
USACE / NAVFAC / AFCEA / NASA UFGS-10 44 16 (May 2009)

Preparing Activity: NASA Superseding
UFGS-10 44 16 (June 2006)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated April 2010

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SECTION 10 44 16

FIRE EXTINGUISHERS

05/09

NOTE: This guide specification covers the requirements for portable fire extinguishers, including wall brackets, cabinets, accessories, maintenance servicing and inspection tagging requirements.

Associated work found in other sections includes non-portable fire protection systems, alarms and related accessories.

Consult with the local AHJ (Authority Having Jurisdiction) during design stage. Indicate on drawings the locations for proper placement and each type of portable extinguisher located within the installation.

Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

PART 1 GENERAL

1.1 REFERENCES

NOTE: This paragraph is used to list the

publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

INTERNATIONAL CODE COUNCIL (ICC)

ICC IFC (2009) International Fire Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 1 (2009) Fire Code

NFPA 10 (2010) Standard for Portable Fire Extinguishers

NFPA 101 (2009; Amd 09-1 & 09-2) Life Safety Code

NFPA 303 (2006) Fire Protection Standards for Marinas and Boatyards

NFPA 385 (2007) Standard for Tank Vehicles for Flammable and Combustible Liquids

NFPA 409 (2004; Am 04-1; Am 04-2) Standard on Aircraft Hangers

NFPA 418 (2006) Standard for Heliports

NFPA 505 (2006) Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations

NFPA 99 (2005; Errata 05-1; Am 05-1, 2, 3) Standard for Health Care Facilities

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.106 Flammable and Combustible Liquids

29 CFR 1910.157

(2003) Portable Fire Extinguishers

UNDERWRITERS LABORATORIES (UL)

UL 154

(2005; R 2007 thru 2009) Carbon Dioxide
Fire Extinguishers

UL 2129

(2005; R 2007) Halocarbon Clean Agent Fire
Extinguishers

UL 299

(2002; R 2007 thru 2009) Dry Chemical Fire
Extinguishers

UL 626

(2005; R 2007) 2-1/2 Gallon
Stored-Pressure, Water-Type Fire
Extinguishers

UL 8

(2005; R 2007 thru 2009) Water Base Agent
Fire Extinguishers

1.2 SUBMITTALS

NOTE: Review Submittal Description (SD) definitions
in Section 01 33 00 SUBMITTAL PROCEDURES and edit
the following list to reflect only the submittals
required for the project. Submittals should be kept
to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the
submittal requires Government approval. Some
submittals are already marked with a "G". Only
delete an existing "G" if the submittal item is not
complex and can be reviewed through the Contractor's
Quality Control system. Only add a "G" if the
submittal is sufficiently important or complex in
context of the project.

For submittals requiring Government approval on Army
projects, a code of up to three characters within
the submittal tags may be used following the "G"
designation to indicate the approving authority.
Codes for Army projects using the Resident
Management System (RMS) are: "AE" for
Architect-Engineer; "DO" for District Office
(Engineering Division or other organization in the
District Office); "AO" for Area Office; "RO" for
Resident Office; and "PO" for Project Office. Codes
following the "G" typically are not used for Navy,
Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force
and NASA projects, or choose the second bracketed
item for Army projects.

Government approval is required for submittals with a "G" designation;
submittals not having a "G" designation are [for Contractor Quality Control
approval.][for information only. When used, a designation following the

"G" designation identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Manufacturer's Data for each type of required Fire Extinguisher with all related details, cabinets, accessories, and recommended operation manuals.

SD-02 Shop Drawings

Submit fabrication drawings for the following items consisting of fabrication and assembly details performed in the factory. Submit installation drawings for the following items in accordance with the paragraph entitled, "Installation," of this section.

Fire Extinguishers
Accessories
Cabinets
Wall Brackets

SD-03 Product Data

Submit Manufacturer's catalog and warranty data for the following items:

Fire Extinguishers
Accessories
Cabinets
Wall Brackets
Replacement Parts

SD-04 Samples

One of each type of Fire Extinguisher being installed

One full-sized sample of each type of Cabinet being installed

Three samples of Wall Brackets and Accessories of each type being used

Approved samples may be used for installation, with proper identification and storage.

SD-07 Certificates

Submit Certificates showing the following:

Certification that Fire Extinguishers comply with local codes and regulations.

Certification that Fire Extinguishers comply with OSHA, NFPA, and UL requirements.

Submit Manufacturer's Warranty with Inspection Tag on each extinguisher.

Guarantee that Fire Extinguishers are free of defects in

materials, fabrication, finish, and installation and that they will remain so for a period of not less than [_____] years after completion.

1.3 DELIVERY, HANDLING, AND STORAGE

Protect materials from weather, soil, and damage during delivery, storage, and construction.

Deliver materials in their original packages, containers, or bundles bearing the brand name and the name and type of the material.

[Provide portable fire extinguishers in compliance with NFPA 505 for all ancillary vehicles where Fire Safety Standard for Powered Industrial Trucks, including type designations, special conditions relating to areas of use, conversions, maintenance, or specific operations apply.]

PART 2 PRODUCTS

2.1 TYPES

NOTE: Select one or more of the following types of pressurized fire extinguishers, as required:

Water and Foam - Water extinguishers are for Class A fires only (paper, wood, cloth).

Foam extinguishers are for Class A and B fires only (common combustibles, flammable liquids and gases).

Carbon Dioxide - Carbon Dioxide extinguishers can be used on Class B and C fires (flammable liquids and gases, live electrical equipment).

Dry Chemical - Dry Chemical extinguishers can be used on Class A, B, and C fires (all the above elements) (not recommended for computers or sensitive electrical equipment - use clean agent or Carbon Dioxide).

Wet Chemical - Wet chemical extinguishers are primarily for cooking media fires (high temperature oils and fats) (some may also be used on Class A fires in commercial kitchens).

Clean Agent - Newer Clean Agent extinguishers have replaced former halogenated extinguishers with less ozone depleting halocarbon agents, for Class B and C fires, with some larger units available for use on Class A, B, and C fires.

Dry Powder - Dry Powder extinguishers are for Class D or combustible metal fires only.

Water Mist - Water Mist extinguishers are primarily for Class A fires, although they are also safe for use in Class C fires.

Provide [Fire Extinguishers](#) conforming to [NFPA 10](#). Provide quantity and placement in compliance with the applicable sections of [ICC IFC](#), Section 1414 and [ICC IFC](#), Section 906, [NFPA 1](#), [NFPA 101](#), [[NFPA 99](#)], [[NFPA 303](#)], [[NFPA 385](#)], [[NFPA 409](#)], [[NFPA 418](#)], [[29 CFR 1910.106](#)] and [29 CFR 1910.157](#).

[Provide [stored-pressure] [cartridge] [hand-pump] water type fire extinguishers].

[Provide [foam] type fire extinguishers.]

[Provide carbon-dioxide type fire extinguishers compliant with [UL 154](#).]

[Provide dry chemical type fire extinguishers compliant with [UL 299](#).]

[Provide wet chemical type fire extinguishers compliant with [UL 8](#).]

[Provide clean agent type fire extinguishers compliant with [UL 2129](#).]

[Provide dry powder type fire extinguishers.]

[Provide water mist type fire extinguishers compliant with [UL 626](#).]

Submit [Manufacturer's Data](#) for each type of [Fire Extinguisher](#) required, detailing all related [Cabinet](#), Wall Mounting and Accessories information, complete with [Manufacturer's Warranty with Inspection Tag](#).

2.2 MATERIAL

NOTE: Select one or more of the following for the
shell material. Check manufacturers to ensure that
the material and extinguisher type are compatible.

Provide [corrosion-resistant steel] [aluminum] [enameled steel] [_____] extinguisher shell.

2.3 SIZE

NOTE: Select one or more of the following for the
size of the extinguisher. Size as indicated.

[[9.5 liter](#) [2-1/2 gallons](#) extinguishers.]

[[1.1 kilogram](#) [2-1/2 pounds](#) extinguishers.]

[[[2.3](#)] [[4.5](#)] [[6.8](#)] [[9](#)] [[13.6](#)] [kilogram](#) [[5](#)] [[10](#)] [[15](#)] [[20](#)] [[30](#)] [pounds](#) extinguishers.]

2.4 ACCESSORIES

NOTE: Select items as applicable. Indicate
appropriate UL rating.

[Forged brass valve]

[Fusible plug]

[Safety release]

[Antifreeze]

[Pressure gage]

2.5 CABINETS

NOTE: Include the following paragraphs if fire
extinguishers are designated as cabinet mounted. If
fire extinguishers are to be hung on wall brackets
only, then delete cabinet requirements.

2.5.1 Material

NOTE: Select one of the following materials for
cabinets.

Provide [enameled steel] [corrosion-resistant steel] [aluminum] cabinets.

2.5.2 Type

NOTE: Select one of the following types.

[Provide [recessed] [trimless] [surface] type cabinets.]

[Provide semi-recessed cabinet for a [150] [100] millimeter [6-inch]
[4-inch] wall.]

[Provide [recessed] [trimless] [surface] bubble type cabinets.]

2.5.3 Size

Dimension cabinets to accommodate the specified fire extinguishers.

2.6 WALL BRACKETS

NOTE: Delete the paragraph heading and the
following paragraphs if cabinets are specified.
Select one of the following.

Provide [running-board] [spring-clip] [wall-hook] fire extinguisher wall
brackets.

Provide wall bracket and accessories as approved.

PART 3 EXECUTION

3.1 INSTALLATION

NOTE: For Class A light-hazard occupancies, such as office buildings, use a Class A extinguisher within a 25 meter 75-foot travel distance with one unit of 1A rating for every 280 square meter 3,000 square feet of floor area; ordinary hazard occupancies such as warehouses and department stores: 25 meter 75-foot travel distance with one unit of 2A rating for every 280 square meter 3,000 square feet; and extra hazard occupancies such as woodworking and spray painting locations: 25 meter 75-foot travel distance with one unit of 3A rating for every 280 square meter 3,000 square feet.

For Class B light-hazard occupancies, use a Class B extinguisher within 15 meter 50-foot travel distance with one unit of 4B rating; ordinary hazard occupancies: 15 meter 50-foot travel distance with one unit of 8B rating; extra hazard occupancies: 15 meter 50-foot travel distance with one unit of 12B rating. For deep-layer flammable-liquid fire hazards such as dip tanks, one unit of Class B extinguishing potential is required for each 0.1 square meter square foot of the largest individual hazard unless an approved automatic system is installed.

Class C extinguishers, where there are electrical hazards, are distributed on the same basis as Class B extinguishers.

Install Fire Extinguishers where indicated on the drawings. Verify exact locations prior to installation.

Comply with the manufacturer's recommendations for all installations.

Provide extinguishers which are fully charged and ready for operation upon installation. Provide extinguishers complete with Manufacturer's Warranty with Inspection Tag attached.

3.2 ACCEPTANCE PROVISIONS

3.2.1 Repairing

Remove and replace damaged and unacceptable portions of completed work with new work at no additional cost to the Government.

Provide Replacement Parts list indicating specified items replacement part, replacement cost, and name, address and contact for replacement parts distributor.

3.2.2 Cleaning

Clean all surfaces of the work, and adjacent surfaces which are soiled as a result of the work. Remove from the site all construction equipment, tools, surplus materials and rubbish resulting from the work.

-- End of Section --