



First Revision No. 44-NFPA 10-2023 [Section No. 2.2]



2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 1, *Fire Code*, 2021 2024 edition.

NFPA 2, *Hydrogen Technologies Code*, 2020 2023 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2019 2024 edition.

NFPA 22, *Standard for Water Tanks for Private Fire Protection*, 2018 2023 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2021 2024 edition.

NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*, 2021 2024 edition.

NFPA 33, *Standard for Spray Application Using Flammable or Combustible Materials*, 2021 2024 edition.

NFPA 40, *Standard for the Storage and Handling of Cellulose Nitrate Film*, 2022 2025 edition.

NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals*, 2019 2024 edition.

NFPA 51, *Standard for the Design and Installation of Oxygen–Fuel Gas Systems for Welding, Cutting, and Allied Processes*, 2018 2023 edition.

NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*, 2019 2024 edition.

NFPA 52, *Vehicular Natural Gas Fuel Systems Code*, 2019 2023 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2020 2024 edition.

NFPA 59, *Utility LP-Gas Plant Code*, 2021 2024 edition.

NFPA 59A, *Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG)*, 2019 2023 edition.

NFPA 72[®], *National Fire Alarm and Signaling Code*[®], 2022 2025 edition.

NFPA 75, *Standard for the Fire Protection of Information Technology Equipment*, 2020 2024 edition.

NFPA 76, *Standard for the Fire Protection of Telecommunications Facilities*, 2020 2024 edition.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 2021 2024 edition.

NFPA 99, *Health Care Facilities Code*, 2021 2024 edition.

NFPA 99B, *Standard for Hypobaric Facilities*, 2021 2024 edition.

NFPA 101[®], *Life Safety Code*[®], 2021 2024 edition.

NFPA 102, *Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures*, 2021 edition.

NFPA 115, *Standard for Laser Fire Protection*, 2020 edition.

NFPA 120, *Standard for Fire Prevention and Control in Coal Mines*, 2020 2023 edition.

NFPA 122, *Standard for Fire Prevention and Control in Metal/Nonmetal Mining and Metal Mineral Processing Facilities*, 2020 2023 edition.

NFPA 130, *Standard for Fixed Guideway Transit and Passenger Rail Systems*, 2020 2026 edition.

NFPA 140, *Standard on Motion Picture and Television Production Studio Soundstages, Approved Production Facilities, and Production Locations*, 2018 2024 edition.

NFPA 150, *Fire and Life Safety in Animal Housing Facilities Code*, 2022 2025 edition.

NFPA 160, *Standard for the Use of Flame Effects Before an Audience*, 2021 2026 edition.

NFPA 232, *Standard for the Protection of Records*, 2022 edition.

NFPA 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*, 2022 edition.

NFPA 301, *Code for Safety to Life from Fire on Merchant Vessels*, 2018 2023 edition.

NFPA 302, *Fire Protection Standard for Pleasure and Commercial Motor Craft*, 2020 2025 edition.

NFPA 303, *Fire Protection Standard for Marinas and Boatyards*, 2024 2026 edition.

NFPA 307, *Standard for the Construction and Fire Protection of Marine Terminals, Piers, and Wharves*, 2024 2026 edition.

NFPA 326, *Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair*, 2020 2025 edition.

NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*, 2017 2022 edition.

NFPA 400, *Hazardous Materials Code*, 2022 2025 edition.

~~NFPA 403, *Standard for Aircraft Rescue and Fire-Fighting Services at Airports*, 2018 edition.~~

NFPA 407, *Standard for Aircraft Fuel Servicing*, 2022 edition.

NFPA 408, *Standard for Aircraft Hand Portable Fire Extinguishers*, 2017 2022 edition.

NFPA 409, *Standard on Aircraft Hangars*, 2024 2022 edition.

NFPA 410, *Standard on Aircraft Maintenance*, 2020 2025 edition.

NFPA 418, *Standard for Heliports*, 2021 edition.

NFPA 423, *Standard for Construction and Protection of Aircraft Engine Test Facilities*, 2024 2022 edition.

NFPA 460, *Standard for Aircraft Rescue and Firefighting Services at Airports*, 2024 edition.

NFPA 484, *Standard for Combustible Metals*, 2022 edition.

NFPA 495, *Explosive Materials Code*, 2018 2023 edition.

NFPA 498, *Standard for Safe Havens and Interchange Lots for Vehicles Transporting Explosives*, 2018 2023 edition.

NFPA 501A, *Standard for Fire Safety Criteria for Manufactured Home Installations, Sites, and Communities*, 2024 2025 edition.

NFPA 502, *Standard for Road Tunnels, Bridges, and Other Limited Access Highways*, 2020 2026 edition.

NFPA 505, *Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations*, 2018 2024 edition.

NFPA 655, *Standard for Prevention of Sulfur Fires and Explosions*, 2017 edition.

NFPA 731, *Standard for the Installation of Premises Security Systems*, 2020 2023 edition.

NFPA 801, *Standard for Fire Protection for Facilities Handling Radioactive Materials*, 2020 2025 edition.

NFPA 804, *Standard for Fire Protection for Advanced Light Water Reactor Electric Generating Plants*, 2020 2025 edition.

NFPA 805, *Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants*, 2020 2025 edition.

NFPA 820, *Standard for Fire Protection in Wastewater Treatment and Collection Facilities*, 2020 2024 edition.

NFPA 909, *Code for the Protection of Cultural Resource Properties — Museums, Libraries, and Places of Worship*, 2024 2025 edition.

NFPA 914, *Code for the Protection of Historic Structures*, 2019 2023 edition.

NFPA 1123, *Code for Fireworks Display*, 2022 2026 edition.

NFPA 1125, *Code for the Manufacture of Model Rocket and High-Power Rocket Motors*, 2022 2026 edition.

NFPA 1126, *Standard for the Use of Pyrotechnics Before a Proximate Audience*, 2024 2026 edition.

NFPA 1140, *Standard for Wildland Fire Protection*, 2022 edition.

~~NFPA 1141, *Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas*, 2017 edition.~~

NFPA 1192, *Standard on Recreational Vehicles*, 2024 2026 edition.

NFPA 1194, *Standard for Recreational Vehicle Parks and Campgrounds*, 2024 2026 edition.

~~NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, 2019 edition.~~

NFPA 1225, *Standard for Emergency Service Communications*, 2022 edition.

~~NFPA 1900, *Standard for Aircraft Rescue and Firefighting Vehicles, Automotive Fire Apparatus, Wildland Fire Apparatus, and Automotive Ambulances*, 2024 edition.~~

~~NFPA 1901, *Standard for Automotive Fire Apparatus*, 2016 edition.~~

~~NFPA 1906, *Standard for Wildland Fire Apparatus*, 2016 edition.~~

~~NFPA 1910, *Standard for the Inspection, Maintenance, Refurbishment, Testing, and Retirement of In-Service Emergency Vehicles and Marine Firefighting Vessels*, 2024 edition.~~

~~NFPA 1925, *Standard on Marine Fire-Fighting Vessels*, 2018 edition.~~

NFPA 1962, *Standard for the Care, Use, Inspection, Service Testing, and Replacement of Fire Hose, Couplings, Nozzles, and Fire Hose Appliances*, 2018 edition.

NFPA 5000[®], *Building Construction and Safety Code*[®], 2024 2024 edition.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
10_FR-44_2.2_legislative_changes.docx	for prod	

Submitter Information Verification

Committee: PFE-AAA

Submission Date: Thu Nov 02 17:05:44 EDT 2023

Committee Statement

Committee Statement: NFPA references have been removed or added due to consolidation efforts at NFPA . NFPA 18A has not been added to 2.2 as proposed since encapsulating agents were not adopted.

NFPA documents added:

NFPA 460, Standard for Aircraft Rescue and Firefighting Services at Airports, 2024 edition.

NFPA 1140, Standard for Wildland Fire Protection, 2022 edition.

NFPA 1225, Standard for Emergency Service Communications, 2022 edition.

NFPA 1900, Standard for Aircraft Rescue and Firefighting Vehicles, Automotive Fire Apparatus, Wildland Fire Apparatus, and Automotive Ambulances, 2024 edition.

NFPA 1910, Standard for the Inspection, Maintenance, Refurbishment, Testing, and Retirement of In-Service Emergency Vehicles and Marine Firefighting Vessels, 2024 edition.

NFPA documents removed:

NFPA 403 has been consolidated into NFPA 460.

NFPA 1141 has been consolidated into NFPA 1140.

NFPA 1221 has been consolidated into NFPA 1225.

NFPA 1901 and NFPA 1906 have been consolidated into NFPA 1900.

NFPA 1925 has been consolidated into NFPA 1910.

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**Response
Message:**

[Public Input No. 59-NFPA 10-2023 \[Section No. 2.2\]](#)



First Revision No. 45-NFPA 10-2023 [Section No. 2.3]

2.3 Other Publications.

2.3.1 ACA Publications.

American Coatings Association, 901 New York Avenue, NW, Suite 300 West, Washington, DC 20001.

Hazardous Materials Identification System (HMIS) Implementation Manual, 4th edition, 2015.

2.3.2 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM D5391, *Standard Test for Electrical Conductivity and Resistivity of a Flowing High Purity Water Sample*, 2014 2023 .

2.3.3 CGA Publications.

Compressed Gas Association, ~~14501 George Carter Way~~ 8484 Westpark Drive , Suite 103 220 , Chantilly McLean , VA 20151 22102 .

CGA C-1, *Methods for Pressure Testing Compressed Gas Cylinders*, 2016 2022 .

CGA G-10.1, *Commodity Specification for Nitrogen*, 2016 2023 .

2.3.4 UL Publications.

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

UL 1093, ~~*Standard for Halogenated Agent Fire Extinguishers*~~, 1995, revised 2008.

UL 1803, ~~*Standard for Factory Follow-Up on Third Party Certified Portable Fire Extinguishers*~~, 2012, revised 2017 2021 .

2.3.5 ULC Publications.

~~ULC Standards, 171 Nepean Street, Suite 400, Ottawa, Ontario K2P~~

~~0B4 Canada Underwriters' Laboratories of Canada, 7 Underwriters Road, Toronto, ON M1R 3A9, Canada .~~

ULC CAN-S512, ~~*Standard for Halogenated Agent Hand and Wheeled Fire Extinguishers*~~, 2005, reaffirmed 2007.

2.3.6 UL/ULC Publications.

The following publications are bi-nationally harmonized standards for Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096, and ~~ULC Standards, 171 Nepean Street, Suite 400, Ottawa, Ontario K2P 0B4, Underwriters' Laboratories of Canada, 7 Underwriters Road, Toronto, ON MIR 3A9, Canada.~~

UL 8, CAN/ULC-S554, *Water Based Agent Fire Extinguishers*, 2016, revised 2020 .

UL 154, CAN/ULC-S503, ~~Standard for Carbon-Dioxide Fire Extinguishers~~, 2005, revised 2018 2021 .

UL 299, CAN/ULC-S504, ~~Standard for Dry Chemical Fire Extinguishers~~, 2012, revised 2018 2021 .

UL 626, CAN/ULC-S507, ~~Standard for Water Fire Extinguishers~~, 2005, revised 2018 2021 .

UL 711, CAN/ULC-S508, ~~Standard for the Rating and Fire Testing of Fire Extinguishers~~, 2018 2023 .

UL 2129, CAN/ULC-S566, ~~Standard for Halocarbon Clean Agent Fire Extinguishers~~, 2017 2021 .

2.3.7 UN Publications.

United Nations, Publications Customer Service, PO Box 960, Herndon, VA 20172.

Globally Harmonized System of Classification and Labeling of Chemicals (GHS), ST/SG/AC. 10/30/Rev. 6, 2015.

2.3.8 US Government Publications.

US Government Publishing Office, 732 North Capitol Street, NW, Washington, DC 20401-0004 .

Title 49, Code of Federal Regulations, Part 180.209, "Requirements for Requalification of Specification Cylinders."

Title 49, Code of Federal Regulations, Part 180.213, "Requalification Markings."

2.3.9 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003 2020 .

Submitter Information Verification

Committee: PFE-AAA

Submission Date: Fri Nov 03 10:48:20 EDT 2023

Committee Statement

Committee Statement: Publication references and organization addresses have been updated to be current. "Standard for" has been removed from all UL references as proposed in the public inputs.

Response Message: FR-45-NFPA 10-2023

[Public Input No. 202-NFPA 10-2023 \[Section No. 2.3.6\]](#)

[Public Input No. 201-NFPA 10-2023 \[Section No. 2.3.4\]](#)

[Public Input No. 200-NFPA 10-2023 \[Global Input\]](#)



First Revision No. 42-NFPA 10-2023 [Section No. 2.4]

2.4 References for Extracts in Mandatory Sections.

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*, 2024 edition.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, 2017 2024 edition.

NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, 2017 2024 edition.

NFPA 18, *Standard on Wetting Agents*, 2017 2021 edition.

NFPA 52, *Vehicular Natural Gas Fuel Systems Code*, 2019 2023 edition.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 16:51:57 EDT 2023

Committee Statement

Committee Statement: The extracts have been updated to their current editions and NFPA 11 has been added to the list based definitions for foam.

Response Message: FR-42-NFPA 10-2023

**First Revision No. 17-NFPA 10-2023 [Section No. 3.3.16]****3.3.17** Foam.

A stable aggregation of bubbles of lower density than oil or water. [11, 2024]

3.3.17.1* Film-Forming Foam.

A solution that will form an aqueous film on liquid fuels.

A.3.3.17.1 Film-Forming Foam-Agents .

AFFF and FFFP include both grades, which are those that are not approved for polar solvents (water-soluble flammable liquids) and those that are approved for polar solvents.

3.3.17.1.1* Aqueous Film-Forming Foam (AFFF).

A solution based on fluorinated surfactants plus foam stabilizers to produce a fluid aqueous film for suppressing liquid fuel vapors.

3.3.17.1.2* Film-Forming Fluoroprotein Foam (FFFP).

A protein-foam solution that uses fluorinated surfactants to produce a fluid aqueous film for suppressing liquid fuel vapors.

3.3.17.2 Synthetic Fluorine-Free Foam (SFFF).

Foam concentrate based on a mixture of hydrocarbon surface active agents that is not formulated to contain per- or polyfluoroalkyl substances (PFAS). [11, 2024]

Supplemental Information

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Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 13:49:20 EDT 2023

Committee Statement

Committee Statement: The defined terms foam and synthetic flourine-free foam have been added to be consistent with the rest of NFPA 10 and other revisions being made during this revision cycle. The term “foam” has been used to replace AFFF, FFFP and SFFF throughout NFPA 10 to capture all chemical based foams. AFFF and FFFP are still permitted in many parts of the US and the world. SFFF, while not currently used in portable fire extinguishers, is also a chemical foam. The definition for foam has been extracted from NFPA 11 to remain consistent across NFPA documents.

Response Message: FR-17-NFPA 10-2023

Public Input No. 81-NFPA 10-2023 [Section No. 3.3.16]

**First Revision No. 3-NFPA 10-2023 [Section No. 3.4.9]****3.4.9*** Water-Type Fire Extinguisher.

A fire extinguisher containing water or a water-based agents, such as water, film-forming foam agents (AFFF, FFFP), antifreeze, loaded stream, and wet chemical agent .

A.3.4.9 Water-Type Fire Extinguisher.

Examples of water-based agents are foam solutions (e.g., AFFF, FFFP, and SFFF), wetting agents, loaded streams, and wet chemicals.

Supplemental Information

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Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Tue Oct 31 13:15:11 EDT 2023

Committee Statement

Committee Statement: To align with the NFPA manual of style, an annex section was created to identify examples of the defined term. This revision clarifies that foam applies to more than just “film-forming” foams. Additionally, antifreeze was removed since it is not used within the industry and is not appropriate to include in the annex.

Response Message: FR-3-NFPA 10-2023

[Public Input No. 64-NFPA 10-2023 \[Section No. 3.4.9\]](#)

[Public Input No. 82-NFPA 10-2023 \[Section No. 3.4.9\]](#)



First Revision No. 1-NFPA 10-2023 [Section No. 4.2]

4.2* Identification of Contents.

A fire extinguisher shall have a label, tag, or stencil attached to it providing the following information:

- (1) The content's product name as it appears on the manufacturer's ~~Material~~ Safety Data Sheet (MSDS SDS)
- (2) Listing of the hazardous material identification in accordance with *Hazardous Materials Identification System (HMIS) Implementation Manual* [in Canada, *Globally Harmonized System of Classification and Labeling of Chemicals (GHS)*]
- (3) List of any hazardous materials that are in excess of 1.0 percent of the contents
- (4) List of each chemical in excess of 5.0 percent of the contents
- (5) Information as to what is hazardous about the agent in accordance with the ~~MSDS~~ SDS
- (6) Manufacturer's or service agency's name, mailing address, and phone number

A.4.2

Federal OSHA regulations require that manufacturers communicate information as to the type of chemicals in a product that can be hazardous and the level of hazard. This information is contained in the ~~MSDS~~ SDS created for each chemical or mixture of chemicals and is summarized on labels or tags attached to the product. Additionally, state and local authorities have enacted similar acts and regulations requiring identification of chemicals and hazardous ingredients in products. ~~MSDSs~~ SDSs for fire extinguisher agents are available on request from fire equipment dealers or distributors or the fire equipment manufacturer.

The identification of contents information enables determination of the type of chemicals contained in the fire extinguisher and helps to resolve complications arising from an unusual use of the agent. The *Hazardous Materials Identification System (HMIS)*, developed by the American Coatings Association, uses a three-place format with numerical indexes from 0 to 4. The first place is for "toxic properties," the second place is for "flammability," and the third place is for "reactivity" with other chemicals. Most fire extinguishers have a 0 numerical index in the second and third places because they are nonflammable and relatively inert.

Information on the HMIS can be obtained from Label Master, Inc., in Chicago, IL, or from the American Coatings Association in Washington, DC. Extinguisher contents information can be integrated into the standard fire extinguisher label in some form, or it can be on a separate label or tag. The following example is a typical chemical contents identification marking:

CONTENTS:

ABC DRY CHEMICAL/HMIS 1-0-0 MUSCOVITE MICA, MONOAMMONIUM PHOSPHATE
AMMONIUM

SULFATE/NUISANCE DUST IRRITANT/CONTENTS
UNDER PRESSURE

[Manufacturer's Name, Mailing Address, Phone Number]

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Tue Oct 31 09:56:20 EDT 2023

Committee Statement

Committee Statement: As of June 1, 2015, Material Safety Data Sheets (MSDS) were required to be replaced with Safety Data Sheets (SDS). This revision aligns with this change to SDS.

Response Message: FR-1-NFPA 10-2023

[Public Input No. 13-NFPA 10-2022 \[Section No. 4.2\]](#)

[Public Input No. 14-NFPA 10-2022 \[Section No. A.4.2\]](#)



First Revision No. 2-NFPA 10-2023 [Section No. 4.3.2]

4.3.2

The manual shall refer to this standard as a source of detailed instruction requirements regarding the selection, installation, placement, and servicing of portable fire extinguishers .

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Tue Oct 31 10:01:02 EDT 2023

Committee Statement

Committee Statement: It is the extinguisher manufacturer's responsibility to provide detailed instructions for their respective product's operation. It is the role of the purchaser or end-user of a fire extinguisher to properly consult with NFPA 10 as the source of requirements on the selection, installation, and servicing of any manufacturer's extinguisher.

Response Message: FR-2-NFPA 10-2023

Public Input No. 29-NFPA 10-2022 [Section No. 4.3.2]



First Revision No. 6-NFPA 10-2023 [Section No. 4.4 [Excluding any Sub-Sections]]

The following types of fire extinguishers are considered obsolete and shall be removed from service:

- (1) Soda acid
- (2) Chemical foam (~~excluding film-forming agents~~) containing sodium bicarbonate with aluminium sulphate
- (3) Carbon tetrachloride, methyl bromide, and chlorobromomethane (CBM)
- (4) Cartridge-operated water
- (5) Cartridge-operated loaded stream
- (6) Copper or brass shell (excluding pump tanks) joined by soft solder or rivets
- (7) Carbon dioxide extinguishers with metal horns
- (8) Solid charge-type AFFF extinguishers (paper cartridge)
- (9) Pressurized water fire extinguishers manufactured prior to 1971
- (10) Any extinguisher that needs to be inverted to operate
- (11) Any extinguisher manufactured prior to 1955
- (12) Any extinguishers with 4B, 6B, 8B, 12B, and 16B fire ratings
- (13) Stored-pressure water extinguishers with fiberglass shells (pre-1976)

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 09:17:05 EDT 2023

Committee Statement

Committee Statement: This revision clarifies that the only chemical foam that is to be removed from service are those chemical foams that contain sodium bicarbonate with aluminium sulphate.

Response Message: FR-6-NFPA 10-2023

Public Input No. 83-NFPA 10-2023 [Section No. 4.4 [Excluding any Sub-Sections]]



First Revision No. 7-NFPA 10-2023 [Section No. 5.5.4.4]

5.5.4.4* Water-Soluble Liquid Fires (Polar Solvents).

Aqueous film-forming foam (AFFF) and film-forming fluoroprotein (FFFP) foam types of Foam fire extinguishers shall not be selected for the protection of water-soluble flammable or combustible liquids, unless specifically referenced on the fire extinguisher's nameplate.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 09:23:48 EDT 2023

Committee Statement

Committee Statement: There are several different types of foam fire extinguishers listed and labeled for this type of application. This revision covers all listed and labeled foam fire extinguishers.

Response Message: FR-7-NFPA 10-2023

[Public Input No. 84-NFPA 10-2023 \[Section No. 5.5.4.4\]](#)



First Revision No. 48-NFPA 10-2023 [Sections 5.5.4.6.1, 5.5.4.6.2]

5.5.4.6.1*

Fire extinguishers for the protection of delicate electronic equipment shall be selected from types specifically listed and labeled for Class C hazards. (See 5.3.2.3.)

A.5.5.4.6.1

Dry chemical residue will probably not be able to be completely and immediately removed from electronics that are not sealed or weather proof, and, in addition, multipurpose dry chemical exposed to temperatures in excess of 250°F (121°C) or relative humidity in excess of 50 percent can cause corrosion. The use of other clean agent types of extinguishing agents can help to minimize or eliminate collateral equipment damage and associated clean-up concerns. Other NFPA standards identified in 5.5.5.1 can address electronic equipment protection needs and dictate specific fire extinguisher and agent requirements.

5.5.4.6.2

Dry chemical fire extinguishers shall not be installed for the protection of delicate electronic equipment.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
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Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Mon Nov 13 14:12:41 EST 2023

Committee Statement

Committee Statement: The annex has been moved to a more precise reference within NFPA 10, Chapter 5. This revision provides more guidance in regards to which electronic equipment should be considered delicate.

Response Message: FR-48-NFPA 10-2023

[Public Input No. 109-NFPA 10-2023 \[Section No. A.5.5.4.6.2\]](#)



First Revision No. 40-NFPA 10-2023 [Section No. 5.5.5.1]

5.5.5.1*

Where portable fire extinguishers are required to be installed, the following documents shall be reviewed for the occupancies outlined in their respective scopes:

- (1) NFPA 1
- (2) NFPA 2
- ~~NFPA 22~~
- (3) NFPA 30
- (4) NFPA 30A
- (5) NFPA 33
- (6) NFPA 40
- (7) NFPA 45
- (8) NFPA 51
- (9) NFPA 51B
- (10) NFPA 52
- (11) NFPA 58
- (12) NFPA 59
- (13) NFPA 59A
- (14) *NFPA 72*
- (15) NFPA 75
- (16) NFPA 76
- (17) NFPA 96
- (18) NFPA 99
- (19) NFPA 99B
- (20) NFPA 101
- (21) NFPA 102
- (22) NFPA 115
- (23) NFPA 120
- (24) NFPA 122
- (25) NFPA 130
- (26) NFPA 140
- (27) NFPA 150
- (28) NFPA 160
- (29) NFPA 232
- (30) NFPA 241
- (31) NFPA 301
- (32) NFPA 302
- (33) NFPA 303
- (34) NFPA 307
- (35) NFPA 326
- (36) NFPA 385
- (37) NFPA 400

- ~~NFPA 403~~

(38) NFPA 407

(39) NFPA 408

(40) NFPA 409

(41) NFPA 410

(42) NFPA 418

(43) NFPA 423

(44) NFPA 460

(45) NFPA 484

(46) NFPA 495

(47) NFPA 498

(48) NFPA 501A

(49) NFPA 502

(50) NFPA 505

(51) NFPA 655

(52) NFPA 731

(53) NFPA 801

(54) NFPA 804

(55) NFPA 805

(56) NFPA 820

(57) NFPA 909

(58) NFPA 914

(59) NFPA 1123

(60) NFPA 1125

(61) NFPA 1126

(62) NFPA 1140

~~NFPA 1141~~

(63) NFPA 1192

(64) NFPA 1194

~~NFPA 1221~~

(65) NFPA 1225

(66) NFPA 1900

~~NFPA 1901~~

~~NFPA 1906~~

(67) NFPA 1910

~~NFPA 1925~~

(68) *NFPA 5000*

Supplemental Information

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Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 16:33:09 EDT 2023

Committee Statement

Committee Statement: Reference to NFPA 22 has been removed since it does not have extinguisher call outs. All other NFPA references have been removed, or added, due to consolidation into other NFPA documents.

Response Message: FR-40-NFPA 10-2023

[Public Input No. 19-NFPA 10-2022 \[Section No. 5.5.5.1\]](#)

[Public Input No. 20-NFPA 10-2022 \[Section No. 5.5.5.1\]](#)



First Revision No. 8-NFPA 10-2023 [Section No. 6.1.3.12]

6.1.3.12*

Fire extinguishers shall not be exposed to temperatures outside the listed temperature range shown on the fire extinguisher label.

A.6.1.3.12

The following precautions should be noted where fire extinguishers are located in areas that have temperatures outside the range of 40°F to 120°F (4°C to 49°C):

- (1) ~~FFFF~~ and ~~FFFP~~ Foam fire extinguishers cannot be protected against temperatures below 40°F (4°C) by adding an antifreeze charge, because it tends to destroy the effectiveness of the extinguishing agent.
- (2) Plain water fire extinguishers should not be protected against temperatures below 40°F (4°C) with ethylene glycol antifreeze. Calcium chloride solutions should not be used in stainless steel fire extinguishers.
- (3) Fire extinguishers installed in machinery compartments, diesel locomotives, automotive equipment, marine engine compartments, and hot processing facilities can easily be subjected to temperatures above 120°F (49°C). Selection of fire extinguishers for hazard areas with temperatures above the listed limits should be made on the basis of recommendations by manufacturers of this equipment.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 09:53:21 EDT 2023

Committee Statement

Committee Statement: There are several different types of foam fire extinguishers listed and labeled for this type of application. This revision covers all listed and labeled foam fire extinguishers.

Response Message: FR-8-NFPA 10-2023

[Public Input No. 94-NFPA 10-2023 \[Section No. A.6.1.3.12\]](#)



First Revision No. 9-NFPA 10-2023 [Section No. 6.3.1.1.2]

6.3.1.1.1.1

Up to three ~~FFFF or FFFP~~ foam fire extinguishers of at least 2½ .5 gal (9.46 L) capacity shall be permitted to be used to fulfill extra hazard requirements.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 10:03:37 EDT 2023

Committee Statement

Committee Statement: There are several different types of foam fire extinguishers listed and labeled for this type of application. This revision covers all listed and labeled foam fire extinguishers. The section has been moved to be a subsection to 6.3.1.1.1.

Response Message: FR-9-NFPA 10-2023

[Public Input No. 85-NFPA 10-2023 \[Section No. 6.3.1.1.2\]](#)



First Revision No. 10-NFPA 10-2023 [Section No. 6.3.1.1.3]

6.3.1.1.1.2

Two ~~FFFF~~ or ~~FFFFP~~ foam fire extinguishers of at least 1.6 gal (6 L) capacity shall be permitted to be used to fulfill ordinary hazard requirements.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 10:13:55 EDT 2023

Committee Statement

Committee Statement: There are several different types of foam fire extinguishers listed and labeled for this type of application. This revision covers all listed and labeled foam fire extinguishers. This section has also been updated to be a subsection of 6.3.1.1.1.

Response Message: FR-10-NFPA 10-2023

[Public Input No. 86-NFPA 10-2023 \[Section No. 6.3.1.1.3\]](#)



First Revision No. 11-NFPA 10-2023 [Section No. 6.3.2.3]

6.3.2.3

~~AFFF- or FFFP-type~~ Foam fire extinguishers shall be permitted to be provided on the basis of 1-B of protection per 1 ft² (0.09 m²) of hazard. (*For fires involving water-soluble flammable or combustibile liquids, see 5.5.4.4.*)

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 10:44:10 EDT 2023

Committee Statement

Committee Statement: There are several different types of foam fire extinguishers listed and labeled for this type of application. This revision covers all listed and labeled foam fire extinguishers.

Response Message: FR-11-NFPA 10-2023

[Public Input No. 87-NFPA 10-2023 \[Section No. 6.3.2.3\]](#)

[Public Input No. 88-NFPA 10-2023 \[Section No. 6.3.2.3\]](#)



First Revision No. 12-NFPA 10-2023 [Section No. 6.3.2.4]

6.3.2.4

Two or more fire extinguishers of lower ratings, other than ~~AFFF- or FFFP-type~~ foam fire extinguishers, shall not be used in lieu of the fire extinguisher required for the largest hazard area.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 10:48:43 EDT 2023

Committee Statement

Committee Statement: There are several different types of foam fire extinguishers listed and labeled for this type of application. This revision covers all listed and labeled foam fire extinguishers.

Response Message: FR-12-NFPA 10-2023

[Public Input No. 89-NFPA 10-2023 \[Section No. 6.3.2.4\]](#)



First Revision No. 13-NFPA 10-2023 [Section No. 6.3.2.5]

6.3.2.5

Up to three ~~AFFF- or FFFP-type~~ foam fire extinguishers shall be permitted to fulfill the requirements, provided the sum of the Class B ratings meets or exceeds the value required for the largest hazard area.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 10:49:58 EDT 2023

Committee Statement

Committee Statement: There are several different types of foam fire extinguishers listed and labeled for this type of application. This revision covers all listed and labeled foam fire extinguishers.

Response Message: FR-13-NFPA 10-2023

[Public Input No. 90-NFPA 10-2023 \[Section No. 6.3.2.5\]](#)



First Revision No. 23-NFPA 10-2023 [Section No. 7.2.2 [Excluding any Sub-Sections]]

Periodic inspection or electronic monitoring of fire extinguishers shall include a check of at least the following items:

- (1) Location in designated place
- (2) Visibility of the extinguisher or means of indicating the extinguisher location
- (3) Access to the extinguisher
- (4) Pressure gauge reading or indicator in the operable range or position
- (5) Fullness determined by weighing or hefting for self-expelling-type extinguishers, cartridge-operated extinguishers, and pump tanks
- (6) Condition of tires, wheels, carriage, hose, and nozzle for wheeled extinguishers
- (7) Indicator for nonrechargeable extinguishers using push-to-test pressure indicators

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 09:50:43 EDT 2023

Committee Statement

Committee Statement: Where an extinguisher is equipped with a pressure gauge and electronic monitoring is used weighing and hefting is not necessary to determine if the extinguisher is charged as this is indicated by the pressure gauge.

Response Message: FR-23-NFPA 10-2023



First Revision No. 22-NFPA 10-2023 [New Section after 7.2.4]

7.2.5 Performance-Based Inspection Option.

7.2.5.1

As an alternate means of compliance with Section 7.2 , subject to the approval of the AHJ, fire extinguishers shall be permitted to be inspected under a written performance-based inspection program.

7.2.5.2

Goals established under a performance-based program shall provide assurance that the fire extinguisher remains in proper functioning or working condition.

7.2.5.3

Technical justification for alternative inspection intervals shall be documented in writing.

7.2.5.4

Justification for the performance-based option shall include historical site data acceptable to the AHJ.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 08:35:46 EDT 2023

Committee Statement

Committee Statement: This revision provides a basis for implementing and monitoring a performance-based program, provided that approval is obtained by the authority having jurisdiction on a per site basis. The concept of a performance-based inspection program is to establish the requirements and frequencies at which inspection must be performed to demonstrate an acceptable level of operational reliability. The goal is to balance the inspection frequency with proven reliability of the extinguisher. The goal of a performance-based inspection program is also to adjust inspection frequencies commensurate with historical documented equipment reliability. Frequencies of inspection under a performance-based program can be extended or reduced from the prescriptive inspection requirements when continued inspection has been documented indicating a higher or lower degree of reliability as compared to the authority having jurisdiction's expectations of performance.

Response Message: FR-22-NFPA 10-2023

Public Input No. 168-NFPA 10-2023 [New Section after 7.2.4.2.3]

Public Input No. 111-NFPA 10-2023 [New Section after 7.2.1.2.1]



First Revision No. 24-NFPA 10-2023 [Section No. 7.3.2.1]

7.3.2.1 Physical Condition.

An annual external visual examination of all fire extinguishers shall be made to detect obvious physical damage, corrosion, or nozzle blockage to verify that the operating instructions are present, legible, and facing forward, and that the HMIS information is present and legible, and to determine if a 6-year interval examination or hydrostatic test is due.

7.3.2.1.1

At the time of the annual external visual examination, a check of at least the inspection items of 7.2.2 and the external examination items of 7.3.2.1 shall be conducted.

7.3.2.1.2

Improperly labeled or marked fire extinguishers, as referenced within 6.1.3.10 and 7.3.4 , shall be replaced or removed from service until corrected.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 10:22:38 EDT 2023

Committee Statement

Committee Statement: Improperly labeled and marked fire extinguishers continue to remain in service because there have been no requirements to correct or resolve such conditions. Improperly labeled extinguishers represent obvious communication, delay, or confusion for novice users.

Response Message: FR-24-NFPA 10-2023

Public Input No. 190-NFPA 10-2023 [Section No. 7.3.2.1]



First Revision No. 15-NFPA 10-2023 [Section No. 7.3.3.1]

7.3.3.1* Maintenance Intervals.

Fire extinguishers shall be internally examined at intervals not exceeding those specified in Table 7.3.3.1.

Table 7.3.3.1 Maintenance Involving Internal Examination

<u>Extinguisher Type</u>	<u>Internal Examination Interval (years)</u>
Stored-pressure loaded stream and antifreeze	1
Pump tank water and pump tank, calcium chloride based	1
Dry chemical, cartridge- and cylinder-operated, with mild steel shells	1*
Dry powder, cartridge- and cylinder-operated, with mild steel shells	1*
Wetting agent	1
Stored-pressure water	5
<u>Foam</u>	<u>3</u>
AFFF (aqueous film-forming foam)	3†
FFFP (film-forming fluoroprotein foam)	3†
Stored-pressure dry chemical, with stainless steel shells	5
Carbon dioxide	5
Wet chemical	5
Dry chemical stored-pressure, with mild steel shells, brazed brass shells, and aluminum shells	6
Halogenated agents	6
Dry powder, stored-pressure, with mild steel shells	6

~~*Dry chemical and dry powder in cartridge- or cylinder-operated extinguishers are examined annually.~~

~~†The extinguishing agent in liquid charge-type AFFF and FFFP extinguishers is replaced every 3 years, and an internal examination (teardown) is normally conducted at that time.~~

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
10_FR15_Table7.3.3.1.docx	Table 7.3.3.1 updates to consolidate AFFF and FFFP to Foam.	
10_FR-15_7.3.3.1_legislative_changes.docx	for prod	

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 11:24:32 EDT 2023

Committee Statement

Committee Statement: The term “foam” has been used to replace AFFF, FFFP and SFFF (which was proposed by public input) to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world. SFFF, while not currently used in portable fire extinguishers, is also a synthetic foam.

Encapsulator agent has not been added to the table since there is insufficient information to support including encapsulator agent.

The footnote for dry chemical and dry chemical powder has been removed as it provides no additional value to the table.

The footnote extending the internal examination interval for foam extinguishing agents has not been adopted because no technical information has been provided to support a 5-year interval. There might be extinguishers in the market that are more prone to internal degradation than others. Including the exception to the 3 year interval would not be appropriate for foam extinguishers in the market that are more susceptible to degradation. Additionally, the current footnote has been removed because it led the user to believe that they are required to replace the agent every 3 years, which is in conflict with 7.8.2.3.1.

Response Message: FR-15-NFPA 10-2023

[Public Input No. 91-NFPA 10-2023 \[Section No. 7.3.3.1\]](#)

[Public Input No. 132-NFPA 10-2023 \[Section No. 7.3.3.1\]](#)



First Revision No. 25-NFPA 10-2023 [Section No. 7.3.4.1.1]

7.3.4.1.1

The tag or label, as a minimum, shall identify the following:

- (1) Month and year maintenance was performed
- (2) Person performing the work
- (3) Name and address of the agency performing the work

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 10:47:22 EDT 2023

Committee Statement

Committee Statement: An address has been included to 7.3.4.1.1(3) since without an address and contact details enforcement and follow-up is difficult especially in locations that do not possess licensing requirements.

Response Message: FR-25-NFPA 10-2023

[Public Input No. 78-NFPA 10-2023 \[Section No. 7.3.4.1.1\]](#)



First Revision No. 18-NFPA 10-2023 [Section No. 7.8.2.3]

7.8.2.3 ~~AFFF and FFFP~~ Foam .

7.8.2.3.1

The premixed agent in ~~liquid-charge-type AFFF and FFFP~~ foam fire extinguishers shall be replaced following the fire extinguisher manufacturer's instructions, not to exceed the 5-year hydrostatic test interval.

7.8.2.3.2

Only the foam agent specified on the extinguisher nameplate shall be used for recharge.

7.8.2.3.3

The agent in nonpressurized ~~AFFF and FFFP~~ foam fire extinguishers that is subjected to agent analysis in accordance with the manufacturer's instructions shall not be required to comply with 7.8.2.3.1.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 14:22:26 EDT 2023

Committee Statement

Committee Statement: The term "foam" has been used to replace AFFF, FFFP and SFFF (which was proposed by public input) to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world. SFFF, while not currently used in portable fire extinguishers, is also a chemical foam.

Response Message: FR-18-NFPA 10-2023

[Public Input No. 92-NFPA 10-2023 \[Section No. 7.8.2.3\]](#)



First Revision No. 19-NFPA 10-2023 [Section No. 7.13.4.1]

7.13.4.1

New extinguishers requiring an initial charge in the field (such as pressurized water, AFFF, FFFP foam , or wet chemical extinguishers) shall not be required to have a verification-of-service collar installed.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 14:25:54 EDT 2023

Committee Statement

Committee Statement: The term “foam” has been used to replace AFFF, FFFP and SFFF (which was proposed by public input) to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world. SFFF, while not currently used in portable fire extinguishers, is also a chemical foam.

Response Message: FR-19-NFPA 10-2023

[Public Input No. 104-NFPA 10-2023 \[Section No. 7.13.4.1\]](#)



First Revision No. 29-NFPA 10-2023 [Section No. 8.1.2 [Excluding any Sub-Sections]]

Cylinders Specification cylinders and cartridges bearing U.S. Department of Transportation (DOT) or Transport Canada (TC) markings shall be ~~retested~~ requalified (tested) in accordance with the applicable DOT or TC regulations.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 13:55:10 EDT 2023

Committee Statement

Committee Statement: DOT/TC uses the term “requalify” versus “retesting”. This revision helps resolve confusion for the user.

Response Message: FR-29-NFPA 10-2023

[Public Input No. 79-NFPA 10-2023 \[Section No. 8.1.2 \[Excluding any Sub-Sections\]\]](#)



First Revision No. 16-NFPA 10-2023 [Section No. 8.3.1 [Excluding any Sub-Sections]]

At intervals not exceeding those specified in Table 8.3.1, fire extinguishers shall be hydrostatically retested.

Table 8.3.1 Hydrostatic Test Intervals for Extinguishers

<u>Extinguisher Type</u>	<u>Test Interval (years)</u>
Stored-pressure water, water mist, loaded stream, and/or antifreeze	5
Wetting agent	5
AFFF (aqueous film-forming foam)	5
FFFP (film-forming fluoroprotein foam)	5
<u>Foam</u>	<u>5</u>
Dry chemical with stainless steel shells	5
Carbon dioxide	5
Wet chemical	5
Dry chemical, stored-pressure, with mild steel shells, brazed brass shells, or aluminum shells	12
Dry chemical, cartridge- or cylinder-operated, with mild steel shells	12
Halogenated agents	12
Dry powder, stored-pressure, cartridge- or cylinder-operated, with mild steel shells	12

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
10_FR16_Table_8.3.1.docx	Table 8.3.1 updates to consolidate AFFF and FFFP to Foam.	
10_FR-16_8.3.1_legislative_changes.docx	for prod	

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Wed Nov 01 13:37:17 EDT 2023

Committee Statement

Committee Statement: The term “foam” has been used to replace AFFF, FFFP and SFFF (which was proposed by public input) to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world. SFFF, while not currently used in portable fire extinguishers, is also a synthetic foam.

Encapsulator agent has not been added to the table since there is insufficient

information to support including encapsulator agent.

Response FR-16-NFPA 10-2023
Message:

[Public Input No. 135-NFPA 10-2023 \[Section No. 8.3.1 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 93-NFPA 10-2023 \[Section No. 8.3.1 \[Excluding any Sub-Sections\]\]](#)



First Revision No. 4-NFPA 10-2023 [Section No. A.5.4.1.2]

A.5.4.1.2

Ordinary hazard occupancies could consist of dining areas, mercantile shops and allied storage, light manufacturing, research operations, auto showrooms, ~~parking garages~~, workshop or support service areas of light hazard occupancies, and warehouses containing Class I or Class II commodities as defined by NFPA 13.

A Class I commodity is defined by NFPA 13 as a noncombustible product that meets one of the following criteria:

- (1) It is placed directly on wooden pallets.
- (2) It is placed in single-layer corrugated cartons, with or without single-thickness cardboard dividers, with or without pallets.
- (3) It is shrink-wrapped or paper-wrapped as a unit load, with or without pallets.

A Class II commodity is defined by NFPA 13 as a noncombustible product that is in slatted wooden crates, solid wood boxes, multiple-layered corrugated cartons, or equivalent combustible packaging material, with or without pallets.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Tue Oct 31 14:43:39 EDT 2023

Committee Statement

Committee Statement: Removing parking garages from the annex for ordinary hazard, aligns with section 5.4.1.2 and 5.4.1.3 which identifies the presence of flammables in quantities from 1 gal to 5 gal or in quantities of 5 gallons or more in any room or area. Given that a single vehicle with a non-metallic fuel tank can easily contribute more than 5 gallons to any incipient stage fire the use of Extra Hazard selection and travel distance rules is appropriate.

Response Message: FR-4-NFPA 10-2023

[Public Input No. 32-NFPA 10-2022 \[Section No. A.5.4.1.2\]](#)



First Revision No. 5-NFPA 10-2023 [Section No. A.5.4.1.3]

A.5.4.1.3

Extra hazard occupancies could consist of woodworking; vehicle repair; parking garages; aircraft and boat servicing; cooking areas; individual product display showrooms; product convention center displays; and storage and manufacturing processes such as painting, dipping, and coating, including flammable liquid handling. Also included is warehousing or in-process storage of other than Class I and Class II commodities.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Tue Oct 31 15:04:15 EDT 2023

Committee Statement

Committee Statement: Adding "parking garage" to the annex for extra hazard better aligns with section 5.4.1.2 and 5.4.1.3 that identifies the presence of flammables in quantities from 1 gal to 5 gal or in quantities of 5 gallons or more in any room or area. Given that a single vehicle with a non-metallic fuel tank can easily contribute more than 5 gallons to any incipient stage fire the use of Extra Hazard selection and travel distance rules is appropriate.

Response Message: FR-5-NFPA 10-2023

[Public Input No. 33-NFPA 10-2022 \[Section No. A.5.4.1.3\]](#)



First Revision No. 20-NFPA 10-2023 [Section No. A.5.5.4.6]

A.5.5.4.6

~~Where occupancies are required to have extinguishers installed, 5.5.4.6 is applicable to areas where the electronic equipment is located. Delicate electronic equipment includes, but is not limited to, telecommunications, computers, servers, robotics, and reproduction equipment.~~

~~Extinguishers provided for the protection of delicate electronic equipment are typically halogenated agent and water mist extinguishers with Class A ratings.~~

It is up to the electronic equipment owner to determine what electronic equipment is to be considered delicate. In more modern terminology, it might be more common to refer to the equipment as critical. With the advent of relatively inexpensive replacement equipment, multiple site backups, and distributed data storage, the equipment in the computer and server room should not be considered to be in this category. One-of-a-kind electronic equipment or other irreplaceable systems should be considered delicate and should not be protected with or located within areas containing portable extinguishers that use potentially corrosive or damaging agents.

Submitter Information Verification

Committee: PFE-AAA

Submission Date: Thu Nov 02 07:11:35 EDT 2023

Committee Statement

Committee Statement: This revision provides clarity to the user on what should and should not be considered delicate electronic equipment in NFPA 10.

Response Message: FR-20-NFPA 10-2023

[Public Input No. 108-NFPA 10-2023 \[Section No. A.5.5.4.6\]](#)

[Public Input No. 41-NFPA 10-2022 \[Section No. A.5.5.4.6\]](#)



First Revision No. 26-NFPA 10-2023 [Section No. A.7.8.3.6]

A.7.8.3.6

Moisture within a non-water-type fire extinguisher creates a serious corrosion hazard to the fire extinguisher shell and also indicates that the extinguisher is probably inoperative. Moisture could possibly enter at— under the following conditions:

- (1) After a hydrostatic test
- (2) When recharging is being performed
- (3) When the valve has been removed from the cylinder
- (4) Where compressed air and a moisture trap are used for pressurizing non-water types

It is extremely important to remove any water or moisture from any non-water-type fire extinguisher before recharging. Excess moisture in a dry chemical fire extinguisher causes the agent to cake and lump and become unusable. It also causes corrosion to the fire extinguisher shell and valve. In carbon dioxide and halogenated fire extinguishers, excess moisture combined with the extinguishing agent causes extremely corrosive acids to form. These acids can corrode the fire extinguisher shell and valve.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 13:04:57 EDT 2023

Committee Statement

Committee Statement: This revision corrects an omission. Water type extinguishers need not be dried. Only non-water extinguishers need to be dried.

Response Message: FR-26-NFPA 10-2023

[Public Input No. 193-NFPA 10-2023 \[Section No. A.7.8.3.6\]](#)



First Revision No. 27-NFPA 10-2023 [Section No. A.7.13]

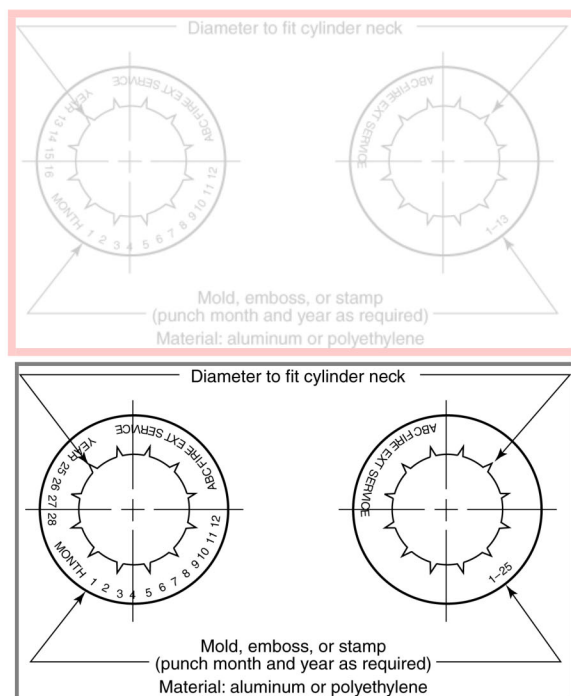
A.7.13

A verification-of-service collar is installed to show that an extinguisher has been depressurized, the valve has been removed, and a complete maintenance has been performed. The verification-of-service collar design also requires that the valve be removed before the collar can be attached to the extinguisher. The collar provides the authorities having jurisdiction with a convenient visual proof that the extinguisher has been disassembled and that maintenance most likely has been performed.

All extinguishers are to have the valve removed for hydrostatic testing and are to be subsequently recharged before they are returned to service. To be valid, the date on the verification-of-service collar should always be the same as or more recent than the date on the hydrostatic test label.

Figure A.7.13 provides a guide to the design of a verification-of-service collar.

Figure A.7.13 Design of a Verification-of-Service Collar.



Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
10_FR27_Figure_A.7.13.pptx	Figure A.7.13	

Submitter Information Verification

Committee: PFE-AAA
Submittal Date: Thu Nov 02 13:18:10 EDT 2023

Committee Statement

Committee Statement: This revision updates the years in Figure A.7.13 to make the figure current.

Response Message: FR-27-NFPA 10-2023

[Public Input No. 66-NFPA 10-2023 \[Section No. A.7.13\]](#)

**First Revision No. 30-NFPA 10-2023 [Section No. A.8.7.2]****A.8.7.2**

Figure A.8.7.2 provides a guide to the design of a hydrostatic test label. All print should be black on a silver background.

Figure A.8.7.2 Design of a Hydrostatic Test Label.

JAN	FEB	MAR	APR	MAY	JUNE		
HYDROSTATIC TEST							
PERFORMED BY:							
DISTRIBUTOR NAME						EMPLOYEE NAME	
DISTRIBUTOR PHONE NO.						EMPLOYEE LIC. NO.	
DISTRIBUTOR LICENSE NO.							
TEST	1 2 3 4 5 6 7 8 9 0						
PRESSURE	1 2 3 4 5 6 7 8 9 0						
(PSI)	1 2 3 4 5 6 7 8 9 0						
JULY	AUG	SEPT	OCT	NOV	DEC	2013	2014
						2015	2016

JAN	FEB	MAR	APR	MAY	JUNE		
HYDROSTATIC TEST							
PERFORMED BY:							
DISTRIBUTOR NAME						EMPLOYEE NAME	
DISTRIBUTOR PHONE NO.						EMPLOYEE LIC. NO.	
DISTRIBUTOR LICENSE NO.							
TEST	1 2 3 4 5 6 7 8 9 0						
PRESSURE	1 2 3 4 5 6 7 8 9 0						
(PSI)	1 2 3 4 5 6 7 8 9 0						
JULY	AUG	SEPT	OCT	NOV	DEC	2025	2026
						2027	2028

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
10_FR30_Figure_A.8.7.2.pptx	Figure A.8.7.2	

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 14:28:21 EDT 2023

Committee Statement

Committee Statement: Years have been updated to reflect current years.

Response Message: FR-30-NFPA 10-2023

Public Input No. 67-NFPA 10-2023 [Section No. A.8.7.2]



First Revision No. 31-NFPA 10-2023 [Section No. C.2.6.3]

C.2.6.3

Class B obstacle fire situations present some additional extinguisher agent, hardware, and application considerations. ~~AFFF and FFFP~~ foam Foam portable extinguishers are capable of extinguishing and securing horizontal flammable liquid situations by suppressing combustible vapors and are often the best choice for obstacle fire hazard situations when only one application point might be anticipated at the time of a fire. Nonsecuring or nonvapor suppressing types of Class B extinguishing agents can often only be successfully utilized when they are applied simultaneously from multiple locations to eliminate any blind spot presented by an obstacle. Special nonsecuring agent types of fire extinguishers that have higher agent discharge flow rates sufficient to effectively wrap around an obstacle can also successfully accomplish extinguishment. The system used to rate Class B fire extinguishers is not applicable to these types of fire hazard situations. The selection of extinguishers for these hazards should be made on the basis of the equipment manufacturer's recommendations.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 15:06:00 EDT 2023

Committee Statement

Committee Statement: The term "foam" has been used to replace AFFF and FFFP to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world.

Response Message: FR-31-NFPA 10-2023

[Public Input No. 95-NFPA 10-2023 \[Section No. C.2.6.3\]](#)



First Revision No. 32-NFPA 10-2023 [Section No. C.3.3]

C.3.3 ~~AFFF~~ and ~~FFFP~~ Foam Fire Extinguishers.

~~AFFF~~ (aqueous film-forming foam) and ~~FFFP~~ (film-forming fluoroprotein) Foam fire extinguishers are rated for use on both Class A and Class B fires. They are not suitable for use in freezing temperatures. An advantage of this type of extinguisher when used on Class B flammable liquid fires of appreciable depth is the ability of the agent to float on and secure the liquid surface, which helps to prevent reignition.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 15:11:25 EDT 2023

Committee Statement

Committee Statement: The term “foam” has been used to replace AFFF and FFFP to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world.

Response Message: FR-32-NFPA 10-2023

[Public Input No. 96-NFPA 10-2023 \[Section No. C.3.3\]](#)

**First Revision No. 33-NFPA 10-2023 [Section No. D.1.2.2]****D.1.2.2**

Several different extinguishing materials are handled by each of these expelling means. Table D.1.2.2 lists the agent and expelling means combinations that are or have been in use.

Table D.1.2.2 Extinguisher Operation and Methods of Expelling

<u>Extinguishing Materials</u>	<u>Expelling Methods</u>				
	<u>Self- Expelling</u>	<u>Gas Cartridge or Cylinder</u>	<u>Stored Pressure</u>	<u>Mechanically Pumped</u>	<u>Hand Propelled</u>
Water and antifreeze			x	x	x
Wetting agent			x		
AFFF and FFFP Foam		x	x		
Loaded stream		x	x		
Multipurpose dry chemical		x	x		
Carbon dioxide	x				
Dry chemical		x	x		
Halogenated agents	x		x		
Dry powder (metal fires)		x	x		x
Wet chemical			x		

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
10_FR33_D.1.2.2.docx	Table D.1.2.2	
10_FR-33_D.1.2.2_legislative_changes.docx	for prod	

Submitter Information Verification

Committee: PFE-AAA

Submission Date: Thu Nov 02 15:16:04 EDT 2023

Committee Statement

Committee Statement: The term “foam” has been used to replace AFFF and FFFP to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world.

Water additive extinguisher type is not recognized in the standard.

Response FR-33-NFPA 10-2023

Message:

[Public Input No. 160-NFPA 10-2023 \[Section No. D.1.2.2\]](#)

[Public Input No. 97-NFPA 10-2023 \[Section No. D.1.2.2\]](#)



First Revision No. 34-NFPA 10-2023 [Section No. D.4.2]

D.4.2 ~~Film-Forming~~ Foam Agents.

These fire extinguishers are intended for use on Class A and Class B fires. On flammable liquid fires of appreciable depth, best results are obtained when the discharge from the fire extinguisher is played against the inside of the back wall of the vat or tank just above the burning surface to permit the natural spread of the agent back over the burning liquid. If this cannot be done, the operator should stand far enough away from the fire to allow the agent to fall lightly on the burning surface — the stream should not be directed into the burning liquid. Where possible, the operator should walk around the fire while directing the stream to get maximum coverage during the discharge period. For fires in ordinary combustible materials, the agent can be used to coat the burning surface directly. For flammable liquid spill fires, the agent could be flowed over a burning surface by bouncing it off the floor just in front of the burning area. ~~Film-forming foam~~ Foam agents are not effective on flammable liquids and gases escaping under pressure or on cooking grease fires.

D.4.2.1 AFFF and FFFP Foam .

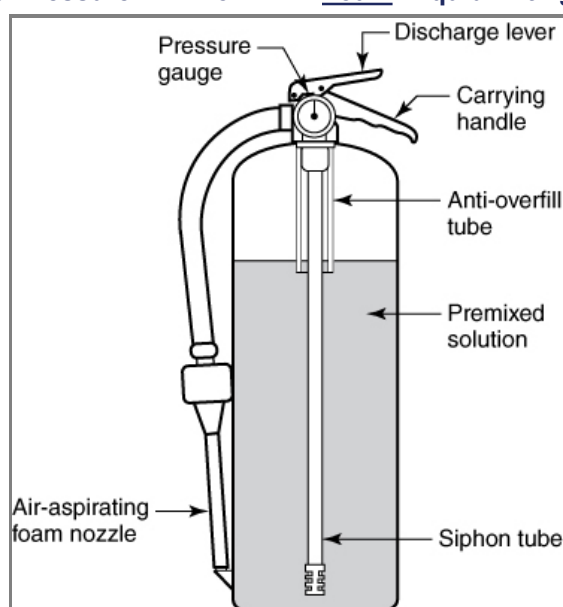
Fire extinguishers of these types are usually available in hand portable models of 1.6 gal (6 L) and 2½ gal (9.46 L) and in wheeled models having a liquid capacity of 33 gal (125 L). These fire extinguishers have ratings of 2-A:10-B, 3-A:20-B, and 20-A:160-B, respectively. The extinguishing agent is a solution of film-forming surfactant in water that forms mechanical foam when discharged through an aspirating nozzle. On Class A fires, the agent acts as both a coolant and a penetrant to reduce temperatures to below the ignition level. On Class B fires, the agent acts as a barrier to exclude air or oxygen from the fuel surface.

Grades of these agents are also suitable for the protection of water-soluble flammable liquids (polar solvents) such as alcohols, acetone, esters, ketones, and so forth. The suitability of these fire extinguishers for polar solvent fires should be referenced specifically on the nameplate. These agents are not suitable for use on pressurized fuel fires or cooking grease fires.

Specific information on the properties and limitations of AFFF and FFFP foam are contained in NFPA 11.

The hand portable models closely resemble stored-pressure water fire extinguishers except for the special types of nozzles (see Figure D.4.2.1). Wheeled types are operated by a separate nitrogen cylinder containing the expellant gas, which, when released, pressurizes the agent container. The discharge is controlled by a special aspirating shutoff type of nozzle at the end of the hose assembly. These types of fire extinguishers can be used only in locations not subject to freezing conditions, unless special measures recommended by the manufacturer are provided to prevent the agent from freezing.

Figure D.4.2.1 Stored-Pressure AFFF or FFFP Foam Liquid Extinguisher.



Submitter Information Verification

Committee: PFE-AAA

Submission Date: Thu Nov 02 15:36:23 EDT 2023

Committee Statement

Committee Statement: The term “foam” has been used to replace AFFF and FFFP to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world.

Response FR-34-NFPA 10-2023

Message:

[Public Input No. 98-NFPA 10-2023 \[Section No. D.4.2\]](#)



First Revision No. 35-NFPA 10-2023 [Section No. F.4.1]

F.4.1

The following types of fire extinguishers are recommended for installation and use in family dwellings and living units:

- (1) Dry chemical
- (2) Water, AFFF foam , FFFP loaded stream , ~~antifreeze~~, wetting agent
- (3) Carbon dioxide
- (4) General use residential fire extinguisher
- (5) Special purpose residential fire extinguisher

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 15:44:10 EDT 2023

Committee Statement

Committee Statement: The term “foam” has been used to replace AFFF and FFFP to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world.

Loaded stream is the industry term for extinguishers using a freezing point depressant (antifreeze) agent.

Response Message: FR-35-NFPA 10-2023

[Public Input No. 99-NFPA 10-2023 \[Section No. F.4.1\]](#)



First Revision No. 36-NFPA 10-2023 [Section No. F.4.2]

F.4.2

The following types of extinguishers are considered obsolete and should be removed from service and replaced:

- (1) Soda acid types
- (2) Chemical foam (~~excluding film-forming agents~~) containing sodium bicarbonate with aluminium sulphate
- (3) Carbon tetrachloride, methyl bromide, and chlorobromomethane (CBM)
- (4) Cartridge-operated water
- (5) Cartridge-operated loaded stream
- (6) Copper or brass shell fire extinguishers (excluding pump tanks) joined by soft solder or rivets
- (7) Extinguishers rated prior to 1955 and marked B-1, C-1 on the nameplate
- (8) Fire extinguishers not listed or labeled

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 15:50:55 EDT 2023

Committee Statement

Committee Statement: This revision clarifies that the only chemical foam that is to be removed from service are those chemical foams that contain sodium bicarbonate with aluminium sulphate. This aligns with committee action on section 4.4.

Response Message: FR-36-NFPA 10-2023

[Public Input No. 100-NFPA 10-2023 \[Section No. F.4.2\]](#)



First Revision No. 37-NFPA 10-2023 [Section No. F.7.3.2]

F.7.3.2

Manufacturer's instructions specify servicing of rechargeable fire extinguishers after any use. The frequency of internal maintenance and hydrostatic testing is specified in the owner's manual and in Table F.7.3.2.

Table F.7.3.2 Frequency of Internal Maintenance and Hydrostatic Testing of Fire Extinguishers

<u>Type of Extinguisher</u>	<u>Internal Maintenance Interval (years)</u>	<u>Hydrostatic Testing Interval (years)</u>
Dry chemical*	6	12
Water, AFFF, FFFP, antifreeze foam, loaded stream	5	5
Halogenated agent†	6	12
Carbon dioxide	5	5

*Nonrechargeable dry chemical extinguishers do not require a 6-year internal inspection but should be removed from service 12 years after the date of manufacture.

†Nonrechargeable halogenated agent extinguishers do not require an internal inspection but should be removed from service 12 years from the date of manufacture. The extinguishers should be returned to the manufacturer or the manufacturer's designated agent for reclaiming of the halogenated agent.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 15:53:40 EDT 2023

Committee Statement

Committee Statement: The term "foam" has been used to replace AFFF and FFFP to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world.

Loaded stream is the industry term for extinguishers using a freezing point depressant (antifreeze) agent.

Response Message: FR-37-NFPA 10-2023

Public Input No. 101-NFPA 10-2023 [Section No. F.7.3.2]



First Revision No. 38-NFPA 10-2023 [Section No. H.2]

H.2 Health and Safety Conditions That Affect Selection.

When a fire extinguisher is being selected, consideration should be given to the health and safety hazards involved in its maintenance and use, as described in the following items:

- (1) For confined spaces, prominent caution labels on the fire extinguisher, warning signs at entry points, provision for remote application, extra-long-range fire extinguisher nozzles, special ventilation, provision of breathing apparatus and other personal protective equipment, and adequate training of personnel are among the measures that should be considered.
- (2) Although halogenated agent-type fire extinguishers contain agents whose vapor has a low toxicity, their decomposition products can be hazardous. When using these fire extinguishers in unventilated places, such as small rooms, closets, motor vehicles, or other confined spaces, operators and others should avoid breathing the gases produced by thermal decomposition of the agent.
- (3) Carbon dioxide fire extinguishers contain an extinguishing agent that will not support life when used in sufficient concentration to extinguish a fire. The use of this type of fire extinguisher in an unventilated space can dilute the oxygen supply. Prolonged occupancy of such spaces can result in loss of consciousness due to oxygen deficiency.
- (4) Fire extinguishers not rated for Class C hazards (e.g., water, ~~antifreeze~~, loaded stream, ~~AFFF foam~~, ~~FFFP~~, and ~~wetting agent, and foam~~) present a shock hazard if used on fires involving energized electrical equipment.
- (5) When used in a small unventilated area, dry chemical fire extinguishers can reduce visibility for a period of up to several minutes. Dry chemical discharged in an area can also clog filters in air-cleaning systems.
- (6) A dry chemical fire extinguisher containing ammonium compounds should not be used on oxidizers that contain chlorine. The reaction between the oxidizer and the ammonium salts can produce the explosive compound nitrogen trichloride (NCl_3).
- (7) Halogenated extinguishers should not be used on fires involving oxidizers, since they can react with the oxidizer.
- (8) Most fires produce toxic decomposition products of combustion, and some materials, upon burning, can produce highly toxic gases. Fires can also consume available oxygen or produce dangerously high exposure to convected or radiated heat. All of these can affect the degree to which a fire can be safely approached with fire extinguishers.

Table H.2 summarizes the characteristics of fire extinguishers and can be used as an aid in selecting fire extinguishers in accordance with Chapter 5. The ratings given are those that were in effect at the time this standard was prepared. Current listings should be consulted for up-to-date ratings.

Table H.2 Characteristics of Extinguishers

<u>Extinguishing Agent</u>	<u>Method of Operation</u>	<u>Capacity</u>	<u>Horizontal Range of Stream</u>	<u>Approximate Time of Discharge</u>	<u>Protection Required Below 40°F (4°C)</u>	<u>UL or ULC Classifications^a</u>
Water	Stored-pressure	4 $\frac{3}{8}$ 1.6 gal (6 L)	30–40 ft (9.1–12.2 m)	40 sec	Yes	1-A
	Stored-pressure or pump	2 $\frac{1}{2}$ 2.5 gal (9.5 L)	30–40 ft (9.1–12.2 m)	1 min	Yes	2-A
	Pump	4 gal (15.1 L)	30–40 ft (9.1–12.2 m)	2 min	Yes	3-A
	Pump	5 gal (19.0 L)	30–40 ft (9.1–12.2 m)	2–3 min	Yes	4-A

<u>Extinguishing Agent</u>	<u>Method of Operation</u>	<u>Capacity</u>	<u>Horizontal Range of Stream</u>	<u>Approximate Time of Discharge</u>	<u>Protection Required Below 40°F (4°C)</u>	<u>UL or ULC Classifications^a</u>
Water (wetting agent)	Stored-pressure	4 ¹ / ₂ 1.5 gal (5.7 L)	20 ft (6.1 m)	30 sec	Yes	2-A
	Stored-pressure	25 gal (95 L) (wheeled)	35 ft (10.7 m)	4 ¹ / ₂ 1.5 min	Yes	10-A
	Stored-pressure	45 gal (170 L) (wheeled)	35 ft (10.7 m)	2 min	Yes	30-A
	Stored-pressure	60 gal (227 L) (wheeled)	35 ft (10.7 m)	2 ¹ / ₂ 2.5 min	Yes	40-A
Loaded stream	Stored-pressure	2 ¹ / ₂ 2.5 gal (9.5 L)	30–40 ft (9.1–12.2 m)	1 min	No	2-A
	Stored-pressure	33 gal (125 L) (wheeled)	50 ft (15.2 m)	3 min	No	20-A
Water mist	Stored-pressure	1.8–2.5 gal (6.8–9.5 L)	5–12 ft (1.5–3.7 m)	50–80 sec	Yes	2-A:C
AFFF, FFFP <u>Foam</u>	Stored-pressure	2 ¹ / ₂ .5 gal (9.5 L)	20–25 ft (6.1–7.6 m)	50 sec	Yes	3-A:20 to 40-B
	Stored-pressure	1 ³ / ₈ .6 gal (6 L)	20–25 ft (6.1–7.6 m)	50 sec	Yes	2-A:10-B
	Nitrogen cylinder	33 gal (125 L)	30 ft (9.1 m)	1 min	Yes	20-A:160-B
Carbon dioxide ^b	Self-expelling	2 ¹ / ₂ 2.5 – 5 lb (9.5 L)	3–8 ft (0.9–2.4 m)	8–30 sec	No	1 to 5-B:C
	Self-expelling	10–15 lb (4.5–6.8 kg)	3–8 ft (0.9–2.4 m)	8–30 sec	No	2 to 10-B:C
	Self-expelling	20 lb (9 kg)	3–8 ft (0.9–2.4 m)	10–30 sec	No	10-B:C
	Self-expelling	50–100 lb (23–45 kg) (wheeled)	3–10 ft (0.9–3 m)	10–30 sec	No	10 to 20-B:C
Regular dry chemical (sodium bicarbonate)	Stored-pressure	1–2 ¹ / ₂ 2.5 lb (0.45–1.1 kg)	5–8 ft (1.5–2.4 m)	8–12 sec	No	2 to 10-B:C
	Cartridge or stored-pressure	2 ³ / ₄ 2.75 – 5 lb (1.2–2.3 kg)	5–20 ft (1.5–6.1 m)	8–25 sec	No	5 to 20-B:C
	Cartridge or stored-pressure	6–30 lb (2.7–13 kg)	5–20 ft (1.5–6.1 m)	10–25 sec	No	10 to 160-B:C
	Stored-pressure	50 lb (23 kg) (wheeled)	20 ft (6.1 m)	35 sec	No	160-B:C

<u>Extinguishing Agent</u>	<u>Method of Operation</u>	<u>Capacity</u>	<u>Horizontal Range of Stream</u>	<u>Approximate Time of Discharge</u>	<u>Protection Required Below 40°F (4°C)</u>	<u>UL or ULC Classifications^a</u>
	Nitrogen cylinder or stored-pressure	75–350 lb (34–159 kg) (wheeled)	15–45 ft (4.6–13.7 m)	20–105 sec	No	40 to 320-B:C
Purple K dry chemical (potassium bicarbonate)	Cartridge or stored-pressure	2–5 lb (0.9–2.3 kg)	5–12 ft (1.5–3.7 m)	8–10 sec	No	5 to 30-B:C
	Cartridge or stored-pressure	5 ¹ / ₂ 5.5 – 10 lb (2.5–4.5 kg)	5–20 ft (1.5–6.1 m)	8–20 sec	No	10 to 80-B:C
	Cartridge or stored-pressure	16–30 lb (7.3–14 kg)	10–20 ft (3–6.1 m)	8–25 sec	No	40 to 120-B:C
	Cartridge or stored-pressure	48–50 lb (22–23 kg) (wheeled)	20 ft (6.1 m)	30–35 sec	No	120 to 160-B:C
	Nitrogen cylinder or stored-pressure	125–315 lb (57–143 kg) (wheeled)	15–45 ft (4.6–14 m)	30–80 sec	No	80 to 640-B:C
Multipurpose/ABC dry chemical (ammonium phosphate)	Stored-pressure	1–5 lb (0.5–2.3 kg)	5–12 ft (1.5–3.7 m)	8–10 sec	No	1 to 3-A ^C and 2 to 10-B:C
	Stored-pressure or cartridge	2 ¹ / ₂ 2.5 – 9 lb (1.1–4.1 kg)	5–12 ft (1.5–3.7 m)	8–15 sec	No	1 to 4-A and 10 to 40-B:C
	Stored-pressure or cartridge	9–17 lb (4.1–7.7 kg)	5–20 ft (1.5–6.1 m)	10–25 sec	No	2 to 20-A and 10 to 80-B:C
	Stored-pressure or cartridge	17–30 lb (7.7–14 kg)	5–20 ft (1.5–6.1 m)	10–25 sec	No	3 to 20-A and 30 to 120-B:C
	Stored-pressure or cartridge	45–50 lb (20–22.7 kg) (wheeled)	20 ft (6.1 m)	25–35 sec	No	20 to 30-A and 80 to 160-B:C
	Nitrogen cylinder or stored-pressure	125–350 lb (57–159 kg) (wheeled)	15–45 ft (4.6–14 m)	30–60 sec	No	20 to 40-A and 60 to 320-B:C
Dry chemical (foam compatible)	Cartridge or stored-pressure	4 ³ / ₄ 4.75 – 9 lb (2.1–4.1 kg)	5–20 ft (4.6–14 m)	8–10 sec	No	10 to 20-B:C
	Cartridge or stored-pressure	9–27 lb (4.1–12 kg)	5–20 ft (4.6–14 m)	10–25 sec	No	20 to 30-B:C

<u>Extinguishing Agent</u>	<u>Method of Operation</u>	<u>Capacity</u>	<u>Horizontal Range of Stream</u>	<u>Approximate Time of Discharge</u>	<u>Protection Required Below 40°F (4°C)</u>	<u>UL or ULC Classifications^a</u>
	Cartridge or stored-pressure	18–30 lb (8.2–14 kg)	5–20 ft (4.6–14 m)	10–25 sec	No	40 to 60-B:C
	Nitrogen cylinder or stored-pressure	150–350 lb (68–159 kg) (wheeled)	15–45 ft (4.6–14 m)	20–150 sec	No	80 to 240-B:C
Wet chemical	Stored-pressure	$4\frac{1}{8}$ 0.8 gal (3 L)	8–12 ft (2.4–3.7 m)	30 sec	No	K
	Stored-pressure	$4\frac{3}{8}$ 1.6 gal (6 L)	8–12 ft (2.4–3.7 m)	35–45 sec	No	K
	Stored-pressure	$2\frac{1}{2}$ 2.5 gal (9.5 L)	8–12 ft (2.4–3.7 m)	75–85 sec	No	K
Halon 1211 (bromochloro-difluoromethane)	Stored-pressure	0.9–2 lb (0.4–0.9 kg)	6–10 ft (1.8–3 m)	8–10 sec	No	1 to 2-B:C
	Stored-pressure	2–3 lb (0.9–1.4 kg)	6–10 ft (1.8–3 m)	8–10 sec	No	5-B:C
	Stored-pressure	$5\frac{1}{2}$ 5.5–9 lb (2.5–4.1 kg)	9–15 ft (2.7–4.6 m)	8–15 sec	No	1-A:10-B:C
	Stored-pressure	13–22 lb (6–10 kg)	14–16 ft (4.3–4.9 m)	10–18 sec	No	2 to 4-A and 20 to 80-B:C
	Stored-pressure	50 lb (23 kg)	35 ft (11 m)	30 sec	No	10-A:120-B:C
	Stored-pressure	150 lb (68 kg) (wheeled)	20–35 ft (6.1–11 m)	30–44 sec	No	30-A:160 to 240-B:C
Halon 1211/1301 (bromochloro-difluoromethane bromotrifluoromethane) mixtures	Stored-pressure or self-expelling	0.9–5 lb (0.41–2.3 kg)	3–12 ft (0.9–3.7 m)	8–10 sec	No	1 to 10-B:C
	Stored-pressure	9–20 lb (4.1–9 kg)	10–18 ft (3.0–5.5 m)	10–22 sec	No	1-A:10-B:C to 4-A:80-B:C
Halocarbon type	Stored-pressure	1.4–150 lb (0.6–68 kg)	6–35 ft (1.8–10.7 m)	9–38 sec	No	1-B:C to 10-A:120-B:C

Note: Halon should be used only where its unique properties are deemed necessary.

^aReaders concerned with specific ratings should review the pertinent lists issued by these laboratories: Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096, or Underwriters' Laboratories of Canada, 7 Underwriters Road, Toronto, ON, M1R 3B4, Canada.

^bCarbon dioxide extinguishers with metal horns do not carry a C classification.

^cSome small extinguishers containing ammonium phosphate-based dry chemical do not carry an A classification.

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 15:58:01 EDT 2023

Committee Statement

Committee Statement: The term “foam” has been used to replace AFFF and FFFP to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world.

Loaded stream is the industry term for extinguishers using a freezing point depressant (antifreeze) agent.

Response Message: FR-38-NFPA 10-2023

[Public Input No. 102-NFPA 10-2023 \[Section No. H.2\]](#)



First Revision No. 39-NFPA 10-2023 [Section No. I.1 [Excluding any Sub-Sections]]

For convenience, the following checklists are organized into two parts. The first, Table I.1(a), is arranged by mechanical parts (components and containers) common to most fire extinguishers. The second, Table I.1(b), is arranged by extinguishing material and expelling means and involves a description of the problems peculiar to each agent.

Table I.1(a) Mechanical Parts Maintenance Checklist

<u>Cylinder/Shell</u>	<u>Corrective Action</u>
1. Hydrostatic test date or date of manufacture	1. Retest, if needed
2. Corrosion	2. Conduct hydrostatic test and refinish, or condemn
3. Mechanical damage (denting or abrasion)	3. Conduct hydrostatic test and refinish, or condemn
4. Paint condition	4. Refinish
5. Presence of repairs (welding, soldering, brazing, etc.)	5. Condemn
6. Damaged threads (corroded, crossthreaded, or worn)	6. Condemn
7. Broken hanger attachment, carrying handle lug	7. Condemn
8. Sealing surface damage (nicks or corrosion)	8. Condemn
Nameplate	Corrective Action
1. Illegible wording	1. Clean or replace (Note: Only labels without a listing mark can be replaced.)
2. Corrosion or loose plate	2. Inspect shell under plate (see cylinder/shell check points) and reattach plate
Nozzle or Horn	Corrective Action
1. Deformed, damaged, or cracked	1. Replace
2. Blocked openings	2. Clean
3. Damaged threads (corroded, crossthreaded, or worn)	3. Replace
4. Aged (brittle)	4. Replace
Hose Assembly	Corrective Action
1. Damaged (cut, cracked, or worn)	1. Replace
2. Damaged couplings or swivel joint (cracked or corroded)	2. Replace
3. Damaged threads (corroded, crossthreaded, or worn)	3. Condemn
4. Inner tube cut at couplings	4. Replace or consult manufacturer
5. Electrically nonconductive between couplings (CO ₂ hose only)	5. Replace
6. Hose obstruction	6. Remove obstruction or replace
7. Hydrostatic test date	7. Retest if needed
Pull/Ring Pin	Corrective Action
1. Damaged (bent, corroded, or binding)	1. Replace
2. Missing	2. Replace
Gauge or Pressure-Indicating Device	Corrective Action
1. Immovable, jammed, or missing pointer (pressure test)	1. Depressurize and replace gauge
2. Missing, deformed, or broken crystal	2. Depressurize and replace gauge
3. Illegible or faded dial	3. Depressurize and replace gauge

<u>Cylinder/Shell</u>	<u>Corrective Action</u>
4. Corrosion	4. Depressurize and check calibration, clean and refinish, or replace gauge
5. Dented case or crystal retainer	5. Depressurize and check calibration, or replace gauge
6. Immovable or corroded pressure-indicating stem (nongauge type)	6. Depressurize and discard shell
7. Verify gauge compatibility	7. Depressurize and replace
Shell or Cylinder Valve	Corrective Action
1. Corroded, damaged, or jammed lever, handle, spring, stem, or fastener joint	1. Depressurize, check freedom of movement, and repair or replace
2. Damaged outlet threads (corroded, crossthreaded, or worn)	2. Depressurize and replace
Nozzle Shutoff Valve	Corrective Action
1. Corroded, damaged, jammed, or binding lever, spring, stem, or fastener joint	1. Repair and lubricate, or replace
2. Plugged, deformed, or corroded nozzle tip or discharge passage	2. Clean or replace
Puncture Mechanism	Corrective Action
1. Damaged, jammed, or binding puncture lever, stem, or fastener joint	1. Replace
2. Dull or damaged cutting or puncture pin	2. Replace
3. Damaged threads (corroded, crossthreaded, or worn)	3. Replace
Expellant/Gas Cartridge	Corrective Action
1. Corrosion	1. Replace with correct expellant gas cartridge
2. Damaged seal disc (injured, cut, or corroded)	2. Replace with correct expellant gas cartridge
3. Damaged threads (corroded, crossthreaded, or worn)	3. Replace with correct expellant gas cartridge
4. Illegible weight markings	4. Replace with correct expellant gas cartridge
5. Improper gas cartridge	5. Replace with correct expellant gas cartridge
6. Improper cartridge seal	6. Replace with correct expellant gas cartridge
Gas Cylinders	Corrective Action
1. Hydrostatic test date or date of manufacture	1. Retest if needed
2. Corrosion	2. Conduct hydrostatic test and refinish, or discard
3. Paint condition	3. Refinish
4. Presence of repairs (welding, soldering, brazing, etc.)	4. Condemn
5. Damaged threads (corroded, crossthreaded, or worn)	5. Condemn
Fill Cap	Corrective Action
1. Corroded, cracked, or broken	1. Replace

<u>Cylinder/Shell</u>	<u>Corrective Action</u>
2. Damaged threads (corroded, crossthreaded, or worn)	2. Replace
3. Sealing surface damage (nicked, deformed, or corroded)	3. Clean, repair, and leak test, or replace
4. Obstructed vent hole or slot	4. Clean
Nonrechargeable Shell/Cylinder	Corrective Action
1. Corrosion	1. Depressurize and discard
2. Damaged seal disc (injured, cut, or corroded)	2. Depressurize and discard
3. Damaged threads (corroded, crossthreaded, or worn)	3. Depressurize and discard
4. Illegible weight or date markings	4. Depressurize and discard
Carriage and Wheels	Corrective Action
1. Corroded, bent, or broken carriage	1. Repair or replace
2. Damaged wheel (buckled or broken spoke, bent rim or axle, loose tire, low pressure, jammed bearing)	2. Clean, repair, and lubricate, or replace
Carrying Handle	Corrective Action
1. Broken handle lug	1. Condemn cylinder or consult manufacturer regarding repair
2. Broken handle	2. Replace
3. Corroded, jammed, or worn fastener	3. Clean or replace
Tamper Seals or Indicators	Corrective Action
1. Broken or missing	1. Check Table I.1(b) for specific action
2. Fill cap indicator corroded or inoperative	2. Repair, clean, or replace
3. Fill cap indicator operated	3. Depressurize unit, check content, refill
Hand Pump	Corrective Action
1. Corroded, jammed, or damaged pump	1. Repair and lubricate, or replace
2. Improper adjustment of packing nut	2. Adjust
Pressurizing Valve	Corrective Action
1. Leaking seals	1. Depressurize and replace valve or core
Gasket and "O" Ring Seals	Corrective Action
1. Damaged (cut, cracked, or worn)	1. Replace and lubricate
2. Missing	2. Replace and lubricate
3. Aged or weathered (compression set, brittle, cracked)	3. Replace and lubricate
Brackets and Hangers	Corrective Action
1. Corroded, worn, or bent	1. Repair and refinish, or replace
2. Loose or binding fit	2. Adjust fit or replace
3. Worn, loose, corroded, or missing screw or bolt	3. Tighten or replace
4. Worn bumper, webbing, or grommet	4. Replace
5. Improper type	5. Replace
Gas Tube and Siphon or Pickup Tube	Corrective Action
1. Corroded, dented, cracked, or broken	1. Replace
2. Blocked tube or openings in tube	2. Clean or replace
Safety Relief Device	Corrective Action

<u>Cylinder/Shell</u>	<u>Corrective Action</u>
1. Corroded or damaged	1. Depressurize and replace
2. Broken, operated, or plugged	2. Depressurize and replace
Pressure Regulators	Corrective Action
1. External condition: damaged or corroded	1. If damaged, replace regulator; if corroded, clean regulator or replace
2. Pressure relief (corroded, plugged, dented, leaking, broken, or missing)	Disconnect regulator from pressure source, replace pressure relief, or replace regulator
3. Protective bonnet relief hole (tape missing or seal wire broken or missing)	3. Replace regulator
4. Adjusting screw (lock pin missing)	4. Replace regulator

Table I.1(b) Agent and Expelling Means Maintenance Checklist

<u>AFFF and FFP Foam</u>	<u>Corrective Action</u>
1. Recharging date due	1. Empty, clean, and recharge
2. Improper fill levels	2. Empty, clean, and recharge
3. Agent condition (check for sediment)	3. Empty, clean, and recharge
4. Improper fill level (by weight or observation)	4. Empty and recharge with new solution
5. Agent condition (presence of precipitate or other foreign matter)	5. Empty and recharge with new solution
6. Improper gauge pressure	6. Repressurize and leak test
7. Broken or missing tamper indicator	7. Leak test, replace indicator
Self-Expelling	
Carbon Dioxide	Corrective Action
1. Improper weight	1. Recharge to proper weight
2. Broken or missing tamper indicator	2. Leak test and weigh, also recharge or replace seal
Halon 1301 Bromotrifluoromethane	Corrective Action
1. Punctured cylinder seal disc	1. Replace shell
2. Improper weight	2. Replace shell or return to manufacturer for refilling
3. Broken or missing tamper seal	3. Examine cylinder seal disc, replace seal
Combination Halon 1211/1301	Corrective Action
1. Improper weight	1. Return to manufacturer (See 7.2.3.3.)
2. Broken or missing tamper seal	2. Return to manufacturer (See 7.2.3.3.)
Manually Operated	
Mechanical Pump Water and Loaded Stream	Corrective Action
1. Improper fill level	1. Refill to proper level
2. Defective pump	2. Clean, repair, and lubricate, or replace
Dry Powder Pail	Corrective Action
1. Improper fill level	1. Refill
2. Agent condition (contamination or caking)	2. Discard and replace
3. Missing scoop	3. Replace
Gas Cartridge or Cylinder	

<u>AFFF and FFP Foam</u>	<u>Corrective Action</u>
Dry Chemical and Dry Powder Types	Corrective Action
1. Improper weight or charge level	1. Refill to correct weight or charge level
2. Agent condition (contamination, caking, or wrong agent)	2. Empty and recharge with new agent
3. Cartridge	3.
(a) Punctured seal disc	(a) Replace cartridge
(b) Improper weight	(b) Replace cartridge
(c) Broken or missing tamper indicator	(c) Examine seal disc, replace
(d) Improper cartridge seal	(d) Replace cartridge seal
4. Gas cylinder with gauge	4.
(a) Low pressure	(a) Replace or recharge cylinder
(b) Broken or missing tamper seal	(b) Leak test, replace
5. Gas cylinder without gauge	5.
(a) Low pressure (attach gauge and measure pressure)	(a) Leak test (if low, replace or recharge cylinder)
(b) Broken or missing tamper seal	(b) Measure pressure, leak test, replace seal
Stored-Pressure	
Combination Halon 1211/1301	Corrective Action
1. Refillable	1.
(a) Improper extinguisher agent	(a) Return to manufacturer (See 7.2.3.3.)
(b) Improper gauge pressure	(b) Return to manufacturer (See 7.2.3.3.)
(c) Broken or missing tamper seal	(c) Examine extinguisher, leak test, replace tamper seal
2. Nonrechargeable extinguisher with pressure indicator	2.
(a) Low pressure	(a) Return to manufacturer (See 7.2.3.3.)
(b) Broken or missing tamper seal	(b) Return to manufacturer (See 7.2.3.3.)
Dry Chemical and Dry Powder Types	Corrective Action
1. Rechargeable	1.
(a) Improper extinguisher weight	(a) Leak test and refill to correct weight
(b) Improper gauge pressure	(b) Repressurize and leak test
(c) Broken or missing tamper seal	(c) Leak test, check weight, and replace seal
2. Disposable shell with pressure indicator	2.
(a) Punctured seal disc	(a) Depressurize and discard
(b) Low pressure	(b) Depressurize and discard
(c) Broken or missing tamper indicator	(c) Depressurize and discard
3. Disposable shell without pressure indicator	3.
(a) Punctured seal disc	(a) Depressurize and discard
(b) Low weight	(b) Depressurize and discard
(c) Broken or missing tamper seal	(c) Depressurize and discard
4. Nonrechargeable extinguisher with pressure indicator	4.
(a) Low pressure	(a) Depressurize and discard

<u>AFFF and FFP Foam</u>	<u>Corrective Action</u>
(b) Broken or missing tamper indicator	(b) Depressurize and discard
Wet Chemical Type	Corrective Action
1. Improper fill level (by weight or observation)	1. Empty and recharge with new agent to correct weight fill line
2. Improper gauge pressure	2. Repressurize and leak test or consult manufacturer
3. Broken or missing tamper seal	3. Verify fill level, recharge if required, replace tamper seal
Halogenated-Type Agents	Corrective Action
1. Broken or missing tamper seal	1. Verify level and pressure, recharge if required, replace tamper seal
2. Improper gauge pressure	2. Weigh, repressurize, and leak test or consult manufacturer
3. Improper weight	3. Leak test and recharge to correct weight
Water and Loaded Stream	Corrective Action
1. Improper fill level (by weight or observation)	1. Recharge to correct level in accordance with the manufacturer's manual
2. Agent condition if antifreeze or loaded stream	2. Empty and recharge with new agent
3. Improper gauge pressure	3. Repressurize and leak test or consult manufacturer
4. Broken or missing tamper seal	4. Leak test, replace seal

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
10_FR39_I.1.docx	Revisions to Table I.1(b).	
10_FR-39_I.1_legislative_changes.docx	for prod	

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Thu Nov 02 16:01:23 EDT 2023

Committee Statement

Committee Statement: The term “foam” has been used to replace AFFF and FFFP to capture all chemical based foams and to remain consistent with other parts of NFPA10. AFFF and FFFP are still permitted in many parts of the US and the world.

Response Message: Loaded stream is the industry term, so antifreeze has been deleted.

FR-39-NFPA 10-2023

Public Input No. 103-NFPA 10-2023 [Section No. I.1 [Excluding any Sub-Sections]]



First Revision No. 46-NFPA 10-2023 [Section No. K.1.1]

K.1.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*, 2021 2024 edition.

NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*, 2021 2025 edition.

NFPA 12A, *Standard on Halon 1301 Fire Extinguishing Systems*, 2021 2025 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2022 2025 edition.

NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*, 2022 2025 edition.

NFPA 13R, *Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies*, 2022 2025 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2019 2024 edition.

NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, 2022 edition.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, 2021 2024 edition.

NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, 2021 2024 edition.

NFPA 18, *Standard on Wetting Agents*, 2021 edition.

NFPA 72[®], *National Fire Alarm and Signaling Code*[®], 2022 2025 edition.

NFPA 77, *Recommended Practice on Static Electricity*, 2019 2024 edition.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 2021 2024 edition.

NFPA 402, ~~*Guide for Aircraft Rescue and Fire-Fighting Operations*~~, 2019 edition.

NFPA 440, *Guide for Aircraft Rescue and Firefighting Operations and Airport/Community Emergency Planning*, 2024 edition.

NFPA 484, *Standard for Combustible Metals*, 2022 edition.

NFPA 610, *Guide for Emergency and Safety Operations at Motorsports Venues*, 2019 2024 edition.

NFPA 750, *Standard on Water Mist Fire Protection Systems*, 2019 2023 edition.

NFPA 850, *Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations*, 2020 edition.

NFPA 921, *Guide for Fire and Explosion Investigations*, 2021 2024 edition.

NFPA 1452, *Guide for Training Fire Service Personnel to Conduct Community Risk Reduction for Residential Occupancies*, 2020 edition.

NFPA 2001, *Standard on Clean Agent Fire Extinguishing Systems*, 2021 2025 edition.

Fire Protection Guide to Hazardous Materials, 2010.

Fire Protection Handbook, 20th 21st edition, 2008 2023.

Supplemental Information

File Name

Description

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Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Fri Nov 03 11:19:55 EDT 2023

Committee Statement

Committee Statement: NFPA reference has been removed or added due to consolidation efforts at NFPA .
The Fire Protection Handbook has been updated to the current edition.

NFPA documents added:

NFPA 440, Guide for Aircraft Rescue and Firefighting Operations and Airport/
Community Emergency Planning, 2024.

NFPA documents removed:

NFPA 402 has been consolidated into NFPA 440.

Response Message: FR-46-NFPA 10-2023

**First Revision No. 47-NFPA 10-2023 [Section No. K.1.2]****K.1.2 Other Publications.****K.1.2.1 ACA Publications.**

American Coatings Association, 901 New York Avenue, NW, Suite 300 West, Washington, DC 20001.

Hazardous Materials Identification System (HMIS).

K.1.2.2 CGA Publications.

Compressed Gas Association, ~~14501 George Carter Way~~ 8484 Westpark Drive , Suite 103 ~~220~~ , Chantilly ~~McLean~~ , VA 20151 ~~22102~~ .

CGA C-1, *Methods for Pressure Testing Compressed Gas Cylinders*, 2016 ~~2022~~ .

K.1.2.3 SFPE Publications.

Society of Fire Protection Engineers. 9711 Washingtonian Blvd., Suite 380, Gaithersburg, MD 20878.

SFPE Handbook of Fire Protection Engineering, 5th edition, 2016.

K.1.2.4 UL Publications.

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

UL 299, *Dry Chemical Fire Extinguishers*, 1984.

UL 299D, *Dry Chemical Fire Extinguishers For Residential Cooking Equipment*, 2010.

UL 711, ~~Standard for Rating and Fire Testing of Fire Extinguishers~~, 1984.

UL 711, ~~Standard for Rating and Fire Testing of Fire Extinguishers~~, 2018.

UL 711A, *Fire Test Method for Portable Hand-Held Extinguishers Intended for Use On Residential Cooking Equipment*, 2018.

UL 1093, ~~Standard for Halogenated Agent Fire Extinguishers~~, 1995, revised 2008.

K.1.2.5 ULC Publications.

ULC Standards, ~~171 Nepean Street, Suite 400, Ottawa, Ontario K2P 0B4 Canada~~ Underwriters' Laboratories of Canada, 7 Underwriters Road, Toronto, ON M1R 3A9, Canada .

ULC/CAN-S512, ~~Standard for Halogenated Agent Hand and Wheeled Fire Extinguishers~~, 2005, reaffirmed 2007.

K.1.2.6 UL/ULC Publications.

The following publications are binationally harmonized standards for Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096, and ~~ULC Standards, 171 Nepean ST, Suite 400, Ottawa, Ontario K2P 0B4~~ Underwriters' Laboratories of Canada, 7 Underwriters Road, Toronto, ON M1R 3A9 , Canada.

UL 299, CAN/ULC-S504, ~~Standard for Dry Chemical Fire Extinguishers~~, 2018, revised 2021 .

UL 711, CAN/ULC-S508, ~~Standard for the Rating and Fire Testing of Fire Extinguishers~~, 2018, revised 2023 .

UL 2129, CAN/ULC-S566, ~~Standard for Halocarbon Clean Agent Fire Extinguishers~~, 2017, revised 2021 .

Submitter Information Verification

Committee: PFE-AAA

Submittal Date: Fri Nov 03 11:26:23 EDT 2023

Committee Statement

Committee Statement: Publication references and organization addresses have been updated to be current. "Standard for" has been removed from all UL references as proposed in the public inputs.

Response Message: FR-47-NFPA 10-2023

[Public Input No. 205-NFPA 10-2023 \[Section No. K.1.2.6\]](#)

[Public Input No. 204-NFPA 10-2023 \[Section No. K.1.2.5\]](#)

[Public Input No. 203-NFPA 10-2023 \[Section No. K.1.2.4\]](#)