FIRE DEPARTMENT • CITY OF NEW YORK

STUDY MATERIAL FOR THE EXAMINATION FOR
CERTIFICATE OF FITNESS
FOR

PORTABLE FIRE EXTINGUISHER SALES (CITYWIDE) S-96

PORTABLE FIRE EXTINGUISHER SERVICING (CITYWIDE) W-96

All applicants are required to apply and pay for an exam online before arriving at the FDNY. It can take about 30 minutes to complete.

Simplified instructions for online application and payment can be found here:

http://www1.nyc.gov/assets/fdny/downloads/pdf/business/fdny-business-cof-individuals-short.pdf

Create an Account and Log in to:

http://fires.fdnycloud.org/CitizenAccess

This book is provided to the public for free by the FDNY.

Note:
W-96 COF is authorized to service AND sell portable fire extinguishers;
S-96 COF is only authorized to sell portable fire extinguishers.

ALSO INCLUDED IN THIS BOOKLET YOU WILL FIND THE FOLLOWING:

1. **NOTICE OF EXAMINATION (NOE)**

EXAM SPECIFIC INFORMATION FOR

S-96/W-96 CERTIFICATE OF FITNESS

Save time and submit application online!

All applicants are required to apply and pay for an exam online before arriving at the FDNY. It can take about 30 minutes to complete.

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REQUIREMENTS FOR CERTIFICATE OF FITNESS APPLICATION

General requirements:
Review the General Notice of Exam:
http://www1.nyc.gov/assets/fdny/downloads/pdf/business/general-notice-of-exam-cof.pdf

Special requirements for the: S-96/W-96 Certificate of Fitness:

(1) S-96 applicants must be employed by a FDNY approved portable fire extinguishers sales company. Portable fire extinguisher sales company is authorized to sell PFEs only.

- Portable fire extinguisher sales company list (S-96):

http://www1.nyc.gov/assets/fdny/downloads/pdf/business/approved-companies-sales-portable-fire-extinguishers.pdf

(2) W-96 applicants must be employed by a FDNY approved portable fire extinguisher servicing company. Portable fire extinguisher servicing company is authorized to service AND sell PFEs.

- Portable fire extinguisher servicing company list (W-96):

http://www1.nyc.gov/assets/fdny/downloads/pdf/business/approved-companies-full-service-portable-fire-extinguisher.pdf

(3) S-96 C of F holder can pay $25 to obtain W-96 C of F with a proper company recommendation letter and vice versa.

Application fee (Cash is NO LONGER ACCEPTED):
Pay the **$25** application fee online or in person by one of the following methods:

- Credit card (*American Express, Discover, MasterCard, or Visa*)
- Debit card (*MasterCard or Visa*)

- In person: Personal or company check or money order (*made payable to the New York City Fire Department)*

A convenience fee of 2% will be applied to all credit card payments.

For fee waivers submit: ***(Only government employees who will use their COF for their work- related responsibilities are eligible for fee waivers.)***

- A letter requesting fee waiver on the Agency's official letterhead stating applicant full name, exam type and address of premises; ***AND***
- Copy of identification card issued by the agency

REQUIREMENTS FOR ALTERNATIVE ISSUANCE PROCEDURE (AIP)

No AIP available. This certificate of fitness can only be obtained by passing the computer exam at the FDNY Headquarters.

EXAM INFORMATION

The W-96/S-96 test will consist of **40** multiple-choice questions, administered on a "touch screen" computer monitor. It is a time-limit exam. Based on the amount of the questions, you will have 60 minutes to complete the test. A passing score of at least 70% is required in order to secure a Certificate of Fitness.

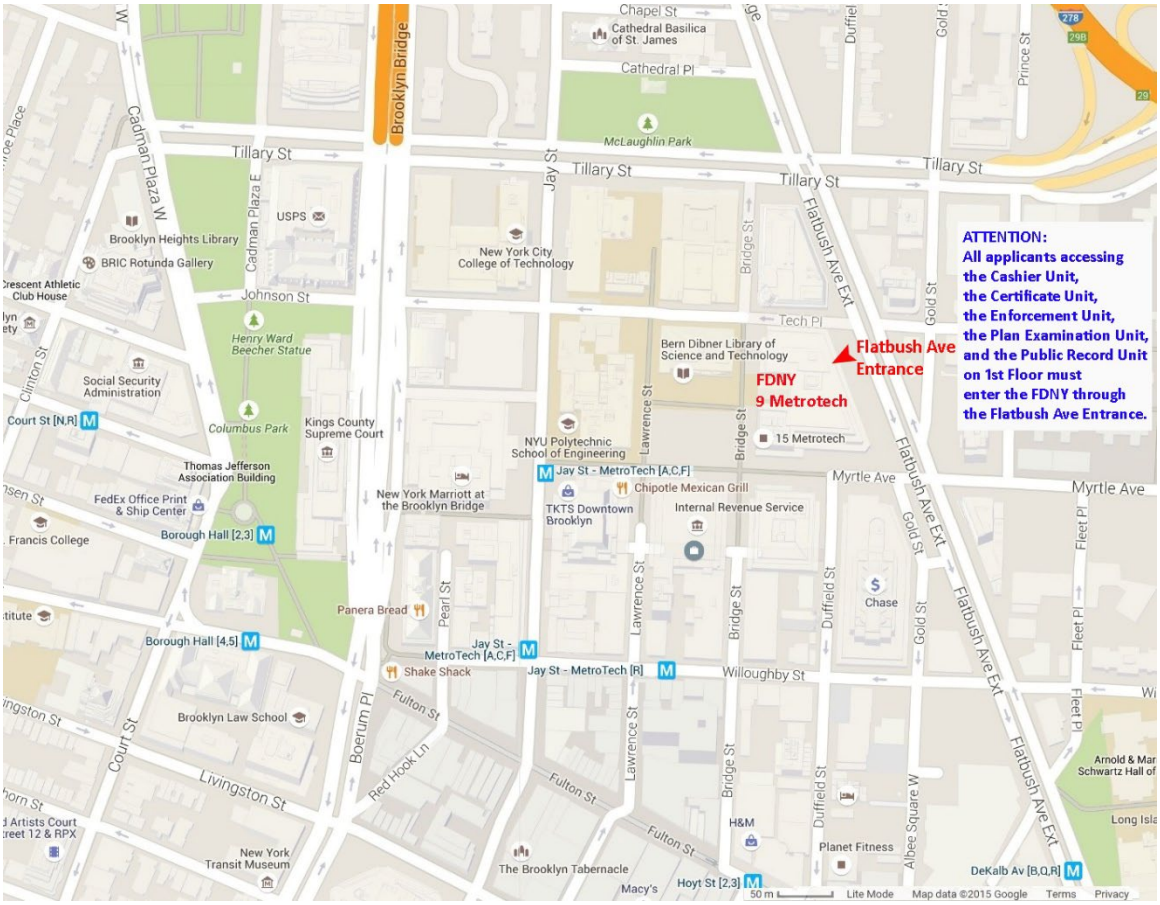
Call (718) 999-1988 for additional information and forms.

Please always check for the latest revised booklet at FDNY website before you take the exam.

http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-s96-w96-noe-study-materials.pdf

If all the requirements are met and pass the exam a certificate will be issued the same day. Applicant who fails the exam will receive a failure report. To retake the exam applicants will need to submit a new application and payment.

EXAM SITE: **FDNY Headquarters,** 9 MetroTech Center, Brooklyn, NY. Enter through the **Flatbush Avenue entrance (between Myrtle Avenue and Tech Place)**.



RENEWAL REQUIREMENTS

General renewal requirements:
Review the General Notice of Exam:
http://www1.nyc.gov/assets/fdny/downloads/pdf/business/general-notice-of-exam-cof.pdf

Special renewal requirements for F-53 COF: None

The FDNY strongly recommends the F-53 COF holders to renew the COF on-line. To learn the simplified on-line renewal:
http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-simplified-renewal-short.pdf

QUESTIONS?

FDNY Business Support Team: For questions, call 311 and ask for the FDNY Customer Service Center or send an email to FDNY.BusinessSupport@fdny.nyc.gov

ABOUT THE STUDY MATERIAL

This study material contains important information you will need to prepare for the certificate of fitness examination for sale and servicing of portable fire extinguishers **(S-96/W-96)**. It contains an overview of the classification of fires, fire extinguishers, and restrictions on use of certain fire extinguishers. This material, for the most part, covers sale and servicing of PFEs. A section containing definitions of uncommon terms is included towards the middle of this document.

This study material does not contain all the information a certificate of fitness holder needs to perform the job. It is the responsibility of the certificate of fitness holder to learn whatever is necessary to do the job correctly. It is strongly recommended that the applicant seeking this certification make reference to the 2022 FC 901.6.3.2, Fire Department Rule 3 RCNY 115-01, 115-02 and NFPA Standard 10 of 2013.

2022 FIRE CODE ENACTED

The amended New York City Fire Code, to be known as the 2022 Fire Code, takes effect on April 15, 2022. **It may not have been updated in this study material. However, as the Certificate of Fitness holder, it is your responsibility to become familiar with the applicable sections of the new 2022 Fire Code.**

Design and installation provisions.

The design and installation provisions of the 2022 Fire Code shall apply to:

- Facilities established and conditions arising on or after 04/15/2022.
- Facilities and conditions not lawfully existing prior to 04/15/2022.

The facilities and conditions lawfully existing prior to the 04/15/2022 can be continued in compliance with the requirements of the former Fire Code/Fire Rule except as otherwise provided in the New Fire Code 102.5.

Operational and maintenance provisions.

The operational and maintenance provisions of the 2022 Fire Code, including permit and certification requirements, shall apply to all facilities, operations, conditions, uses and occupancies, regardless of when they were established or arose. Whenever this code is amended or a rule is promulgated to require a permit or certificate for a facility, operation, condition, use or occupancy, and no permit or certificate was previously required therefor pursuant to this code or the rules, such facility, operation, condition, use or occupancy may be continued without such permit or certificate until 04/15/2023, except as may otherwise be provided by such amendment or rule.

The 2022 Fire Code can be obtained via the following website:
http://www1.nyc.gov/site/fdny/codes/fire-code/fire-code.page

The 2014/2022 New York City Fire Code Cross-Reference Table can be referred to the following website:

http://www1.nyc.gov/assets/fdny/downloads/pdf/codes/fire-code-cross-reference.pdf

About the Test

You must pass a multiple-choice test to qualify for the certificate of fitness. A score of 70% correct is required in order to pass the multiple-choice test. All questions have four answer options. Only **one** answer is correct for each question. If you do not answer a question, or if you mark more than one answer to a single question, your answer to that question will be scored as incorrect. Read each question carefully before marking your answer. There is no penalty for guessing.

Sample Questions

The following questions represent the "format" of the exam questions, not the content of the real exam.

1. Which of the following are allowed to be used while taking a Certificate of Fitness examination at 9 Metro Tech Center?

I. cellular phone
II. study material booklet
III. reference material provided by the FDNY
IV. mp3 player

A. III only
B. I, II, and III
C. II and IV
D. I only

Only reference material provided by the FDNY is allowed to be used during Certificate of Fitness examinations; therefore, the correct answer would be A. You would touch "A" on the computer terminal screen.

2. If the screen on your computer terminal freezes during your examination, who should you ask for help?

A. the person next to you
B. the firefighters in the testing room
C. the examiner in the testing room
D. the computer help desk

If you have a computer related question, you must ask the examiner in the testing room. Therefore, the correct answer would be C. You would touch "C" on the computer terminal screen.

3. If you do not know the answer to a question while taking an examination, who should you ask for help?

A. the person next to you
B. the firefighters in the testing room

C. the examiner in the testing room
D. it is forbidden to ask anyone regarding test questions

You should not ask about examination questions or answers since FDNY staff cannot assist applicants with test questions. Therefore, the correct answer would be D. You would touch "D" on the computer terminal screen.

Table of Contents

I. INTRODUCTION

All companies engaged in the business of selling, leasing, and/or servicing PFE's are required to have a company certificate of issued by the FDNY. All companies must strictly comply with FDNY regulations.

Each person engaged in the business of selling, leasing, and/or servicing PFE's shall have a C of F issued by the FDNY. A C of F is only issued only to the employees of FDNY approved companies. The activities of C of F are also regulated.

There are **TWO** company certificates which the FDNY issues to private company. One company certificate is for PFE sales only and the other is for full service of PFE. Individuals working for these companies must have C of F's to perform legally mandated functions. Individuals working for sales only companies must have an S-96 C of F. Individuals working for servicing companies must have a W-96 C of F. See definitions for company certificates and C of F's.

There is one test covering all types of PFE activities conducted in New York City. The actual work conducted must be in accordance with the limitations of the company's certificate. Principals and employees with the S-96 Certificate of Fitness are restricted to sales Only. Principals and employees with the W-96 Certificate of Fitness are allowed to perform full service on PFE which includes sales, servicing and maintenance.

EXCEPTION: PFE's sold for "Home use" not exceeding 5 lbs will not require a company or personal C of F.

II. GENERAL REQUIRMENTS

A. Sales or leasing of PFE's requirements

All PFEs sold or leased in NYC shall meet the following requirements:

1. Fire Test Standards: ANSI/UL 711
2. Dry Chemical types: ANSI/UL 299
3. Film-Forming Foam Types: ANSI/UL8
4. Water Type: ANSI/UL 626
5. Halon Types: ANSI/UL 1093
6. Carbon Dioxide Types: ANSI/UL 154
7. Halocarbon Types: ANSI/UL 2129

The manufacturer's labeling, the listing organization, the fire test and performance standard that the PFE meets or exceeds shall be clearly marked on every extinguisher.

A firm labeling and listing PFE's shall use a third party certification program for PFE's that meets or exceeds ANSI/UL 1803.
Equipment sold for use as a PFE that is not UL listed and labeled for such use shall be deemed as a fraudulent sale.

B. General sales company requirements

1. The sales of PFEs shall be in accordance with NFPA Standard 10-2007, except as other wise provided In the NYC Fire Code.

2. It shall be unlawful for any person to sell a PFE without a certificate of fitness for PFE sales, except that a person training for such certificate of fitness may sell PFEs in the presence of and under the personal supervision of a valid certificate of fitness holder.

3. It shall be unlawful for any person or company engaged in the business of selling PFEs to sell PFEs without a portable fire extinguisher sales company certificate.

4. The Department shall issue a PFE sales company certificate to a company that possesses the facility to properly sell and store PFE's, and with the required character and fitness of the principal/ owner.

5. Original Application Requirements. Applicants for PFE sales company certificates shall apply for such certificate to the Bureau of Fire Prevention at Fire Department Headquarters in accordance with the provisions of the New City Fire Code. In addition to such other information and documentation as the Department may

require. Each applicant shall submit an affidavit executed by an owner or principal of the company:

a. Attesting that one or more of the owners or principals of the company possess a minimum of two years experience in PFE sales and holds a certificate of fitness for PFE sales.

b. Disclosing the names and addresses of all companies engaged in the business of PFE sales with which each owner or principal of the company is affiliated or has been affiliated in the last five years.

c. Listing the names, addresses, and certificate of fitness numbers of all company employees who will be selling PFE's.

d. Certifying that the company has the facilities to sell PFE's.

e. Proof of liability insurance naming the department as a certificate holder.

6. Term and renewal: PFE sales company certificates shall be issued for a term of one year. Certificates may be renewed in accordance with the provisions of FC 901.6.3.2.

7. Application fees: The fee for an original application for a PFE sales company certificate shall be one hundred dollars ($105). The fee for a renewal application shall be fifty dollars ($50).

8. Maintenance of employee list. PFE sales company certificate holders shall maintain on file with the Department a current list of company employees selling PFE's, and shall update such list within 30 days of any change.

9. Facility inspections:

a. All facilities maintained by PFE sales company certificate applicants and holders for the sales of PFE's are subject to department inspection. Such inspections may be conducted for any purpose related to the enforcement of the requirements of the NYC Fire Code, including but not limited to:

- verifying that the company is selling PFEs in accordance with the requirements of the NYC Fire Code.
- a verification of record keeping relating to the sales of each PFE.

b. Facility inspections conducted in connection with original or renewal applications for a PFE sales company certificate shall be conducted at the expense of the applicant, at the rate of $210.00 per hour, plus travel expense if the facility is outside of NYC.

C. General Full Service Company Requirements

1. The specification, selection, distribution, inspection, maintenance and recharging of PFEs shall be in accordance with NFPA Standard 10-2007, except as otherwise provided in the NYC Fire Code.

2. It shall be unlawful for any person to service a PFE without a certificate of fitness for PFE servicing, except that a person training for such certificate of fitness may service PFEs in the presence of and under the personal supervision of a certificate of fitness holder.

3. It shall be unlawful for any person or company engaged in the business of servicing PFEs to service PFEs without a portable fire extinguisher servicing company certificate. Nothing in this section shall preclude PFEs that are maintained on a premises for use at such premises from being serviced by the owner or occupant of the premises, or an employee of such owner or occupant, who possesses:

- **a**. certificate of fitness for PFE servicing; and
- **b.** the tools, materials, equipment and facility necessary to service such portable fire extinguishers in accordance with the requirements of this section.
- **c.** PFE Service Company Certificate.

4. Servicing of PFE's shall be done in compliance with the manufacturers instructions using "OEM" listed parts.

5. The Department shall issue a PFE full service company certificate to a company that possesses the tools, materials, equipment and facility to properly service PFEs and with the required character and fitness of the principal/owner.

6. Original Application Requirements. Applicants for PFE servicing company certificates shall apply for such certificate to the Bureau of Fire Prevention at Fire Department Headquarters in accordance with the provisions of the NYC Fire Code. In addition to such other information and documentation as the Department may require, each applicant shall submit an affidavit executed by an owner or principal of the company:

- **a.** attesting that one or more of the owners or principals of the company possess a minimum of two years experience in PFE servicing and a certificate of fitness for PFE sales and service.

- **b.** disclosing the names and addresses of all companies engaged in the business of PFE sales or service with which each owner or principal of the company is affiliated or has been affiliated in the last five years;

- **c.** listing the names, addresses, and certificate of fitness numbers of all

company employees who will be selling or servicing PFEs

d. certifying that the company has the tools, materials, equipment, facilities and servicing manuals required to service PFEs, as specified in Chapter 7 of NFPA Standard 10 2007.
See Addendum B "Minimum Equipment and Facility Requirements"

e. applicant shall provide copies of each manufacturer recognized training and certification.

f. proof of liability insurance naming the department as a certificate holder.

7. Term and renewal: PFE servicing company certificates shall be issued for a term of one year. Certificates may be renewed in accordance with the provisions of FC 901.6.3.2.

8. **Application fees:** The fee for an original application for a PFE servicing company certificate shall be one hundred dollars ($100). The fee for a renewal application shall be fifty dollars ($50).

9. **Maintenance of employee list:** PFE servicing company certificate holders shall maintain on file with the Department a current list of company employees servicing PFEs, and shall update such list within 30 days of any change.

10. **Facility inspections:**

a. All facilities maintained by PFE servicing company certificate applicants and holders for the servicing of PFEs are subject to Department inspection. Such inspections may be conducted for any purpose related to the enforcement of the requirements of this section, including but not limited to:

- verifying that the company possesses the tools, materials, equipment and servicing manuals required to service PFEs; and
- is servicing PFEs in accordance with the requirements of this section and may require a demonstration of recharge procedures.
- a verification of record keeping relating for the servicing of each PFE performed at the facilities which may include serial number, date serviced, the NYC Fire Department C of F number, extinguisher type and size, and the name of the FDNY license company.

b. Facility inspections conducted in connection with original or renewal applications for a PFE servicing company certificate shall be conducted at the expense of the applicant, at the rate of $210.00 per hour, plus travel expense if the facility is outside of NYC.

D. The Responsibilities of PFE Companies (Sales and Servicing) and their employees.

1. Operating Requirements

No person can engage in any deceptive trade practice in the sale, lease, rental or loan or in the offering for sale, lease rental or loan of any consumer goods or services or in the collection of consumer debts.

When a "NEW" extinguisher is SOLD by a licensed PFE company that is recognized by the FDNY, the SELLER will perform a series of actions to give reasonable assurance the fire extinguisher is fully charged and operable. The installer shall affix a FDNY issued PFE servicing company tag. At this point the extinguisher is considered in service ready for use.

2. PFE Tag (NEW)

3 RCNY Section 115-02 requires portable fire extinguisher sales and servicing companies to use Fire Department-Issued and numbered tags as proof of compliance.

Installed portable fire extinguishers must have an FDNY standard PFE tag affixed. This tag will have important information about the extinguisher. By November 15, 2019, all portable fire extinguishers must have the new PFE tags. The FDNY will only recognize new PFE tags and will be issuing violations to business that have PFE installed without a proper tag.

The color of the fire extinguishers may be changed by the FDNY every few years. The FDNY recommends two ways to verify the tag's legitimacy:

1. Hologram:

A real hologram strip shown on the tag is 3 inches long by ¼ inch wide. Counterfeit tags will NOT have a high quality silver hologram. The hologram on a counterfeit tag will NOT change color as it is moved against the light.

2. QR code

IF you scan the QR code, it should direct you to the updated FDNY approved fire extinguisher company list. You can use the company list to verify if the company printed on the list is currently approved by the FDNY.

If the PFE tags cannot be verified via these two methods, contact your supervisor. If you suspect your PFE is a counterfeit, contact FDNY immediately by e-mail: Tags.Decal@fdny.nyc.gov

PFE tag (This tag is released for 2021-2023)

Fire Department also issues standard outdoor fire extinguisher tags. If the fire extinguishers may be placed outdoors, you can suggest your customers to use the outdoor fire extinguisher tags for the fire extinguishers.

The special features of the outdoor tags:

1. The material is durable and tear-resistant
2. Different printings:
    - On the back of the tag, the series number will contain a “D” letter; AND/OR
    - On the front of the tag, an “O” is printed on the top of the tag (this feature may not be on ALL outdoor tags)

Outdoor PFE tags

During new installation or service of the Portable Fire Extinguisher the Certificate of Fitness holders shall affix a PFE tag indicating the month, year and type of extinguisher sold and installed.

The following must be clearly written or stamped on the NEW PFE tag:

- Type of fire extinguisher sold/serviced
- Type of work performed: service, new installation, recharged
- Date of installation/service
- Name of the COF holder performing the work (stamped)
- COF holders Certificate of Fitness number (stamped)
- Name of the company (stamped)
- Company License number (stamped)
- Company address
- Company phone number

CERTIFICATE OF FITNESS HOLDERS MUST USE OFFICIAL FDNY STAMP (SEE IMAGE).

Stamp is an additional security measure and contains:

- Certificate of Fitness holder's full name
- Certificate of Fitness number
- Name of the company
- Company License number

John Smith	Extinguisher
	Equipment Guru, Inc.
12345678	999

RULES

Sales **ONLY** companies shall print this statement prominently on the tag: "**THIS COMPANY SHALL NOT SERVICE THIS EXTINGUISHER."**

Fire Suppression System Service information is prohibited, unless the sales company certificate holder is also a licensed Master Fire Suppression Contractor.

- Violations of any Sales OR Servicing Standard shall be grounds for revocation or suspension of the company's Certificate or C of F holder or both.
- Your company is required to have a minimum of $500,000 Insurance policy with an A- rating or higher with the FDNY co-named on the policy. Any lapse in this policy is grounds for revoking your and removal from the approved citywide list.
- Speaking to customers in clear and plain understandable terms.
- Limit the use of industry terminology "tech talk" when dealing with the costumers.
- Brochures, pamphlets, any estimates and receipts should be written clearly and understandable to the customers.
- Any person engage in sales should have a good understanding of the written materials they are distributing to the consumer and be able to explain any unclear wording, statements and confusing product descriptions.
- Sales people should have a complete understanding of the product they are selling.
- Sales people should inform the customer of the current rules and requirements for correct placement of PFE for businesses or homes.
- There should be no misleading or deceptive statements and/or hidden clauses when using the word "Free". Nor should the word "Free" be used to lock customers into service or products they don't want or need.
- All publications, advertisements, websites, receipts, estimates or any other written materials handed out to the public must state that your company is not affiliated to the FDNY.
- All sales persons when soliciting sales when entering a premise should state that they are not in any way affiliated with the NYC Fire Department.
- The wearing of any **FDNY hats, shirts, jackets** or anything with the official FDNY logos is strictly forbidden by anyone representing your company.

- At no time should any person in your company imply to the public that your company is associated with the FDNY and must present your C of F card to the customer and state the name of your company.
- At no time should the public be threatened by verbal or written means for failure to purchase products or service being sold.
    - Performing any sales and/or sales without the express permission of the principal.
    - Using PFE and /or stamps tags other than your company.
    - Placing Tags where COF holders do not use official FDNY stamp. **Handwritten entries are not accepted.**
    - Performing PFE duties without a current COF with valid dates.

3. <u>Recordkeeping</u> (NEW)

The FDNY requires the PFE companies and COF holders to maintain the maintenance/servicing record for a minimum of 3 years. This record must be made readily available to the FDNY upon request.

The record must be kept in the electronic form and format that is acceptable to the FDNY and must be filed with the FDNY in a manner as the FDNY prescribes.

The FDNY has developed a Mobile App free of charge that give the approved companies the ability to easily and quickly capture and submit required data to the FDNY. Every W-96 or S-96 Certificate of Fitness holder who are performing the sale or service must use this FDNY Mobile App for the actual job information while delivering/installing/ servicing the PFE.

Companies may use their own mobile app but must approved by the FDNY**.** The FDNY would not be able to troubleshoot or assist companies with step-by-step instructions on how to implement the API. However, companies can email specific questions to tags.decal@fdny.nyc.gov for clarification and issue they may encounter.

All FDNY approved PFE companies will receive the instruction from the FDNY COF unit regarding the FDNY COF Mobile App program. As a W-96 or S-96 COF holder, you must receive a hands-on training prior to using the COF Mobile App from your company.

4. <u>Estimates/Contracts and Receipts</u>

If requested by the consumer, a written estimate detailing costs, equipment installed and amount of time to complete the job must be provided by the vendor before commencing any work or sale:

- Estimates should be written in plain language and comply with the Fire Code and NFPA 10, 2007 and all estimates should be free of hidden meanings.
- The estimate should state whether new or used equipment and products are being offered. The pros and cons should be discussed by the seller and the consumer.
- Used equipment and products should be 100 percent reliable in function and free of defects.
- Used equipment must be plainly labeled "Used" on all estimates contracts and receipts.
- If changes to the estimate are necessary, notification to the consumer is required.
- Any changes in PFE equipment models due to unforeseen events such as upgrades to equipment, discontinuance of models and the vendor should make every effort to notify the consumer.
- At no time should the vendor substitute equipment or change any condition of the sale without notifying the consumer.

The FDNY <u>requires receipts</u> be issued to all consumers for any Sale or Service that is provided by any company. The receipts must follow the guide lines listed below:

- Total amount of money paid with a separate invoice listing any taxes, the date of sale and the actual business name and address.
- The receipts must provide a phone number, which is hard-wired to your company's place of business, along with a cell phone number if desired.
- Receipts must include the name(s), number(s) and expiration date(s) of all persons who were involved in the installation of the PFE's.
- The receipt shall also list, the number of the company's certificate letter issued by the FDNY along with its expiration date.
- Receipts must be itemized showing the make and model number of any purchased equipment.
- Also upon request the vendor must provide a copy of any documents that were signed by the consumer relating to the actual sale.

THE FOLLOWING INFORMATION CONSTITUTES THE RIGHTS OF THE CONSUMER:

- The consumer has a right to "shop around" for other companies as they see fit.
- The consumer reserves the right to renew or not to renew his or her service contract with their PFE company.

- Under no circumstances should the licensed company, a sales person or any PFE technician imply that termination of a service contract would be grounds for The New York City Fire Dept to issue violations, impose fines or penalties.
- The use of threats, implying endorsement or association with The New York City Fire Department, or any other New York City Government agencies is unlawful and could result in suspension or revocation of any service technician and/or Company Certificates.

E. The Responsibilities of Full Service PFE Companies and their Employees Engaged in PFE Service, Recharge and Maintenance

- Any company or individual that recharges/services PFE's required to hold a W-96/S02 Citywide certificate of fitness for Servicing PFEs.
- This holder shall present his C of F immediately upon requested by the consumer or any member of The New York City Fire Department.
- You are required to follow all renewal procedures necessary for you and your company business certificate in order to remain as a licensed company listed on The New York City Fire Department PFE data base listing.
- Keep in mind that it is your sole responsibility for renewing s and Company Certificates on time.
- Servicing of any PFE's without a valid C of F constitutes a crime punishable by law.
- PFE Sales, Servicing, Recharging and Maintenance performed by any company without a PFE Servicing Company Certificate issued by the FDNY is against the law.
- A holder of a PFE Servicing Company Certificate means that your company is registered with the New York City Fire Department. This listing is available on line for viewing by the public.

As the owner/representative of a private PFE company engaging in any of the following is a crime and could result in revoking of any and possible criminal charges:

- The wearing of any **FDNY hats, shirts, jackets** or anything with the official FDNY logos by any person representing your company is strictly prohibited.
- At no time should any person in your company imply to the public that your company is associated with the New York City Fire Department.
- At no time should it be implied that your company in the course of doing business, is endorsed by the FDNY.
- At no time should any threat, verbal or written be given to any consumer you are doing business with, that might imply that a violation or a fine will be given out by a FDNY inspector or uniformed Fire Fighter.

The FDNY does not send private PFE companies to conduct official FDNY inspections, any company or any one of their employees making this assertion shall constitute a false claim, and could be grounds for revocation/forfeiture of their License. Also note

that the public is being informed of this fact via our website and public media so any company employee using this statement to enter in to public facilities could face criminal charges.

Also, illegal companies (not recognized or licensed by the FDNY) servicing PFEs in New York City should be promptly reported to the FDNY. To check the status or report any company engaged in this activity use the following contacts:

Write to Tag.decal@fdny.nyc.gov or call **NY CITY INFORMATION NUMBER 311.**

III. DEFINITIONS

AFFF: An abbreviation for aqueous film-forming foam.

Carbon dioxide: a colorless, odorless, electrically nonconductive inert gas that is suitable for the extinguishment of Class B and Class C fires.

Cartridge/Cylinder-operated PFE: a PFE in which the expellant gas is in a separate container from the agent storage container.

Certificates:

a. **Certificate of fitness for PFE sales only:** a certificate issued by the Department pursuant to this section and FC 901.6.3.2.authorizing a person to Sell and install PFEs holding a "S-96" C of F.
b. **Certificate of fitness for sale and servicing of PFE:** a certificate issued by the Department pursuant to this section and FC 901.6.3.2. authorizing a person to perform sales, installations and full service of PFEs holding a "W-96" C of F.
c. **Portable Fire Extinguisher Sales Company Certificate.** A certificate issued by the FDNY for selling portable fire extinguishers door to door to owners of buildings or business for use on their premises, which authorizes such person to engage in such business and supervise such sales.
d. **Portable Fire Extinguisher Servicing Company Certificate.** A certificate issued by the FDNY for servicing and selling portable fire extinguishers.

Dry chemical: various mixtures of finely divided solid particles which are specially treated to provide resistance to packing and moisture absorption (caking) and to promote proper flow characteristics. These agents are designed for the extinguishment of Class A and Class B fires. They are nonconductors and are approved for use on energized electrical Class C fires.

DOT: US Department of Transportation.

Dry chemical closed recovery system: a system that provides for the transfer of dry chemical agent between PFEs and recovery containers that is closed to prevent the loss of agent to the atmosphere.

Dry powder: solid materials in powder or granular form designed to extinguish Class D combustible metal fires by crusting, smothering, or heat-transferring means.

Extinguisher Bracket: extinguisher retention device designed to mount and secure a specific extinguisher model onto various surfaces by incorporating releasable straps or bands to secure the fire extinguisher.

Extinguisher cabinet: an identifiable and readily accessible fire extinguisher housing device designed to store and protects fire equipment.

Extinguisher hanger: extinguisher mounting device designed for mounting a specific fire extinguisher model onto a stationary vertical surface.

Extinguisher inspection (Monthly): a quick check that a fire extinguisher is in its designated place, that it has not been actuated or tampered with, and that there is no obvious physical damage or condition to prevent its operation.

Extinguisher maintenance (Yearly): a thorough examination of the fire extinguisher. It is intended to give maximum assurance that a fire extinguisher will operate effectively and safely. It includes thorough examination for physical damage or condition to prevent its operation and any necessary repair or replacement. It will normally reveal if the hydrostatic testing or internal maintenance is required.

Extinguisher service: a PFE that is under going yearly maintence or recharging.

Factory test pressure: the pressure shown on the nameplate at which an extinguisher shell was tested at the time of manufactory. It is also the pressure at which the extinguisher shell shall be re-tested at.

FFFP: An abbreviation for film-forming fluoroprotein foam.

Film-forming foam agents: the film-forming foam agents are aqueous film-forming foam (AFFF) and film-forming fluoroprotein foam (FFFP).

Full Service Shop: Is a shop that has equipment and materials at hand necessary to be able to fully service PFE's. The shop shall consist of low pressure testing equipment as well as storage bins or other types of storage devices used to recharge and refill PFE's. Recovery systems are necessary. Refer to ADDENDUM B.

Halogenated agents: Halogenated (clean) agents are of the following types:

- **a.** Halons, which include bromochlorodifluoromethane (Halon 1211), Bromotrifluoromethane (Halon1301), and mixtures of Halon 1211 and Halon 1301 (Halon 1211/1301).
- **b.** Halocarbons which include hydro chlorofluorocarbon (HCFC), hydrofluorocarbon (HFC), perfluorocarbon (PFC), and fluoroiodocarbon (FIC) types of agents.

Halogenated agent closed recovery system: a system that provides for the transfer of halogenated agents between PFEs, supply containers, and recharge and recovery containers so that none of the halogenated agent escapes to the atmosphere. Closed recovery systems for halogenated agents with an ozone depleting potential (ODP) of 0.2 or greater must be listed for use with that agent.

High pressure cylinder: cylinders containing a pressure higher than 500 PSI at 70F.
HMIS. An abbreviation for hazardous materials identification systems.

Hydrostatic testing: pressure testing of the fire extinguisher to verify its strength against rupture.

Loaded stream charge: a water-based extinguishing medium that uses an alkali metal salt as a freezing point depressant.

Low pressure cylinder: cylinders containing a pressure of 500 PSI or less at 70F.

NFPA Standard 10, 2007: National Fire Protection Association Standard No. 10, "Standard for PFEs" 2007 edition).

Non rechargeable PFE: a PFE that is not capable of (nor intended to be capable of) undergoing complete maintenance, hydrostatic testing, and being restored to its full operating capability by the standard practices used by fire equipment dealers and distributors. Non rechargeable (non refillable) PFEs are marked "Discharge and Dispose of After Any Use" or "Discharge and Return to the Manufacturer After Any Use or with a similar equivalent marking. Some PFEs that are physically rechargeable are marked "non rechargeable" and are therefore considered to be non rechargeable (non refillable) PFEs- A fire, typically associated with Class B flammable liquids and gases, where another item is blocking the stream of fire extinguishing agent from reaching all of the fire.

Obstacle Fire: a fire typically associated with Class B flammable liquids and gases, where another item is blocking the stream of fire extinguishing agent from reaching all of the fire.

PFE servicing company certificate: a certificate issued by the Department to a company engaged in the business of servicing PFEs, which authorizes an owner or principal of such company to supervise PFE servicing by company employees holding a certificate of fitness for PFE servicing.

PPM (or ppm): an abbreviation for parts per million.

Portable fire extinguisher: a portable device, carried or on wheels and operated by hand, containing an extinguishing agent that can be expelled under pressure for the purpose of suppressing or extinguishing fires.

Rechargeable PFE: a PFE is one that is capable of undergoing complete maintenance, including internal inspection of the pressure vessel, replacement of all substandard parts and seals, and hydrostatic testing. The PFE is capable of being recharged with agent and restored to its full operating capability by the standard practices used by

fire equipment dealers and distributors. Rechargeable (refillable) PFEs are marked "Recharge Immediately after Any Use" or with a similar equivalent marking.

Self-expelling PFE: a PFE in which the agents have sufficient vapor pressure at normal operating temperature to expel themselves.

Service pressure: the normal operating pressure as indicated on the gauge and nameplate of a PFE.

Servicing: the maintenance and recharging of PFEs as defined in NFPA Standard 10- 2007 including any thorough examination, repair or replacement of portable fire extinguishers or the replacement of the extinguishing agent.

Shall: indicates mandatory requirement.

Stored-pressure PFE: A PFE in which both the extinguishing agent and expellant gas are kept in a single container, and that includes a pressure indicator or gauge.

Three dimensional fire: a class B fire involving flammable liquids in motion such as dripping, running, and pouring. These fires generally involve vertical as well as one or more horizontal surfaces. The system used to rate extinguishers for Class B is not directly applicable to this hazard.

Travel distance: the actual walking distance from any point to the nearest fire extinguisher fulfilling the hazard requirements.

Water-type PFE: a PFE that contains water-based agents, such as water, AFFF, FFFP, antifreeze, and loaded stream.

Wet chemical: Wet chemicals include, but are not limited to, aqueous solutions of potassium acetate, potassium carbonate, potassium citrate, or combinations of these materials.

Wheeled-type PFE: a PFE equipped with a carriage and wheels intended to be transported to the fire by one person.

Inspection is a "**quick check**". It is intended to give **reasonable assurance** that the fire extinguisher is fully charged and operable. This quick check is done by verifying that the PFE is in its designated place, that it has not been actuated or tampered with, and that there is no visible physical damage or condition to prevent its operation.

Maintenance is a **thorough** examination of the fire extinguisher. It is intended to give **maximum assurance** that a PFE will operate effectively and safely. It includes a **detailed examination**, including any necessary repair or replacement. Maintenance will normally reveal if hydrostatic testing or internal maintenance is required. Maintenance and recharging are considered "**servicing**".

Recharging is the **replacement** of the extinguishing agent. It also includes the replacement of the pressurizing gas (expellant gas) for certain types of fire extinguishers. The following items are critical in the effective and safe operation of PFEs:

a. Type and amount of recharge material

b. Type and pressure of pressurizing gas (for PFEs requiring a gas to expel the extinguishing agent)

Maintenance and recharging must be performed by trained persons having available the appropriate servicing manual(s), the proper types of tools, recharge materials, lubricants, and manufacturer's replacement parts or parts listed for use in a specific fire extinguisher. Service manuals can be obtained from the fire extinguisher manufacturer.

IV. CLASSIFICATION OF FIRES

Fires are classified into five (5) classes. They are described below:

Class A fires are fires in ordinary combustible materials, such as woods, cloth, paper, rubber, and many plastics.

Class B fires are fires in flammable liquids, combustible liquids, petroleum greases, tars, oils, oil-based paints, solvents, lacquers, alcohols, and flammable gases.
Fire extinguishers for the protection against pressurized flammable liquids and pressurized flammable gases shall be based on the recommendations of the manufacturer. Large capacity dry chemical fire extinguishers of 10 pounds or greater and with a discharge flow rate of 1 pound per second or greater shall be used to protect these hazards.

CAUTION: Attempting to extinguish this type of fire is undesirable unless there is reasonable assurance that the source of fuel can be promptly shut off.

Fire extinguishers for the protection against three dimensional fires shall be large capacity dry chemical fire extinguishers of 10 pounds or greater and with a discharge flow rate of 1 pound per second or greater.

Fire extinguishers for the protection against obstacle fires shall be based on one of the following criteria:

a. Extinguishers containing vapor suppressing foam agent.
b. Multiple extinguishers containing non vapor suppressing class B agents intended for simultaneous application.
c. Large capacity dry chemical fire extinguishers of 10 pounds or greater and with a discharge flow rate of 1 pound per second or greater.

Class C fires are fires that involve energized electrical equipment where the electrical non-conductivity of the extinguishing media is of importance.

Class D fires are fires in combustible metals, such as magnesium, titanium, zirconium, sodium, lithium and potassium.

Class K fires are fires in cooking appliances that involve combustible cooking media (vegetable or animal oils and fats).

V. CLASSIFICATION OF PFE

The classification of PFEs consists of a letter that indicates the **Class of Fire** on which a fire extinguisher has been found effective. In addition, fire extinguishers classified for Class A or Class B fires are required to have a rating number indicating the relative extinguishing effectiveness preceding the classification letter. Some fire extinguishers may have more than one letter classification such as 2-A: 20-B: C. This classification means that this PFE has an effectiveness of 2 when used to extinguish Class A fires, and an effectiveness of 20 when used to extinguish Class B and/or Class C fires. Fire extinguishers classified for Class C, Class D or Class K fires are not required to have a rating number preceding the classification letter.

Fire extinguishers for the protection against pressurized flammable liquids and pressurized flammable gases shall be based on the recommendations of the manufacturer. Large capacity dry chemical fire extinguishers of 10 pounds or greater and with a discharge flow rate of 1 pound per second or greater shall be used to protect these hazards.

CAUTION: Attempting to extinguish this type of fire is undesirable unless there is reasonable assurance that the source of fuel can be promptly shut off.

Fire extinguishers for the protection against three dimensional fires shall be large capacity dry chemical fire extinguishers of 10 pounds or greater and with a discharge flow rate of 1 pound per second or greater.

Fire extinguishers for the protection against obstacle fires shall be based on one of the following criteria:

- Extinguishers containing vapor suppressing foam agent
- Multiple extinguishers containing non vapor suppressing class B agents intended for simultaneous application.
- Large capacity dry chemical fire extinguishers of 10 pounds or greater and with a discharge flow rate of 1 pound per second or greater.

VI. SPECIFICATION, SELECTION AND DISTRIBUTION OF PFE

1. The owner or occupant of any occupancy or space shall ensure that such occupancy or space is equipped with the PFEs as set forth in NFPA Standard 10-, 2007 except as otherwise required by this subdivision. The Department may prescribe such other or additional PFE requirements as it determines to be necessary for fire protection purposes, based on the use or configuration of the occupancy or space.

2. Fire extinguishers shall be provided for both the protection of the building structure and its' contents regardless of the presence of a fixed fire suppression system. Fire extinguishers for the protection of the building structure shall be of the Class A type.

PFEs shall be provided in the following occupancies or spaces:

a. Occupancies or spaces used or classified as offices or places of worship, hotels and motels shall be provided with one fire extinguisher of minimum 2-A rating for every six thousand (6,000) square feet of floor area or fraction thereof on each floor, except that such a fire extinguisher shall be provided for every twelve thousand (12,000) square feet of floor area or fraction thereof on each floor for occupancies or spaces used as or classified as offices or places of worship in fully sprinkled buildings.

b. Rooming houses and single room occupancies, as defined in the New York State Multiple Dwelling Law, with over 15 sleeping rooms shall be provided with one fire extinguisher of minimum 2-A rating in the apartment of the manager or the building superintendent.

c. Hospitals, nursing homes, homes for the aged, day nurseries accommodating more than 15 children and asylums shall be provided with one fire extinguisher of minimum 2-A rating for every 2,500 square feet of floor area or fraction thereof on each floor.

d. Places of public assembly or other occupancies or spaces where 75 or more people congregate, including places for entertainment or amusement, shall be provided with one fire extinguisher of minimum 2-A rating for every 2,500 square feet of floor area or fraction thereof on each floor.

e. Occupancies used or classified as retail stores or shops shall be provided with one fire extinguisher of minimum 2-A rating for every 2,500 square feet of floor area or fraction thereof on each floor.

f. Piers, stables, warehouses, manufacturing occupancies and all commercial occupancies except stores and office buildings shall be provided with one

fire extinguisher of minimum 2-A rating for every 2,500 square feet of floor area or fraction thereof on each floor.

g. Occupancies or spaces used or classified as lumber yards shall be provided with one fire extinguisher of minimum 2-A rating for every 2,000 square feet of floor area or fraction thereof.

h. Occupancies or spaces used or classified as telephone exchanges shall be provided with PFEs suitable for Class A and Class C fires. A fire extinguisher of a minimum 2-A rating shall be provided for every 3,000 square feet of floor area or fraction thereof.

i. Storage garages, electric power plants and occupancies or spaces that manufacture, use or store flammable liquids or mixtures, combustible liquids or mixtures, fats, paints, waxes or similar substances shall be provided with an extinguisher suitable for a Class B fire that shall meet the rating and travel distance requirements for Extra (High) Hazard occupancies as specified in Table 6.3.1.1 of NFPA Standard 10-2007 Kitchens (except those used domestically in residential occupancies, but including those kitchens used communally by the occupants of more than one dwelling unit), shall be provided with an extinguisher suitable for a Class K fire, and shall meet the travel distance requirement of 6.6.2 of NFPA Standard 10, 2007.

The requirements of sub-paragraph (i) shall be in addition to sub-paragraphs a, b, c, d, e, f, g, and h of this paragraph.

j. The fire extinguisher shall be of minimum 10-B: C rating, and shall be kept in the cab or in the immediate vicinity of the crane or derrick.

All other occupancies shall be protected based on the following criteria:

A. Low
B. Moderate
C. High

Low Hazards are locations where normal quantities of Class A combustible furnishings and not more than 1 gallon of flammable liquids can be expected.

Moderate Hazards are locations where only occasionally larger than expected quantities of Class A combustible furnishings are present and/or 1 to 5 gallons of flammable liquids can be expected.

High Hazards are locations where the amount of Class A combustibles is consistently larger than normal such as storage and or manufacturing facilities. The amount of flammable liquids can be expected to be more than 5 gallons.

CLASS "A" SELECTION CHART

	LOW HAZARD	MODERATE HAZARD	HIGH HAZARD
Minimum extinguisher rating	**2A**	**2A**	**4A**
Maximum floor area per unit of "A"	**3,000 sq. ft.**	**1,500 sq. ft.**	**1,000 sq. ft.**
Maximum floor area per extinguisher	**11,250 sq. ft.**	**11, 250 sq. ft.**	**11,250 sq. ft.**
Maximum travel distance	**75 feet**	**75 feet**	**75 feet**

The travel distance for the protection of class A hazards shall not exceed 75 feet. If obstacles such as storage, partitions, or furniture are within the path to an extinguisher, the actual distance a person needs to walk must be taken into consideration.

A quantity of two 2 ½ gallon water fire extinguishers, each rated 2A, can be combined to fulfill a requirement of 4A.

CLASS "B" SELECTION CHART

	Minimum Extinguisher Rating	Maximum Travel Distance
LOW HAZARD	**5B** **10B**	**30 ft** **50 ft**
MODERATE HAZARD	**10B** **20B**	**30 ft** **50 ft**
HIGH HAZARD	**40B** **80B**	**30 ft** **50 ft**

The travel distance for the protection of class B hazards shall not exceed 50 feet. If obstacles such as storage, partitions, or furniture are within the path to an extinguisher, the actual distance a person needs to walk must be taken into consideration.

A quantity of three 2 ½ gallon foam extinguishers can be combined to fulfill the "high" hazard requirement.

A quantity of two 6 liter foam extinguishers can be combined to fulfill the "moderate" hazard requirement.

Class B fire extinguishers are rated on the basis that each 2 units of B will cover 1 square foot of flammable liquid. Example: A fire extinguisher with a rating of 40B will cover 20 square feet of flammable liquid.

Foam fire extinguishers are rated on the basis that 1 unit of B will cover 1 square foot of flammable liquid.

In any case, fire extinguishers shall not be the sole means of fire protection where the surface area of flammable liquids of appreciable depth (defined as a depth exceeding ¼ Inch) exceeds 10 square feet.
For surface areas up to 20 square feet, properly trained personnel shall be located on the premises.

The system used to rate Class B fire extinguishers does not apply to special hazards such as pressurized flammable liquids and gases or three dimensional fires. **Please refer to the section on classification of fires and fire extinguishers of this study guide.**

A. Restrictions on Use of Certain PFEs

Multi-purpose dry chemical extinguishers shall not be installed in areas containing oxidizers such as pool chemicals. Only water type fire extinguishers shall protect these areas.

Fire extinguishers provided for the protection of Class D flammable metals shall be specifically listed by the manufacturer for the type of metal being protected. The use of any other type of extinguishing agents will cause a dangerous chemical reaction.

Class K type fire extinguishers manufactured after January 1, 2002 shall not have a "wand" attached to the discharge hose. Extinguishers installed prior to January 1, 2002 shall remain in service and maintained in accordance with the manufacturers UL listed service manual.

B. Obsolete Fire Extinguishers

A certificate of fitness holder should be aware that the following types of PFEs are obsolete and must remove from service immediately.

- **a.** Soda acid.
- **b.** Chemical foam (excluding film-forming agents).
- **c.** Vaporizing liquid (e.g., carbon tetrachloride).
- **d.** Cartridge-operated water.
- **e.** Cartridge-operated loaded stream.
- **f.** Copper or brass shell (excluding pump tanks) joined by soft solder or rivets.
- **g.** Carbon Dioxide Extinguishers with metal horns.
- **h.** Solid charged type AFFF extinguishers (paper cartridge).
- **i.** Pressurized water fire extinguishers manufactured prior to 1971.

j. Any extinguisher that needs to be inverted to operate.
k. Any stored pressure extinguisher manufactured prior to 1955.
l. Any extinguishers with 4B, 6B, 8B, 12B, 16B fire ratings.
m. Stored pressure water extinguishers with fiberglass shells (pre 1976).
n. Dry chemical stored pressured extinguishers manufactured prior October 1984.
o. Any fire extinguisher that can no longer be serviced in accordance with the manufacturer's maintenance manual.

C. Temperature Range for Fire Extinguishers

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

Water-type fire extinguishers must not be installed in areas where the temperatures are outside the range of 40^{0}F to 120^{0}F because they would freeze at temperatures below 40^{0}F, or a build-up of vapor may cause the rupture of the cylinder at temperatures beyond 120^{0}F. PFEs containing plain water only can be protected to temperatures as low as -40^{0}F by the adding of manufacturers' specified antifreeze. Calcium chloride solutions must not be used in stainless steel fire extinguisher. PFEs containing aqueous film-forming foam (AFFF), portable extinguishers containing film-forming fluoroprotein foam (FFFP) and portable extinguishers containing Class K mixtures, cannot be protected against temperatures below 40^{0}F because it will tend to impair the effectiveness of the extinguishing agent.

All other types of PFEs must be installed in areas where the temperatures are between the range of -40^{0}F and 120^{0}F. When fire extinguishers are installed in locations where temperatures are outside these ranges, they must be of a type approved and listed for the temperature to which they are exposed, or they must be placed in an enclosure capable of maintaining the stipulated temperature range.

VII. INSPECTION OF PORTABLE FIRE EXTINGUISHERS

A. General Inspection

Inspection is a "quick check" that a PFE is available and will operate. It is intended to give reasonable assurance that the PFE is fully charged and operable. This is done by verifying that it is in its designated place, that it has not been actuated or tampered with, and that there is no obvious or physical damage or condition to prevent its operation. Basically, inspection means a visual examination of the PFE. According to new FC 901.6.3.2.and NFPA 10, 2007 inspecting a PFE is not considered servicing of a PFE. A certificate of fitness is not required to perform this inspection.

PFEs must be inspected when initially placed in service and at least monthly thereafter. PFEs must be inspected more frequently when circumstances require.

B. Inspection Procedures

Inspection of PFEs must include a check of at least the following items:

- **a.** Properly mounted on wall and in an appropriate location and readily accessible.
- **b.** No obstruction to access or visibility.
- **c.** Operating instructions on nameplate legible and facing outward.
- **d.** Safety seals and tamper indicators not broken or missing.
- **e.** Fullness determined by weighing.
- **f.** Examination for obvious physical damage, corrosion, leakage, or clogged nozzle.
- **g.** Pressure gauge reading or indicator in the operable range or position.
- **h.** Condition of tires, wheels, carriage, hose, and nozzle checked (for wheeled units).
- **i.** HMIS label in place.

When an inspection of **any PFE** reveals a deficiency in any of the conditions listed in (a), (b), (h), and (i), immediate corrective action must be taken.

When an inspection of **rechargeable PFEs** reveals a deficiency in any of the conditions listed in (c), (d), (e), (f), (g) and (h), they must be subjected to applicable maintenance procedures as required within the manufacture's specification.

When an inspection of **non-rechargeable dry chemical PFEs** reveals a deficiency in any of the conditions listed in (c), (e), (f), and (g), they must be removed from service, discharged, and destroyed at the direction of the owner or returned to the manufacturer.

When an inspection of **non-rechargeable Halon agent PFEs** reveals a deficiency in any of the conditions listed in (c), (e), (f), and (g), it must be removed from service, NOT discharged, and returned to the manufacturer, or a fire equipment dealer or distributor, for recovery of halon.

C. Inspection Recordkeeping

Records must be kept on a tag or label attached to the PFE, on an inspection checklist maintained on file, or in an electronic system (e.g., bar coding) that provides a permanent record. The date the inspection was performed and the initials of the person performing the inspection must be recorded.

VIII. MAINTENANCE

Maintenance is a thorough examination of the PFE. It is intended to give maximum assurance that a PFE will operate effectively and safely. It also includes any necessary repair or replacement. Maintenance will reveal if hydrostatic testing or internal maintenance is needed. **A certificate of fitness is required to service, maintain and/or recharge a PFE.** A Servicing Company certificate is also required for a company providing such service.

PFEs must be maintained **at least annually or** at the time of hydrostatic testing, or when physical damage to the cylinder is visible during a monthly inspection. PFEs removed from service for maintenance or recharging must be replaced by a similar PFE and must be of at least equal rating.

Persons performing maintenance on PFEs shall be trained and authorized on PFE (**by January 1, 2010 by NFPA**) by the manufacturer of the PFE being serviced. Knowledge in proper servicing techniques, special tools unique to certain models, and the proper replacement parts and recharge agent are essential to the performance of PFEs. Figures 1 through 3 are diagrams showing various parts or components of some typical PFEs. Fig. 4 through 6 shown in details the internal parts or components of such extinguishers. PFE's shall be hydrostatically tested on a periodic basis in accordance with the requirements of Chapter 8 of NFPA Standard 10 2007 and §1910.157 of Title 29 and §173.34 of Title 49 of the United States Code of Federal Regulations, as applicable.

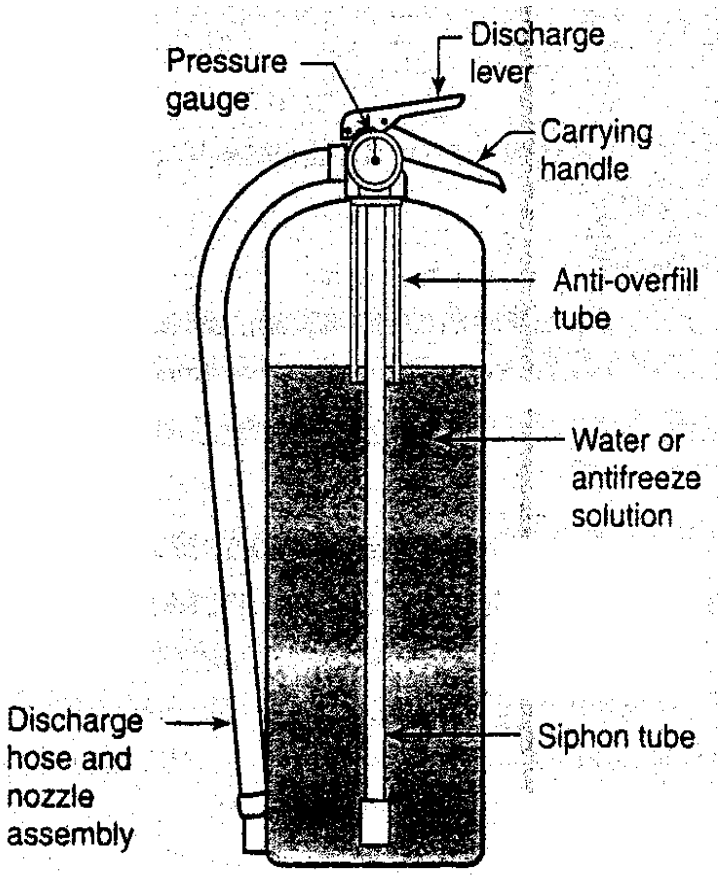


Fig. 1 Stored-pressure water extinguisher

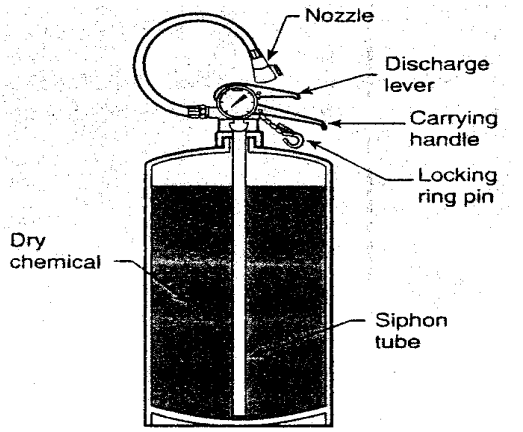


Fig.2. Stored-pressure dry chemical PFE

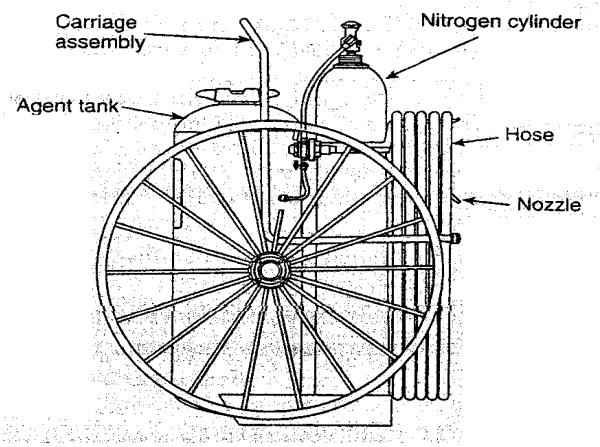
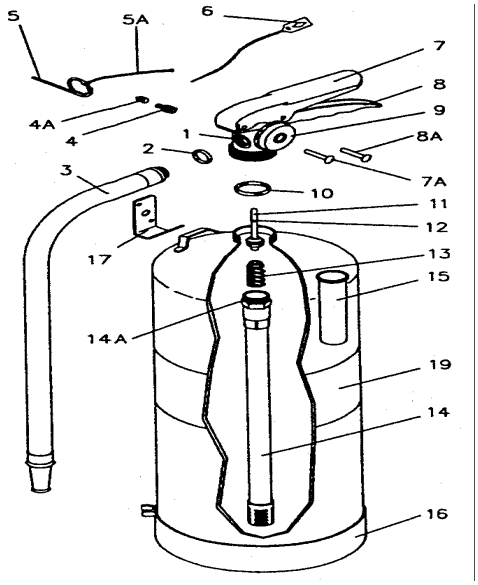


Fig.3. Wheeled-type cylinder-operated dry chemical PFE

Fig. 4. Stored-pressure water extinguisher detailing internal parts or components



1. Valve assembly
2. Hose gasket (O ring)
3. Hose and nozzle assembly
4. Pressure valve and cap assembly

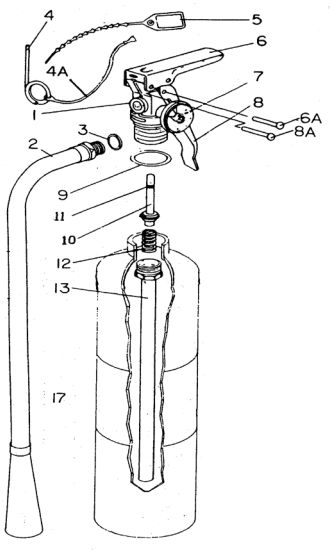
4A. Cap for pressure valve

5. Ring pin (Pull pin)

5A. Chain (nylon) for ring pin

6. Lock wire seal

Fig. 5. Stored-pressure dry chemical extinguisher detailing internal parts or components



1. Valve assembly
2. Hose and horn assembly
3. Hose gasket (o ring)
4. Ring pin (Pull pin)

4A. Chain (nylon) for ring pin

5. Lock wire seal
6. Lever and rivet

6A. Rivet only for lever

7. Lever and rivet
7A. Rivet only for lever
8. Handle and rivet
8A. Rivet only for handle
9. Pressure gauge
10. Collar O ring
11. Valve stem assembly
12. Valve stem O ring
13. Spring
14. Down tube (Siphon tube)/retainer assembly
14A. down tube O ring
15. Fill tube
16. Foot stands
17. Wall hanger bracket
19. Nameplate

7. Pressure gauge
8. Handle and rivet
8A. Rivet only for handle
9. Collar O ring
10. Valve stem assembly
11. Valve stem O ring
12. Spring
13. Down tube (Siphon tube)/ retainer assembly
17. Nameplate

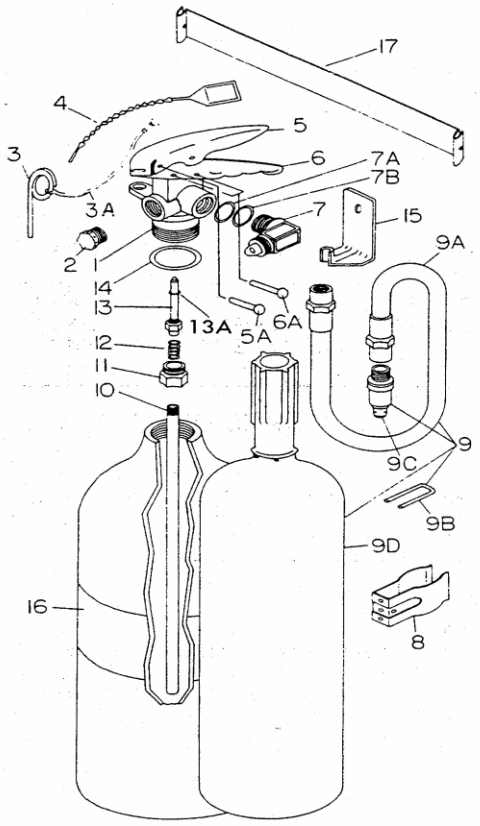


Fig. 6. Carbon dioxide extinguisher detailing internal parts or components

1. Valve assembly
2. Safety disc, gasket and nut assembly
3. Ring pin (Pull pin)
3A. Chain (nylon) for ring pin
4. Lock wire seal

9A. Hose assembly
9B. U pin
9C. Nozzle
9D. Horn with handle
10. Down tube (Siphon tube)

5. Lever and rivet
5A. Rivet only for lever
6. Handle and rivet
6A. Rivet only for handle
7. Elbow with O ring and spacer
7A. O ring for elbow
7B. Nylon spacer for elbow
8. Horn clip
9. Hose and nozzle assembly
11. Retainer
12. Spring
13. Valve stem assembly
13A. Valve stem O ring
14. Collar O ring
15. Wall hanger bracket
16. Nameplate
17. Strap for horn clip

A. Maintenance Procedures

Maintenance procedures must include a thorough examination of PFEs including: all mechanical parts, extinguishing agent of cartridge or cylinder operated dry chemical, stored-pressure loaded stream, and pump tank fire extinguishers, expelling means of all fire extinguishers and physical appearances. The following are some common checklists for these three elements.

Items **Corrective Action**

Mechanical damage on the shell.....Hydrostatic test and refinish, or discard

Nozzle or horn deformed, damaged, or cracked.....Replace

Hose assembly damaged (cut, cracked, or worn).....Replace

Hose obstruction.....Remove obstruction or replace

Valve locking device damaged (bent, corroded, or binding)..... .....Repair and lubricate or replace

Immovable, jammed, or missing pointer on gauge, or pressure-indicating device.....Depressurize and replace

Corroded, damaged or jammed lever, handle, spring, stem, or fastener joint on shell or cylinder valve.....Depressurize, check freedom of movement, and repair, or replace

Corroded, damaged or jammed lever, handle, spring, stem, or fastener joint on nozzle shutoff valve..... Repair and lubricate, or replace

Leaking seals on pressurizing valve.....Depressurize and replace valve or core

Gasket O ring and seals damaged (cut, cracked or worn).....Replace and lubricate

Improper fill level or weight.....Refill to the correct level or weight

Improper gauge pressure.....Re-pressurize and leak test

Broken or missing tamper indicator.....Check pressure, leak test, replace Indicator if correct pressure and no leak

At the time of maintenance, the tamper seal of rechargeable PFEs must be removed. This is done by operating the pull pin (ring pin) or locking device. After the maintenance procedures are completed, a new tamper seal must be installed.

Pressure regulators provided with wheeled-type PFEs must be tested for outlet static pressure and flow rate in accordance with manufacturer's instructions. Stored-pressure type of PFE containing a loaded stream agent must be disassembled on an annual basis and subjected to complete maintenance. Prior to disassembly, the PFE must be fully discharged to check the operation of the discharge valve and pressure gauge.

A conductivity test must be conducted annually on all carbon dioxide hose assemblies. Hose assemblies found to be nonconductive must be replaced.

Every 6 years, stored-pressure PFEs that require a 12-year hydrostatic test must be emptied and subjected to maintenance procedures. The removal of Halon agent from PFEs must only be done using a listed Halon closed recovery system. The purpose of 6 year maintenance is to examine the inside of the extinguisher for corrosion. If the internal examination is performed during recharging and or hydrostatic testing, the 6 year maintenance shall be permitted to begin from that date. Non rechargeable PFEs must not be hydrostatically tested but must be removed from service at a maximum interval of 12 years from the date of manufacture. Non rechargeable Halon agent PFEs must be returned to the manufacturer or a fire equipment dealer or distributor for recovery of Halon.

***See at the end of this booklet a frequency testing of internal examination and hydrostatic of PFE.**

B. <u>Maintenance Recordkeeping</u>

Carbon dioxide hose assemblies that pass a conductivity test must have the test information recorded on a suitable metallic label or equally durable material that has a minimum size of ½ in. x 3 in. The label must be affixed to the hose by a heatless process. It must include the following information:

a. Month and year the test was performed indicated by perforation such as done by a hand punch.
b. Name and certificate of fitness number of the person who performed the test.

c. Name, street address and telephone number of the PFE servicing company.

Each PFE must have a tag or label securely attached that indicates the month and year the maintenance was performed, the name and certificate of fitness number of the person who performed the maintenance, and the name, street address and telephone number of the PFE servicing company.

Each PFE that passes the applicable 6-year maintenance requirement must have such maintenance information recorded on a suitable metallic label or equally durable material that has a minimum size of 2 in. x 3½ in. The new label must be affixed to the shell by a heatless process, and any old maintenance labels must be removed. The label must be of the self-destructive type. It must include the following information:

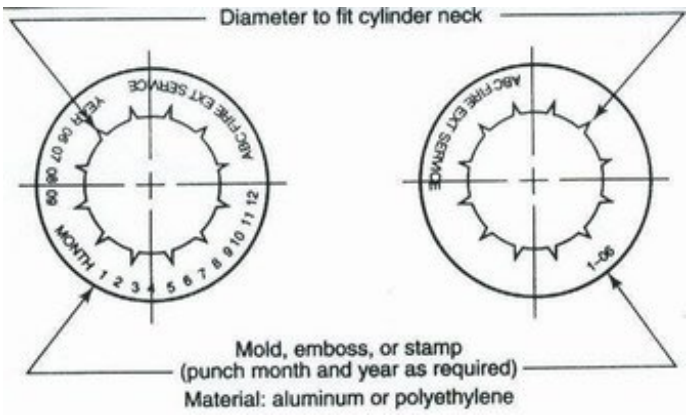
a. Month and year the maintenance was performed, indicated by perforation such as done by a hand punch.
b. Name and certificate of fitness number of the person who performed the maintenance.
c. Name, street address and telephone number of the PFE servicing company.

C. Verification of Service Collar (Maintenance or Recharging)

Each PFE that has undergone maintenance that includes internal examination or that has been recharged shall have a verification of service collar located around the neck of the container. The collar shall include the month and year the service was performed, indicated by a perforation such as is done by a hand punch. Cartridge-or cylinder-operated fire extinguishers shall not be required to comply with the above.

The collar shall contain a single circular piece of uninterrupted material forming a hole of a size that does not permit the collar assembly to move over the neck of the container unless the valve is completely removed. The collar shall not interfere with the operation of the fire extinguisher.

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



Verification of Service Collar

IX. RECHARGING

All rechargeable-type fire extinguishers shall be recharged after any use or as indicated by an inspection or when performing maintenance. When performing the recharging, the recommendations of the manufacturer shall be followed. The amount of recharge agent shall be verified by weighing.

The recharged gross weight shall be the same as the gross weight that is marked on the nameplate. For those fire extinguishers that do not have the gross weight marked on the nameplate or valve, a permanent label that indicates the gross weight shall be affixed to the cylinder.

After recharging, a leak test shall be performed on stored-pressure and self-expelling types of fire extinguishers.

A. Recharge Agents

Only those agents specified on the nameplate or agents proven to have equal chemical composition, physical characteristics, and fire extinguishing capabilities must be used. Agents specifically listed for use with that PFE must be considered to meet these requirements. This is to maintain the efficiency of each PFE as produced by the manufacturer and as labeled by one or more of the fire testing laboratories. For instance, the extinguisher agent and the additives used in the various types of dry chemical PFEs vary in chemical composition and in particle size and, thus, in flow characteristics. **Each PFE is designed to achieve maximum efficiency with the particular formulation used.** Changing the agent from that specified on the PFE nameplate could affect flow rates, nozzle discharge characteristics and the quantity of available agent, and would void the label of the testing laboratory.

Carbon dioxide must have the quality as follows:

a. Carbon dioxide in the vapor phase must not be less than 99.5%.
b. The water content in the liquid phase must not be more 0.01% by weight (-30^{0}F dew point).
c. Oil content of the carbon dioxide must not exceed 10 ppm by weight.

The amount of recharge agent must be verified by weighing. The recharged gross weight must be the same as the gross weight marked on the label. For those PFEs that do not have the gross weight marked on the label, a permanent label that indicates the gross weight must be affixed to the container. The label containing the gross weight must be a durable material of pressure-sensitive, self-destruct type.

When stored-pressure water-type PFEs are recharged, the proper amount of liquid agent must be determined by using one of the following:

a. Exact measurement by weight
b. Exact measurement in volume
c. An anti-overfill tube, if provided
d. A fill mark on PFE shell, if provided

Multipurpose dry chemicals must not be mixed with alkaline-based dry chemicals. Mixing multipurpose dry chemicals with alkaline-based dry chemicals could result in a chemical reaction capable of developing sufficient pressure to rupture a PFE. Substituting a different formulation for the one originally employed could cause malfunctioning of the PFE or result in substandard performance.

Pails or drums containing dry powder agents for scoop or shovel application for use on metal fires must be kept full and covered at all times. The dry powder must be replaced if found damp. Dry powder when damped will not be free flowing. In addition, when dry powder contains sufficient moisture, a hazardous reaction could result when applied to a metal fire.

B. Periodic Replacement of Extinguishing Agent

Pump tank: every 12 months, pump tank water and pump tank calcium chloride-based antifreeze types of PFEs must be replaced with new chemicals or water, as applicable.

Wetting agent: the agent in stored-pressure wetting agent PFEs must be replaced annually. Only the agent specified on the nameplate must be used for recharging. The use of water or other agents is prohibited. The premixed agent in liquid-type AFFF and FFFP PFEs must be replaced at least once every 3 years. The agent in solid-type AFFF PFEs must be replaced once every 5 years. **These requirements do not apply to the agent in non-pressurized AFFF and FFFP PFEs that is subjected to agent analysis in accordance with manufacturer's instructions.**

C. Re-Use of Extinguishing Agents

Dry chemical agent: PFEs' removed for 6-year maintenance or hydrostatic testing must be emptied. The dry chemical agent may be re-used provided a closed recovery system is used and the agent is stored in a sealed container to prevent contamination. Prior to re-use, the dry chemical must be thoroughly checked for the proper type, contamination, and condition. In a partially discharged PFE, the remaining dry chemical may be re-used provided it is thoroughly checked for the proper type, contamination, and condition. Where doubt exists with respect to the type, contamination, or condition of the dry chemical, the dry chemical must be discarded.

Halogenated agent: the removal of Halon 1211 from PFEs must be done only using a listed halon closed recovery system. The removal of agent from other halogenated agent PFEs must be done only using a closed recovery system. The PFE must be examined internally for contamination or corrosion, or both. The halogenated agent retained in the recovery system may be re-used only if no evidence of internal contamination is observed in the PFE container. Halogenated agent removed from the PFE that exhibits evidence of internal contamination must be processed in accordance with the PFE manufacturer's instructions.

Loaded stream agent: loaded stream agent may be recovered and re-used provided it is subjected to agent analysis in accordance with manufacturer's instructions.

Wet chemical agent: wet chemical agents are not to be re-used. If a wet chemical PFE is partially discharged, all remaining wet chemical must be discarded. A new charge of agent must be used after the applicable 5 year hydrostatic test.

D. Pressurization of Stored-Pressure PFEs' and Precautionary Measures

Only standard industrial-grade nitrogen with dew point of -60^{0}F or lower (CGA Nitrogen specification G10.1 grades D through P) must be used to pressurize stored-pressure dry chemical type and halon type PFEs. **Compressed air through moisture traps must not be used for pressurizing even though so stated in the instructions on older PFEs.** Compressed air may be used from special compressor systems capable of delivering air with a dew point of -60^{0}F or lower and equipped with an automatic monitoring and alarm system to ensure that the dew point remains at or below -60^{0}F at all times.
Some halogenated and Class D fire extinguishers must be pressurized with Argon with a dew point of -65 F or lower. Refer to the nameplate on the fire extinguisher or the manufacturer's service manual for the correct pressurization procedure.

Pressure gauges must have the proper indicated charging pressure, must be marked for use with the agent in the PFE, and must be compatible with the PFE valve body material. A stored-pressure type PFE must be pressurized only to the charging pressure specified on the PFE nameplate. The manufacturer's pressurizing adapter must be connected to the valve assembly before the PFE is pressurized. A regulated source of pressure, set no higher than 25 psi above the operating (service) pressure, must be used to pressurize PFEs. The gauge used to set the regulated source of pressure shall be calibrated at least annually. Since all are train by the manufacturer you should refer to the manual. There may be questions regarding the process.

E. Recharge Recordkeeping

Each PFE must have a tag or label securely attached that indicates the month and year the recharging was performed, the name and certificate of fitness number of the person who performed the recharging, and the name, street address and telephone

number of the PFE servicing company. Note: P O Boxes and cell phone numbers used on the tag are not acceptable.

The PFE that has been recharged must have a "Verification of Service" collar located around the neck of the container. The collar must contain a single circular piece of uninterrupted material forming a hole over the neck of the container that cannot be removed unless the valve is completely removed. The collar must not interfere with the operation of the PFE. The "Verification of Service" collar must include the month and year that the recharging was performed, indicated by a perforation such as is done by a hand punch. The collar shall contain the name and certificate of fitness number of the person performing the servicing and the company name and certificate number.

Liquefied gas, halogenated agent, and carbon dioxide PFEs that have been recharged without valve removal do not require a "Verification of Service" collar. Cartridge/cylinder-operated PFEs do not require a "Verification of Service" collar.

X. MODIFICATION

Whenever circumstances, conditions, limitations, or surroundings to a hazard are unusual as to prevent compliance to all foregoing provisions, the Commissioner may waive or modify such provisions to such extent as s/he may deem necessary, consistent with public safety.

XI. LITHIUM-ION BATTERY SAFETY

Lithium-ion safety

Lithium-ion batteries are rechargeable batteries found in electric bikes, scooters, cars, laptops, tablets, phones, and many other common household devices.

Lithium-ion battery fires have caused deaths, serious injuries, and devastating damage to property around the city. It's important to follow rules for safe storage, charging, and disposal for these types of batteries.

If you own a lithium-ion powered device or plan to buy one, the FDNY has important safety tips that you should follow. These tips apply to all devices powered by lithium-ion batteries, including phones, tablets, laptops, e-cigarettes, toys, high-tech luggage, and even robotic vacuum cleaners.

Immediately stop using or charging battery and call 911 if you notice:

- **Fire or Smoke**
- **Odd noises**
- **Overheating**
- **Leaking**
- **Change in color or shape**
- **Strange smell**

ALWAYS:

- purchase and use devices certified by a Nationally Recognized Testing Laboratory (NRTL).
- follow the manufacturer's instructions for:
  - charging and storage.
  - correct battery, cord, and power adapter
- keep exit path clear at all times.
- plug directly into a wall electrical outlet for charging.
- keep batteries and devices at room temperature.
- store and/or charge batteries away from anything flammable.
- keep away from heat sources.
- bring batteries to a **NYC Battery Recycling Center.** Visit nyc.gov/batteries for more information.

NEVER:

- use aftermarket batteries or chargers.
- use damaged or altered batteries
- plug into a power strip or overload an outlet.
- overcharge or leave battery charging overnight.
- charge a battery or device under your pillow, on your bed, or near a couch.
- leave e-bikes or e-scooters unattended while charging.
- block your primary way in or out of a room/space with e-bikes, e-scooters, wheelchairs, etc.
- place batteries in Trash or Recycling bin. **It is ILLEGAL.** Visit nyc.gov/batteries for disposal locations and information.

In the event of a Fire, Leave and CLOSE the door. Call 911 once you are in a safe location.

Charging Lithium Ion

Lithium-ion batteries do not have to be fully charged; partial charge is the most suitable.

When **charging more than five (5)** personal mobility devices or their removable batteries, it must be in a **dedicated room with ventilation** and a self-closing door.

For a total battery capacity of 20 kilowatt-hours (kWh), a 2-foot separation between charging batteries is required. For a total battery capacity up to 50 kWh, a 3-foot separation is needed.

Chargers must only be used with a compatible battery pack. The original equipment manufacturer (OEM) charger interplays with the battery pack using the battery management system (BMS). The wrong battery/charger combination may not work safely. For example, the 100% cutoff to prevent overcharging, which damages batteries, may not work which can easily create hazardous conditions such as fires, explosions and/or injuries.

Always check with the manufacturer or retailer of the personal mobility device, an authorized repair shop or a testing laboratory such as Underwrites Laboratories (UL) to see if replacement is recommended or listed and safe for use with that device. Using unauthorized parts, including batteries and/or chargers, may cause damage, fire and possibly void your warranty.

Extinguishing Lithium-ion

Water may not prevent a battery from burning and spreading. Battery cells are known to explode and quickly spread to another battery. It can spread to another devices.

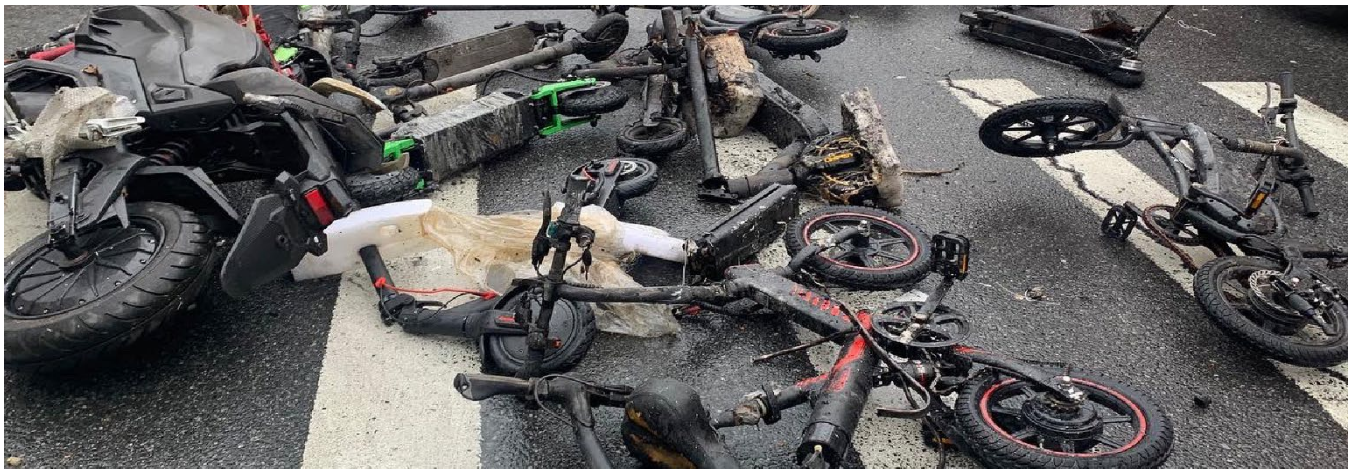
Fire Extinguishers
do not work
on lithium-ion batteries fires.

Unexpected Re-ignition.

Reignition is common. Lithium-Ion Batteries are known to unexpectedly re-ignite (without warning) minutes, hours and even days after all visible fire has been put out.

Lithium-ion batteries can enter an uncontrollable, self-heating state. This can result in the release of gas, cause fire and possible explosion.

These batteries may continue to generate heat even when there is no visible sign of fire. Once heat reaches a certain level fire may reignite on the battery and surrounding area.



XII. APPENDIX

ADDENDUM A

Portable Fire Extinguishers Internal and Hydrostatic Testing Frequency Chart

PFE TYPE	Frequency of Internal Examination	Frequency of Hydrostatic Testing
Stored pressure / loaded stream and anti-freeze	every year	every 5 years
Pump tank water / calcium chloride water	every year	N/A
Dry Chemical cartridge/cylinder operated, mild steel shell	every year	every 12 years
Dry Powder cartridge/cylinder operated, mild steel shell	every year	every 12 years
Wetting Agent	every year	every 5 years
Stored pressure water	every 5 year	every 5 years
AFFF Liquid Charge	every 3 Years	every 5 years
AFFF Solid Charge	every 5 years	every 5 years
EFFP Liquid Charge	every 3 years	every 5 years
Stored Pressure dry chemical, with stainless steel shell	every 5 years	every 5 years
Carbon Dioxide	every 5 years	every 5 years
Wet Chemical	every 5 years	every 5 years
Dry Chemical stored pressure - mild steel shell, brazed brass shells, & aluminum shells	every 6 years	every 12 years
Halogenated Agents	every 6 years	every 12 years
Dry Powder stored – pressure mild steel shell	every 6 years	every 12 years

ADDENDUM B

Minimum Equipment and Facility Requirements to Qualify

1. Appropriate **Commercial Zoning.**

2. Adequate hydrostatic test equipment for low-pressure cylinders. **With calibrated gauge[s]**.
3. Approved drying method for low-pressure cylinders after hydro test.
4. Adequate safety cage (in shop) for hydrostatic testing of low-pressure cylinders.
5. Low-pressure hydrostatic test labels containing the information listed in figure A.8.7.2, which is the design of a hydrostatic test label described in NFPA 10, 2007 edition.
6. Verification of maintenance/service collars as required in **NFPA-10, 2007 7.3.3.2.**
7. Facilities for proper storage of extinguishing agents.
8. Facilities must maintain an adequate supply of all manufacturers extinguishing agents.
9. Adequate closed recovery system and storage to remove and store chemicals from extinguisher cylinders during maintenance and recharging.
10. Air filtration system for work area.
11. Adequate filling equipment and a closed recovery system for clean agents.
12. Commercial dry nitrogen supply [-60 degrees F (-51.1 degrees C) dew point or less] and pressure regulator with supply and regulated pressure gauges suitable for pressurizing PFEs.
13. Equipment for leak testing of pressurized extinguishers.
14. Adequate vise, for shop use.
15. Suitable work area and work bench.
16. Accurate weighing scales for cartridge inspection and filling.
17. Accurate weighing scales for extinguisher inspection and filling.
18. Adapters, fittings, and sufficient tools and equipment to properly perform service, maintenance and recharging of PFEs.
19. Adequate inventory of **MANUFACTURERS, [OEM]** spare parts for proper service, maintenance and recharging of all PFEs.
20. Adequate inspection light for internal inspection.
21. Air Compressor for shop use.
22. Manufacturers' service and maintenance manuals for all PFEs being serviced and recharged.
23. Manufacturer's training and recertification for all individuals engaged in the service, maintenance and recharging of all PFEs.
24. Material Safety Data Sheets for all extinguishing agents.
25. Hazmat training and documentation for all individuals engaged in the service, maintenance and recharging of PFEs.
26. DOT certification for low pressure testing of DOT spec cylinders.
27. Nitrogen regulator with calibrated gauge.