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USACE / NAVFAC / AFCEA / NASA UFGS-10 44 16 (June 2006)  
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Preparing Activity: NASA Superseding  
UFGS-10 44 16 (April 2006)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated July 2008

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### SECTION 10 44 16

#### FIRE EXTINGUISHERS

06/06

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NOTE: This 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. Drawings must indicate locations for proper placement and each type of portable extinguisher to be 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).

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## PART 1 GENERAL

### 1.1 REFERENCES

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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.

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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)

IFC 1414 (2004) Portable Fire Extinguishers (Where Required) (Construction, Alteration, Demolition)

IFC 906 (2004) Portable Fire Extinguishers

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 1 (2006) Uniform Fire Code, 2006 Edition

NFPA 10 (2006; Errata 2006) Standard for Portable Fire Extinguishers

NFPA 101 (2005; Errata 2006; TIA 2006; TIA 2006) Life Safety Code, 2006 Edition

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

NFPA 385 (2006) Standard for Tank Vehicles for Flammable and Combustible Liquids

NFPA 409 (2004; TIA 2005; TIA 2006) 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 2005) 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; Rev thru Sep 2007) Standards for  
Carbon Dioxide Fire Extinguishers  
  
UL 2129                                (2005; Rev thru Jan 2007) Standards for  
Halocarbon Clean Agent Fire Extinguishers  
  
UL 299                                (2002; Rev thru Aug 2007) Standards for  
Dry Chemical Fire Extinguishers  
  
UL 626                                (2005; Rev thru Jan 2007) Standards for  
Water Fire Extinguishers  
  
UL 8                                    (2005; Rev thru Sep 2007) Standards for  
Water Base Agent Fire Extinguishers

1.2 SUBMITTALS

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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.

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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 to be 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 **Fire Extinguisher** of each type to be installed

One full-sized sample of each type of **Cabinet** to be installed

Three samples of **Wall Brackets** and **Accessories** of each type to be 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

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**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.

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Fire Extinguishers must conform to NFPA 10 Quantity and placement must comply with the applicable sections of IFC 1414, IFC 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

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NOTE: Select one or more of the following for the shell material. Manufacturer's must be checked to ensure that the material and extinguisher type are compatible.

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Extinguisher shell must be [corrosion-resistant steel] [aluminum] [enameled steel] [\_\_\_\_\_].

## 2.3 SIZE

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

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[Extinguishers must be 9.5 liter 2-1/2 gallons.]

[Extinguishers must be 1.1 kilogram 2-1/2 pounds.]

[Extinguishers must be [2.3] [4.5] [6.8] [9] [13.6] kilogram [5] [10] [15] [20] [30] pounds.]

## 2.4 ACCESSORIES

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NOTE: Select items as applicable. Indicate appropriate UL rating.  
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[Forged brass valve]

[Fusible plug]

[Safety release]

[Antifreeze]

[Pressure gage]

## 2.5 CABINETS

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NOTE: Include the following paragraphs if fire extinguishers are to be located in cabinets. If fire extinguishers are to be hung on wall brackets only, then delete cabinet requirements.  
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### 2.5.1 Material

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NOTE: Select one of the following materials for cabinets.  
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Provide [enameled steel] [corrosion-resistant steel] [aluminum] cabinets.

### 2.5.2 Type

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NOTE: Select one of the following types.  
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[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

Dimensions of cabinets must be of adequate size to accommodate the specified fire extinguishers.

## 2.6 WALL BRACKETS

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NOTE: Delete the paragraph heading and the following paragraphs if cabinets are specified. Select one of the following.  
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Provide[running-board] [spring-clip] [wall-hook] fire extinguisher wall brackets.

Wall bracket and Accessories must be as approved.

## PART 3 EXECUTION

### 3.1 INSTALLATION

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NOTE: Class A light-hazard occupancies such as office buildings must have 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.

Class B light-hazard occupancies must have 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.

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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 --