet Chemical
Extinguishing Systems**

2017



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NFPA® 17A

Standard for

Wet Chemical Extinguishing Systems

2017 Edition

This edition of NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, was prepared by the Technical Committee on Dry and Wet Chemical Extinguishing Systems. It was issued by the Standards Council on November 11, 2016, with an effective date of December 1, 2016, and supersedes all previous editions.

This edition of NFPA 17A was approved as an American National Standard on December 1, 2016.

Origin and Development of NFPA 17A

On April 6, 1983, the Standards Council received a request to assign the subject of wet chemical extinguishing systems to the appropriate committee. Listed systems had been available for some time. After the Foam Committee declined the request, the Dry Chemical Extinguishing Systems Committee, which had been activated in 1952, was asked to assume responsibility for the project. In May 1983, that committee voted to accept the assignment and requested that the Standards Council expand the Committee Scope to include the new topic. The Committee also requested that the new document be identified as NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*. A subcommittee met in June 1983 to develop the text. In November 1984, the Council approved a request to change the name of the Committee to the Committee on Dry and Wet Chemical Extinguishing Systems. The first edition of NFPA 17A was in 1986; the 1990 edition was a partial revision of the 1986 edition.

The 1994 edition was rewritten to more clearly state the requirements and to separate the mandatory requirements from the nonmandatory recommendations to assist in making the document more usable, enforceable, and adoptable.

The 1998 edition of the standard was revised to clarify the requirements for protection of unclosable openings and equipment shutdown.

The changes to the 2002 edition consisted of an editorial reformatting of the standard to comply with the *Manual of Style for NFPA Technical Committee Documents*. Technical changes included clarification of requirements for fuel and power shutoff upon actuation of the system and rewriting the requirement for simultaneous systems operation.

Changes to the 2009 edition clarified inspection, maintenance, and service requirements and qualifications for service personnel.

Revisions to the 2013 edition of this standard clarified requirements for inspection and maintenance and added new requirements for installation acceptance.

For the 2017 edition, redundant language within NFPA 17A and NFPA 96 has been eliminated for correlation purposes. Other sections have been deleted for correlation purposes with NFPA 96. New annex material has been added to identify the areas of protection for the discharge nozzles. Changes also have been made requiring the authority having jurisdiction to approve used components in the system. A requirement has been added for a placard to be placed near all Class K portable fire extinguishers indicating that the fire protection system must be activated before a portable fire extinguisher is used.

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Committee Scope: This Committee shall have primary responsibility for documents on the design, installation, operation, testing, maintenance, and use of dry and wet chemical extinguishing systems for fire protection.

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NFPA 17A

Standard for

Wet Chemical Extinguishing Systems

2017 Edition

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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.

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 D. 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 D.

Chapter 1 Administration

1.1* Scope. The provisions of this standard apply to the design, installation, operation, testing, and maintenance of pre-engineered wet chemical fire-extinguishing systems that discharge wet chemical from fixed nozzles and piping by means of expellant gas. It contains only the essential requirements and recommendations needed to make the standard workable in the hands of those skilled in this field.

1.2 Purpose. This standard is prepared for the use and guidance of those charged with the purchasing, designing, installing, testing, inspecting, approving, listing, operating, or maintaining of pre-engineered wet chemical fire-extinguishing systems in order that such equipment will function as intended throughout its life.

1.3* Application. Minimum requirements are specified for hoods, plenums, ducts, and associated cooking appliances.

1.4 Retroactivity.

1.4.1 The provisions of this document are considered necessary to provide a reasonable level of protection from loss of life and property from fire. They reflect situations and the state of the art at the time the standard was issued.

1.4.2 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 this document.

1.5 Equivalency. Nothing in this standard is intended to prevent the use of new methods or devices, provided sufficient technical data are submitted to the authority having jurisdiction to demonstrate that the new method or device is equivalent in quality, effectiveness, durability, and safety to that prescribed by this standard.

1.6 Units and Formulas.

1.6.1 When a primary value for measurement in U.S. customary units as given in this standard is followed by a parenthetical equivalent value in metric units, the primary U.S. customary value stated is to be regarded as the requirement.

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

1.6.1.2 The conversion procedure used for the SI units is to multiply the primary U.S. customary quantity by the conversion factor and then round the result if necessary to the appropriate number of significant digits.

1.7* Qualifications. Only trained persons shall be considered competent to design or lay out, install, and service wet chemical systems.

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 70®, *National Electrical Code*®, 2017 edition.

NFPA 72®, *National Fire Alarm and Signaling Code*, 2016 edition.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 2017 edition.

2.3 Other Publications.

2.3.1 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 300, *Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment*, 2005, revised 2014.

2.3.2 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Mandatory Sections.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, 2017 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2017 edition.

NFPA 72®, *National Fire Alarm and Signaling Code*, 2016 edition.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 2017 edition.

NFPA 820, *Standard for Fire Protection in Wastewater Treatment and Collection Facilities*, 2016 edition.

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 defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3* Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.4 Shall. Indicates a mandatory requirement.

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

3.2.6 Standard. An NFPA Standard, the main text of which contains only mandatory provisions using the word “shall” to indicate requirements and that is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions are not to be considered a part of the requirements of a standard and shall be located in an appendix, annex, footnote, informational note, or other means as permitted in the NFPA Manuals of Style. When used in a generic sense, such as in the phrase “standards development process” or “standards development activities,” the term “standards” includes all NFPA Standards, including Codes, Standards, Recommended Practices, and Guides.

3.3 General Definitions.

3.3.1 Auxiliary Equipment. Listed equipment used in conjunction with the wet chemical systems, for example, to shut down power, fuel, or ventilation to the hazard being protected or to initiate signaling devices.

3.3.2 Discharge Nozzle. Device from which the extinguishing agent is discharged to provide for suppression of a fire in the designated hazard.

3.3.3 Duct.

3.3.3.1 Branch Duct. The duct work that contains the exhaust air from a single hood or hazard area.

3.3.3.2 Common Duct. The duct work containing the exhaust air from two or more branch ducts.

3.3.4 Expellant Gas. The medium used to discharge extinguishing agent from its container.

3.3.5 Indicator. A mechanical or electrical device that shows when an extinguishing system or critical component of it is ready to operate or if it has already operated.

3.3.6* Inspection. A visual examination of a system or portion thereof to verify that it appears to be in operating condition and is free of physical damage. [820,2016]

3.3.7 Liquid Agent. See 3.3.22, Wet Chemical.

3.3.8 Maintenance. Work, including, but not limited to, repair, replacement, and service, performed to ensure that equipment operates properly. [72,2016]

3.3.9 Manual.

3.3.9.1* Manufacturer's Design, Installation, and Maintenance Manual. The document referenced for design, installation, and maintenance of the listed wet chemical extinguishing system equipment.

3.3.9.2 Owner's Manual. A pamphlet containing the manufacturer's recommendations for inspection and operation of the extinguishing system.

3.3.10* Operating Devices. Mechanical, electrical, or pneumatic devices involved in the operation of a system.

3.3.11 Operation.

3.3.11.1 Automatic Operation. Operation without human intervention. [25,2017]

3.3.11.2 Manual Operation. Operation of a system or its components through human action. [25,2017]

3.3.12 Pipe. Circular conduit for conveying the extinguishing agent to the discharge nozzle(s). Wherever *pipe* is used in this standard, it is understood to also mean *tube*. [17,2017]

3.3.13* Pre-Engineered Systems. Those systems having predetermined flow rates, nozzle pressures, and quantities of extinguishing agent and having specific pipe size, maximum and minimum pipe lengths, flexible hose specifications, number of fittings, and number and types of nozzles.

3.3.14 Recharge. The replacement of the extinguishing agent and expellant gas.

3.3.15 Servicing. Performing maintenance, recharging, or hydrostatic testing.

3.3.16 Shutoff Devices. Devices that operate simultaneously with the extinguishing system to shut off fuel and power to appliances protected by the system and other appliances required to be shut off upon operation of the system.