Revised on March 2024 (Apply/Pay)

FIRE DEPARTMENT • CITY OF NEW YORK

STUDY MATERIAL FOR THE CERTIFICATE OF FITNESS EXAMINATION

SUPERVISION OF DRY CLEANING FACILITIES (Citywide)

C-93

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 study material is provided to the public for free by the FDNY.

Note: The C-93 Certificate of Fitness covers proper monitor, operation and maintenance of dry cleaning facilities. **If you are responsible for supervising the storage of flammable or combustible dry cleaning solvents on premises, you should take the C-92 test.**

CONTENT

EXAM SPECIFIC INFORMATION FOR C-93 CERTIFICATE OF FITNESS

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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: C-93 Certificate of Fitness:
If you are responsible for supervising the storage of flammable or combustible dry cleaning solvents on premises, you should take the C-92 test.

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.

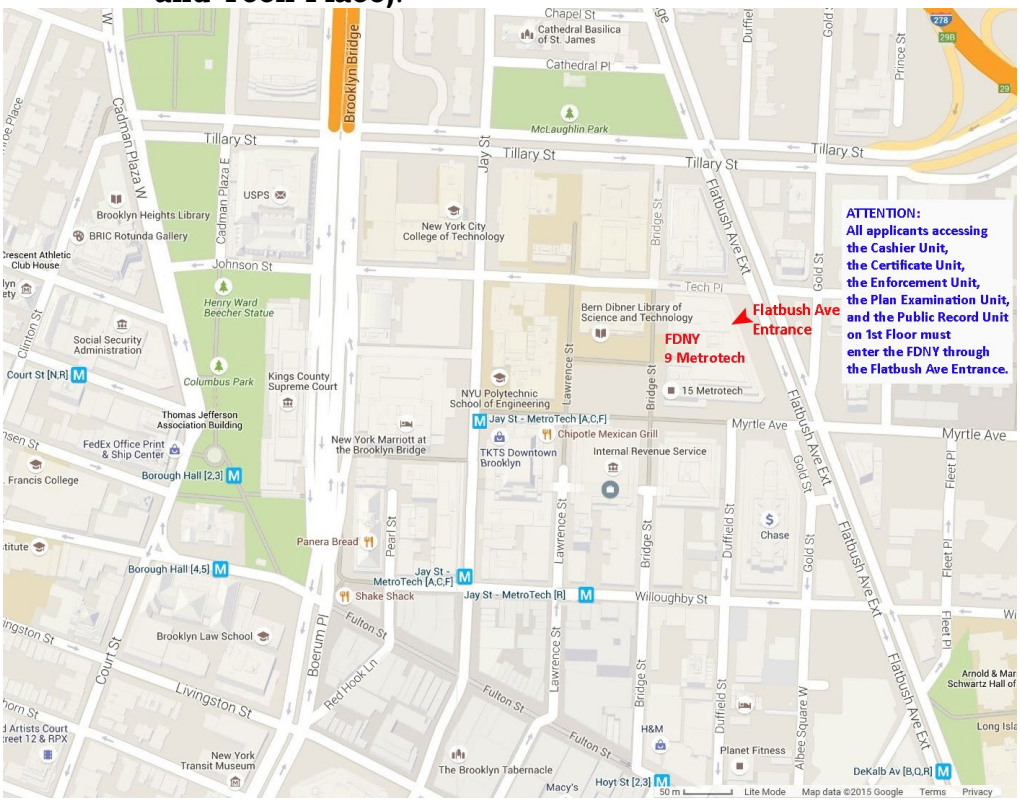
EXAM INFORMATION

The **C-93** exam will consist of **20** 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 **30** 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-c93-noe-study-materials.pdf

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 C-93 COF: None

The FDNY strongly recommends the C-93COF 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

STUDY MATERIAL AND TEST DECRIPTION

This study material contains the information you will need to prepare for supervising the dry cleaning facilities using Class II or III solvents in dry cleaning systems. **It will not be provided to you during the test. It is critical that you read and understand this booklet to help increase your chance of passing this exam.** The study material does not contain all of the information you need to know to supervise the dry cleaning facilities. It is your responsibility to become familiar with all applicable rules and regulations of the City of New York, even if they are not covered in this study material. You need to be familiar with the Fire Code Chapter 12 which regulates the installation, operation and maintenance of dry cleaning facilities.

About the Test

The C-93 test will consist of **20** multiple-choice questions. It is administered on a "touch screen" computer monitor. Both tests are time-limit tests. Only one answer is most correct for each question. If you do not answer a question, or if you mark more than one alternative your answer will be scored as incorrect. A score of 70% is required on the examinations in order to qualify for the Certificate of License. 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/displayed 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 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
C. the examiner in the testing room
D. you should not ask about test questions since FDNY staff cannot assist applicants

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

3. 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
C. the examiner in the testing room
D. the computer help desk

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

INTRODUCTION
This document outlines New York City Fire Department regulations for the safe operation and maintenance of dry cleaning facilities. The Certificate of Fitness holders are responsible for ensuring that all Fire Department regulations related to the safe operation and maintenance of dry cleaning facilities are obeyed on the premises.

Permit
A FDNY site-specific permit is required to maintain or operate dry cleaning equipment that utilizes a Class II or Class III solvent. Such permit authorizes the permit holder to maintain or operate such facilities at a specific premises or location. A site-specific permit may be a permanent permit or a temporary permit. Permanent permits are valid for 12 months only. Every permit or renewal shall require an inspection and shall expire after twelve months. Temporary permits may be valid from one day to 12 months depending on the construction/operation needed. For example, a 3-month temporary permit may be issued to a construction site.

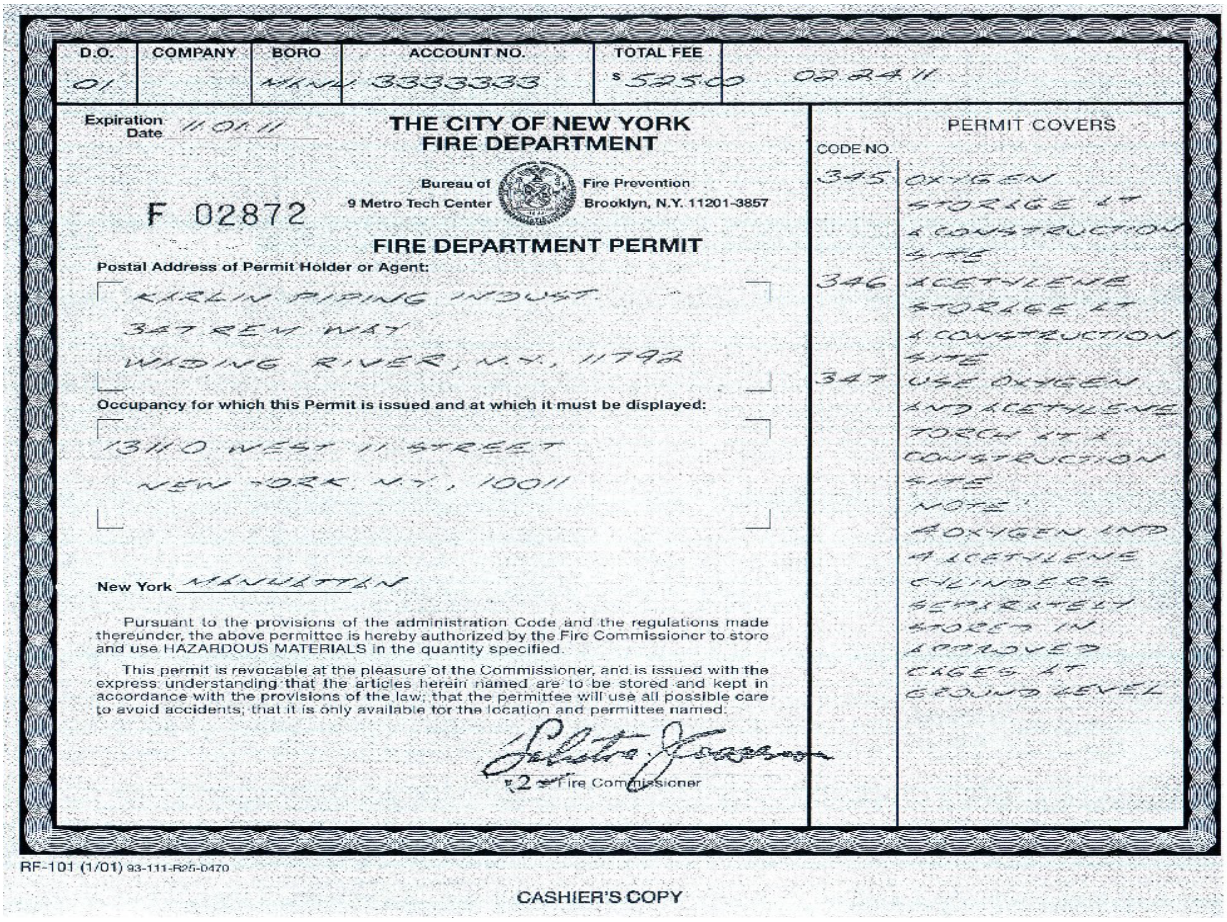
Permits are not transferable and any change in occupancy, operation, tenancy or ownership must require that a new permit be issued. The Certificate of Fitness holder is responsible for making sure that all fire safety regulations and procedures are obeyed on the premises. Permits and Certificates of Fitness shall be readily available on the premises for inspection by Fire Department representatives.

Certificate of Fitness
Dry cleaning facilities using Class II or III solvents in dry cleaning systems shall be under the **general supervision** of a C-93 certificate of fitness holder. Such certificate of fitness holder shall be an employee of the dry cleaning facility. The certificate of fitness holder shall monitor the equipment and facilities, ensure that the equipment and facilities are operated and maintained in accordance with this section, and instruct all employees who use or supervise the use of equipment in the proper operation and maintenance of such equipment.

Exception. Dry cleaning facilities may be operated under the general supervision of a person who is not an employee of the dry cleaning facility, provided that such person:

1. Holds a certificate of fitness.
2. Is an authorized representative of the manufacturer of the dry cleaning equipment, and provides the owner of the dry cleaning facility with appropriate proof of such authority.
3. Instructs all employees of the dry cleaning facility who use or supervise the use of the equipment in the proper operation and maintenance of the equipment.
4. Personally conducts a monthly inspection of the equipment and facility to ensure that they are being operated and maintained in accordance with this section.
5. Records each monthly inspection in a logbook maintained on the premises by the owner of the dry cleaning facility, by making the following entries: the date of the inspection, the name, address, and certificate of fitness number and expiration date of the person conducting the inspection and the certification that the equipment and facility are being operating and maintained in accordance with this section.

Photocopies of the certificates of fitness of all persons responsible for the supervision of a dry cleaning facility, and of the proof that such person is an authorized representative of the manufacturer, where applicable, shall be maintained on the premises and made available for inspection by any representative of the department.



D.O.	COMPANY	BORO	ACCOUNT NO.	TOTAL FEE	
01		MANH	3333333	$525.00	03 24 11

Expiration Date 11 01 11

THE CITY OF NEW YORK
FIRE DEPARTMENT

Bureau of Fire Prevention
9 Metro Tech Center Brooklyn, N.Y. 11201-3857

F 02872

FIRE DEPARTMENT PERMIT

Postal Address of Permit Holder or Agent:

KARLIN PIPING INDUST.
347 REM WAY
WIDING RIVER, N.Y., 11792

Occupancy for which this Permit is issued and at which it must be displayed:

1110 WEST 11 STREET
NEW YORK N.Y., 10011

New York MANHATTAN

Pursuant to the provisions of the administration Code and the regulations made thereunder, the above permittee is hereby authorized by the Fire Commissioner to store and use HAZARDOUS MATERIALS in the quantity specified.

This permit is revocable at the pleasure of the Commissioner, and is issued with the express understanding that the articles herein named are to be stored and kept in accordance with the provisions of the law; that the permittee will use all possible care to avoid accidents; that it is only available for the location and permittee named.

Salvatore Cassano
Fire Commissioner

PERMIT COVERS

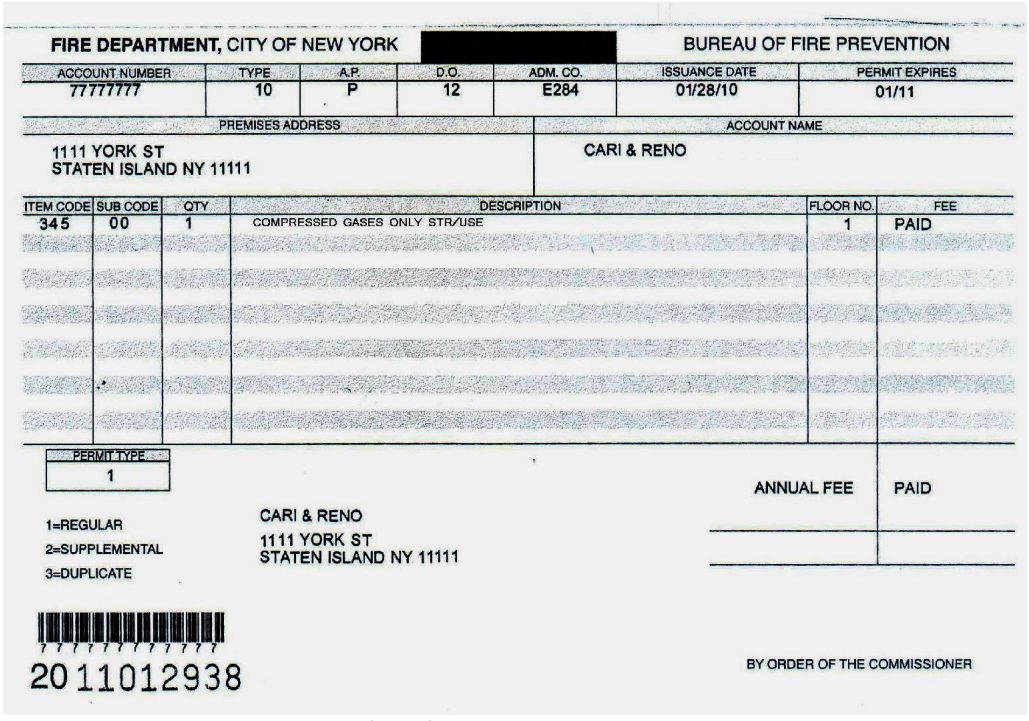
CODE NO.	
345	OXYGEN STORAGE AT A CONSTRUCTION SITE
346	ACETYLENE STORAGE AT A CONSTRUCTION SITE
347	USE OXYGEN AND ACETYLENE TORCH AT A CONSTRUCTION SITE

NOTE: OXYGEN AND ACETYLENE CYLINDERS REMAINED STORED IN APPROVED CAGES AT GROUND LEVEL

RF-101 (1/01) 93-111-R25-0470

CASHIER'S COPY

An example of FDNY temporary permit



FIRE DEPARTMENT, CITY OF NEW YORK [redacted] BUREAU OF FIRE PREVENTION

ACCOUNT NUMBER	TYPE	A.P.	D.O.	ADM. CO.	ISSUANCE DATE	PERMIT EXPIRES
77777777	10	P	12	E284	01/28/10	01/11

PREMISES ADDRESS	ACCOUNT NAME
1111 YORK ST STATEN ISLAND NY 11111	CARI & RENO

ITEM CODE	SUB CODE	QTY	DESCRIPTION	FLOOR NO.	FEE
345	00	1	COMPRESSED GASES ONLY STR/USE	1	PAID

PERMIT TYPE
1

1=REGULAR
2=SUPPLEMENTAL
3=DUPLICATE

CARI & RENO
1111 YORK ST
STATEN ISLAND NY 11111

ANNUAL FEE PAID

20 11012938

BY ORDER OF THE COMMISSIONER

An example of FDNY permanent permit

Safety Data Sheets (SDS)

Safety Data Sheet (SDS) information should be readily available. The safety data sheet (SDS) contains specific information about the health and physical hazards of the material used, as well as safe work practices and required protective equipment. It may also describe the material's physical characteristics and procedures that should be followed in case of an emergency. For example, the SDS may list appropriate and inappropriate extinguishing agents. The Certificate of Fitness holder must refer to the SDS when questions arise about how to handle, use, or store hazardous chemicals or materials. The SDS may also be requested by health care personnel to facilitate proper medical care in the event of chemical exposure.

Class of Flammable and Combustible Liquids

There are 3 classes of flammable liquids and 3 classes of combustible liquids defined as the following table.

Class of Flammable and Combustible Liquids

		Flash point	Boiling point	Examples
Flammable liquids (Class I liquids)	**Class IA**	< 73°F	< 100°F	Gasoline,Acetaldehyde, Ethyl ether, formate, Pentane
	Class IB	< 73°F	≥ 100°F	Acetone, Ethanol, Methyl alcohol, Propyl alcohol
	Class IC	≥ 73°F but < 100°F	Not Applicable	Turpentine, Butyl alcohol, Hydrazine, Styrene, Xylene
Combustible liquids (Class II & III liquids)	**Class II**	≥ 100°F but < 140°F	Not Applicable	Kerosene, Diesel, WD-40 lubricant
	Class IIIA	≥ 140°F but < 200°F	Not Applicable	Butyric Acid, Creostoe Oil
	Class IIIB	≥ 200°F	Not Applicable	Formalin, Glycerine, Picric acid, Propylene glycol

1. DEFINITION

BOILING POINT. The temperature at which the vapor pressure of a liquid equals the atmospheric pressure of 14.7 pounds per square inch (psia) (101 kPa) or 760 mm of mercury. Where a boiling point is unavailable for the material in question, or for mixtures which do not have a constant boiling point, for the purposes of this classification, the 20-percent evaporated point of a distillation performed in accordance with ASTM D 86 shall be used as the boiling point of the liquid.

CHEMICAL NAME. The scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry, the Chemical Abstracts Service rules of nomenclature, or a name that will clearly identify a chemical for the purpose of conducting an evaluation.

COMBUSTIBLE LIQUID. For purposes of transportation, a combustible liquid, as defined in the regulations of the United States Department of Transportation, as set forth in 49 CFR Section 173.120. For all other purposes, a liquid, other than a compressed gas or cryogenic fluid, having a closed cup flash point at or above 100°F (38°C), classified as follows:

Class II. Liquids having a closed cup flash point at or above 100°F (38°C) and below 140°F (60°C).

Class IIIA. Liquids having a closed cup flash point at or above 140°F (60°C) and below 200°F (93°C).

Class IIIB. Liquids having closed cup flash points at or above 200°F (93°C).

CONTAINER. For solid and liquid hazardous materials, a vessel of 60 gallons (227 L) or less in capacity used for storage or transportation. For compressed gases, a cylinder, pressure vessel or tank designed for pressures greater than one atmosphere at 68°F (20°C). Pipes, piping systems, engines and engine fuel tanks associated with solid or liquid hazardous materials or compressed gases, shall not be deemed to be containers if in active use.

CONTROL AREA. Spaces within a building that are enclosed and bounded by exterior walls, fire walls, fire barriers and roofs, or a combination thereof, where quantities of hazardous materials not exceeding the maximum allowable quantities per control area are stored, handled or used, including any dispensing.

DISPENSING. The pouring or transferring by other means of any material from a container, tank or similar vessel, which would release dusts, fumes, mists, vapors or gases to the atmosphere, unless such release is prevented by a device, equipment or system designed for that purpose.

DRY CLEANING. The process of removing dirt and stains or otherwise cleaning apparel, textiles, rugs and other items with nonaqueous liquid solvents.

DRY CLEANING FACILITY. A facility in which dry cleaning and associated operations are conducted, including the office, receiving area and storage rooms.

DRY CLEANING ROOM. An occupiable space within a building used for dry cleaning, the installation, storage and/or use of dry cleaning equipment and/or the storage of dry cleaning solvents.

DRY CLEANING SYSTEM. Equipment used to perform dry cleaning, including immersion or agitation in solvent of the items to be cleaned, and the extraction of solvent from such items.

FLAMMABLE LIQUID. For purposes of transportation, a flammable liquid defined in the regulations of the United States Department of Transportation, as set forth in 49 CFR

Section 173.120. For all other purposes, a liquid, other than a compressed gas or cryogenic fluid, having a closed cup flash point below 100°F (38°C), classified as follows:

Class IA. Liquids having a flash point below 73°F (23°C) and having a boiling point below 100°F (38°C).

Class IB. Liquids having a flash point below 73°F (23°C) and having a boiling point at or above 100°F (38°C).

Class IC. Liquids having a flash point at or above 73°F (23°C) and below 100°F (38°C).

FLAMMABLE VAPORS OR FUMES. The concentration of flammable constituents in air that exceeds 25 percent of their lower flammable limit (LFL).

FLASH POINT. The minimum temperature in degrees Fahrenheit at which a liquid will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container, but will not sustain combustion. The flash point of a liquid shall be determined by appropriate test procedure and apparatus as specified in ASTM D 56, ASTM D 93 or ASTM D 3278.

GENERAL SUPERVISION. Supervision by the holder of any department certificate who is responsible for performing the duties of the certificate holder but need not be personally present on the premises at all times.

HANDLING. The movement of a material in its container, the removal of the material from its container, or any other action or process that may affect the material, other than its storage or use.

HAZARDOUS MATERIALS. Those chemicals or substances that are physical hazards or health hazards as defined and classified in this chapter, whether the materials are in usable or waste condition.

HEALTH HAZARD. A classification of a chemical for which there is statistically significant evidence that acute or chronic health effects are capable of occurring in exposed persons. The term “health hazard” includes chemicals that are toxic, highly toxic and corrosive.

INCOMPATIBLE MATERIALS. Materials that, if mixed or combined, could explode, generate heat, gases or other byproducts, or react in a way hazardous to life or property.

LIQUID. A material having a melting point that is equal to or less than 68°F (20°C) and a boiling point that is greater than 68°F (20°C) at 14.7 psia (101 kPa). When not otherwise identified, the term “liquid” includes both flammable and combustible liquids.

OCCUPANCY. The purpose or activity for which a building or space is used or designed to be used. References to occupancy classification shall be deemed to include the equivalent occupancy classifications under the 1968 Building Code and all prior Building Codes or other applicable laws, rules and regulations. The occupancy classifications used in this code are defined as follows:

Group A. An assembly occupancy, including Groups A-1, A-2, A-3, A-4 and A-5, as defined in Section 303 of the Building Code.

Group B. A business occupancy, as defined in Section 304 of the Building Code.

Group E. An educational occupancy, as defined in Section 305 of the Building Code.

Group F. A factory and industrial occupancy, including Groups F-1 and F-2, as defined in Section 306 of the Building Code.

Group H. A high-hazard occupancy, including H-1, H-2, H-3, H-4 and H-5, as defined in Section 307 of the Building Code.

Group I. An institutional occupancy, including Groups I-1, I-2, I-3 and I-4, as defined in Section 308 of the Building Code.

Group M. A mercantile occupancy, as defined in Section 309 of the Building Code.

Group R. A residential occupancy, including Groups R-1, R-2 and R-3, as defined in Section 310 of the Building Code.

Group S. A storage occupancy, including Groups S-1 and S-2, as defined in Section 311 of the Building Code.

Group U. A utility and miscellaneous occupancy, as defined in Section 312 of the Building Code.

PERSONAL SUPERVISION. Supervision by the holder of any department certificate who is required to be personally present on the premises, or other proximate location acceptable to the department, while performing the duties for which the certificate is required.

SAFETY CAN. An approved container with a capacity of not more than 5-gallons (19 L) and equipped with a spring-closing lid and spout cover designed to relieve internal pressure when exposed to fire.

SYSTEM. An assembly of devices, equipment, containers, appurtenances, pumps, compressors and connecting piping that is designed to perform a complex and/or complete function.

2. STORAGE, HANDLING AND USE

2.1 General Storage Requirements

2.2.1 Clearance from incompatible materials

The SDS's should be consulted regarding specific incompatibilities. Materials that will react with water or other liquids to produce a hazard shall not be stored in the same room/cabinet with flammable and combustible dry cleaning solvents. Incompatible materials, shall be separated while in storage except for stored materials in individual containers each having a capacity of not more than 5 pounds or 0.5 gallon. Separation shall be accomplished by:

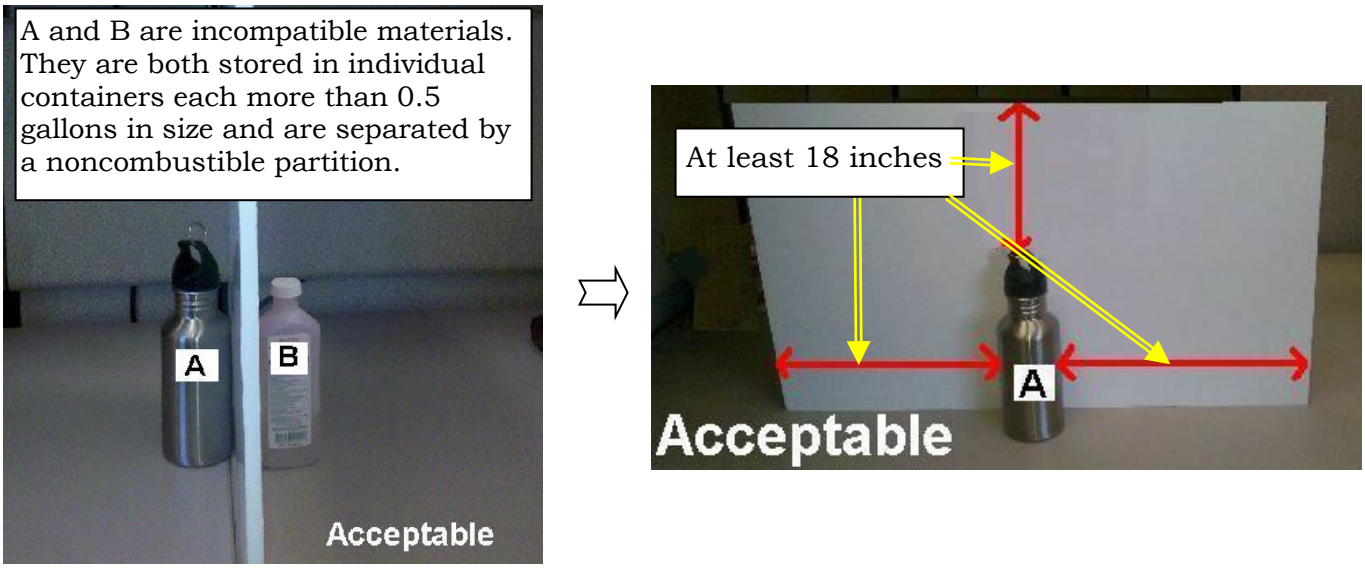
- Segregating incompatible materials in storage by a distance of not less than 20 feet.

Or

- Storing liquid and solid materials in hazardous material storage cabinets. Materials that are incompatible shall not be stored in the same cabinet.

Or

- Isolating incompatible materials in storage by a noncombustible partition extending not less than 18 inches above and to the sides of the stored material.



2.2.2 Means of access to an exit

It shall be unlawful to obstruct or impede access to any required means of egress. All required means of egress, including each exit, exit access and exit discharge, shall be continuously maintained free from obstructions and impediments to immediate use in the event of fire or other emergency. Storage of any liquids, including stock for sale, shall not be stored near or be allowed to physically obstruct the route of egress.

2.2 General Handling And Use Requirements

2.2.1 Bonding and grounding

Storage tanks, treatment tanks, filters, pumps, piping, ducts, dry cleaning units, stills, tumblers, drying cabinets and other dry cleaning equipment, where not inherently electrically conductive, shall be bonded together and grounded. Isolated equipment shall be grounded.

2.2.2 Indoor Use

Indoor use of flammable and combustible dry cleaning solvents includes the dispensing and mixing of such liquids.

Limitations on handling and use:

Gasoline and other flammable liquid motor fuels in portable containers in quantities requiring a permit are subject to the approval of the commissioner, regardless of the occupancy classification of the premises. The quantity of all other flammable or combustible dry cleaning solvents handled and used, including the quantity dispensed and mixed, shall be limited by occupancy as follows:

(I) Group A, B, E, F, I, M and S occupancies. Flammable and combustible dry cleaning solvents shall be handled and used only for lawful uses incidental to the occupancy, including maintenance and operation of equipment, and in quantities not to exceed those which are necessary for such use.

(II) Group R occupancies. Flammable and combustible dry cleaning solvents shall be handled and used only for maintenance and operation of equipment, and in quantities not to exceed those which are necessary for such use. Quantities used within a dwelling unit shall be for household uses only and in quantities below permit amounts. It shall be unlawful to handle or use gasoline or other flammable liquid motor fuel within a dwelling unit.

2.3 Signs

2.3.1 No-smoking signs

It shall be unlawful to smoke in a dry cleaning facility. “NO SMOKING” signs shall be provided. Signs shall be posted in storage areas prohibiting open flames and smoking. “No Smoking” signs shall be required even in institutions that totally prohibit smoking. The signs shall be provided in English as a primary language and conspicuously posted in the following locations:

a.) In rooms or areas where hazardous materials are stored or used.
b.) Within 25 feet of outdoor hazardous material storage, handling and use areas, including dispensing areas.
c.) Facilities or areas within facilities in which smoking has been entirely prohibited.

The Fire Department has published an approved “No Smoking” sign as set forth in Fire Department Rules. However, the Fire Department does not mandate that this design be used. Other legible, durable signs, clearly communicating the “no smoking” requirement, may be used, but are subject to Fire Department enforcement action if found to be inadequate.

Examples of acceptable sign

2.3.2 Labels

Individual containers, packages and cartons shall be identified, marked, labeled and placarded in accordance with federal regulations and applicable state laws.

3. GENERAL REQUIREMENTS FOR DRY CLEANING

3.1 Design and Installation Documents

It shall be unlawful to install, operate or maintain a Type I dry cleaning system. Class I solvents only allowed be stored, handled, and used for spotting and pretreating purposes in any dry cleaning facility.

Design and installation documents required to be submitted to the commissioner pursuant to the provisions of the Fire code, the Fire rules or the construction codes, including dry cleaning systems using Class II and III solvents, or as directed by the commissioner to demonstrate or document that a device, equipment, system, operation or facility regulated by the Fire code is designed and installed in accordance with the Fire Code, shall be submitted in accordance with this the Fire Code Section 105.4.

The above documents once approved by the Department of Building are required to submit to the Fire Department, Technology Management for review and approval.

3.2 Classifications

Solvent Classifications	Definition	Dry Cleaning Systems Classifications[a]	Definition
Class I	Flammable liquids having a flash point below 100°F	Type I[b]	Systems using Class I solvents
Class II	Combustible liquids having a flash point between 100°F & 140°F	Type II	Systems using Class II solvents
Class IIIA	Combustible liquids having a flash point between 140°F & 200°F	Type III-A	Systems using Class IIIA solvents
Class IIIB	Combustible liquids having a flash point at or above 200°F	Type III-B	Systems using Class IIIB solvents
Class IV	Liquids that are neither flammable nor combustible	Type IV	Systems using Class IV solvents in which dry cleaning is not conducted by the public
		Type V	Systems using Class IV solvents in which dry cleaning is conducted by the public

a. Dry cleaning facilities using more than one class of dry cleaning system shall be classified based on the numerically lowest type of system.

b. It shall be unlawful to install, operate or maintain a Type I dry cleaning system. Class I solvents only allowed be stored, handled, and used for spotting and pretreating purposes in any dry cleaning facility.

3.3 Requirements

3.3.1 Ignition control

It shall be unlawful to smoke in a dry cleaning facility. “NO SMOKING” signs shall be provided. In Type II dry cleaning facilities, heating shall be by indirect means using steam or hot water. Electrical wiring and equipment in dry cleaning rooms or other portions of the facility exposed to flammable vapors shall be installed in accordance with the Electrical Code. Tanks, treatment tanks, filters, pumps, piping, ducts, dry cleaning units, stills, tumblers, drying cabinets and other dry cleaning equipment, where not inherently electrically conductive, shall be bonded together and grounded. Isolated equipment shall be grounded.

3.3.2 Written instructions and identification

The manufacturer’s manuals for the installation, operation and maintenance of the equipment shall be maintained on the premises and made available for inspection by any representative of the department. Type II, III-A, III-B and IV dry cleaning systems shall be operated in accordance with the instructions provided by the manufacturer. The owner shall ensure that all persons operating dry cleaning equipment comply with such instructions. Operating instructions for customer use of Type V dry cleaning systems shall be conspicuously posted in a location near the dry cleaning equipment. A telephone number shall be provided for emergency assistance.

The manufacturer shall permanently affix to dry cleaning equipment nameplates indicating the class of solvent for which each piece of equipment is designed. The name of the dry cleaning solvent approved for use in dry cleaning equipment shall be clearly and conspicuously marked or posted at the fill connection of the equipment.

3.3.3 Operation and maintenance requirements

It shall be unlawful to dry clean by immersion and agitation in open systems. Only solvents of a type listed for a particular piece of equipment shall be used in that equipment.

Proper operating practices and maintenance shall be observed in order to prevent the leakage of solvent or the accumulation of lint. Class I and II liquids shall not be used for cleaning floors. Filter residue and other waste containing solvent shall be stored in covered metal containers and disposed of lawfully. Lint and other waste shall be removed from traps daily, deposited in approved waste cans and disposed of lawfully. Lint traps shall remain in place while the dry cleaning equipment is in operation. In Type V dry cleaning systems, customer areas shall be kept free of rubbish and other combustible waste. Type II, III, IV and V dry cleaning systems shall be provided with an automatically activated exhaust ventilation system. The ventilation system shall operate automatically when the dry cleaning equipment is in operation and shall have manual controls at an approved location.

Type II dry cleaning systems shall be operated in accordance with the following additional requirements:

(1) Items to be dry cleaned shall be searched thoroughly, and foreign materials, including matches and metallic substances, shall be removed.
(2) In removing dry cleaned items from the washer, provision shall be made to minimize the dripping of solvent onto the floor. Where items are transferred from a washer to a

drain tub, a nonferrous metal drip apron shall be placed so that the apron rests on the drain tub and the cylinder of the washer.

3.3.4 Inspections and testing

All dry cleaning equipment using Class II or III solvents shall be inspected and tested on at least an annual basis. The owner of the dry cleaning facility shall remove from service any equipment that is found to be defective, and shall promptly repair such equipment or remove it from the premises. Such equipment shall not be returned to service until it has been inspected and tested. All such inspection and testing shall be performed by a person holding a certificate of fitness.

The individual performing the inspection and testing of equipment shall prepare a written report identifying any defects in the condition and operation of the equipment and/or certifying that the equipment can be safely operated in accordance with this chapter. A certification that all equipment in service is in proper working order in accordance with this chapter shall be maintained on the premises for 3 years and made available for inspection by any representative of the department.

3.3.5 Filling and emptying

The filling and emptying of dry cleaning equipment with Class II or III solvents shall be performed by a certificate of fitness holder. Each filling and emptying of dry cleaning equipment with a Class II or III solvent shall be recorded in a logbook. Such records shall include the date of the filling or emptying, the type and amount of dry cleaning solvent, the equipment filled or emptied, and the name and certificate number of the certificate of fitness holder who performed the filling or emptying. The records shall be maintained on the premises for 3 years and made available for inspection by any representative of the department.

3.4 Spotting and Pretreating

It shall be unlawful to install, operate or maintain a Type I dry cleaning system. Class I solvents only allowed be stored, handled, and used for spotting and pretreating purposes in any dry cleaning facility. The maximum quantity of Class I solvents allowed at any dry cleaning facility shall be 1 gallon. Class I solvents shall be stored in approved metal containers or safety cans of not more than 2 quarts capacity.

Spotting and pretreating, including scouring and brushing, shall be conducted with Class II or III solvents. The maximum quantity of Class II or III solvents allowed at any work station shall be 1 gallon. In an occupancy other than a Group H-2 occupancy, the aggregate quantities of solvents shall not exceed the maximum allowable quantity per control area for use-open systems. Scouring, brushing or spotting tables on which items are soaked in solvent shall have a liquid-tight top with a curb on all sides not less than 1 inch high. The top of the table shall be pitched to ensure thorough draining to a 1.5-inch drain connected to an approved container. Metal scouring, brushing and spotting tables and scrubbing tubs shall be permanently and effectively bonded and grounded.

Items that may be damaged from being washed in the washing equipment may be manually cleaned in scrubbing tubs. Scrubbing tubs shall comply with the following requirements:

1. Only Class II or III liquids shall be used.

2. The total amount of solvent used in such tubs shall not exceed 3 gallons.
3. Scrubbing tubs shall be secured to the floor.
4. Scrubbing tubs shall be provided with permanent 1.5- inch (38 mm) drains. Such drains shall be provided with a trap and shall be connected to an approved container.

It shall be unlawful to store, handle or use any Class I, Class II or Class III solvent for spotting or pretreating operations in any Type V dry cleaning facility or in connection with the use of any Type V dry cleaning system.

4. COMMON CLEANING FLUIDS USED IN DRY CLEANING OPERATIONS

There are two common dry cleaning solvents that are used in the dry cleaning systems. The first one is ExxonMobil Chemical Dry-cleaning Fluid 2000(DF 2000) and the other solvent is GE Siloxane-based solvent(SB 32). Both solvents are Class IIIA solvents.

(A) DF 2000

(Hazard Signal: 1 Health 2 Flammability 0 Instability)

Handling and Storage

- ***Handling Precautions:***
  Do not handle near an open flame, heat or other sources of ignition. Material will accumulate static charges which may cause an electrical spark. Use proper bonding and/or grounding procedures.
- ***Storage:***
  Keep container closed. Store in a cool, well ventilated place away from incompatible materials. Do not store near an open flame, heat or other sources of ignition. Protect material from direct sunlight.

Fire hazard

Combustible liquid, can form combustible mixtures at temperatures at or above the flashpoint. Material can accumulate static charges which can cause an incendiary electrical discharge. Empty containers retain product residue and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty drums should be completely drained, properly bunged and promptly return to a drum reconditioned, or properly disposed of.

Health Hazards

- ***Inhalation:***
  High vapor/aerosol concentrations are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death. May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation. Causes chemical burns to the respiratory tract.
- ***Eye Contact:***
  Slightly irritating but does not injure eye tissue.
- ***Skin Contact:***
  Low order of toxicity. Frequent or prolonged contact may irritate and cause dermatitis. Skin contact may aggravate an existing dermatitis condition.

(B) SB 32

(Hazard Signal: 1 Health 2 Flammability 0 Instability)

Handling and Storage

- ***Handling Precautions:***
  Avoid contact with skin and eyes. Avoid inhalation of vapors or mists. Keep away from children. Use ground strap and appropriate precautions for dispensing flammable liquids.
- ***Storage:***

Store away from heat, sources of ignition, and incompatibles. Keep container tightly closed.

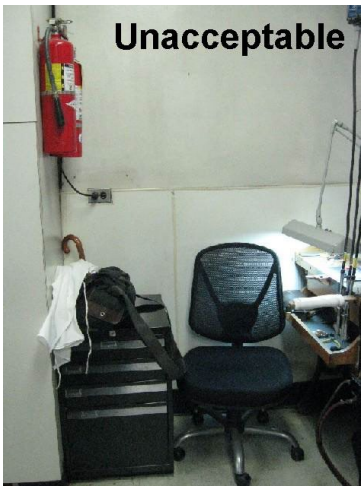
Health hazard

- ***Eye and Skin Contact:***
  May cause irritation.

5. FIRE PROTECTION AND EMERGENCY RESPONSES

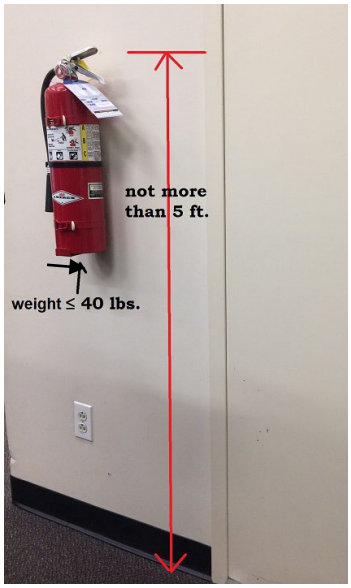
A minimum of two 2-A:10-B:C portable fire extinguishers shall be provided near the doors inside dry cleaning rooms containing Type II, Type III-A and Type III-B dry cleaning systems.

Fire extinguishers must be located in conspicuous locations where they will be readily accessible and immediately available for use. These locations must be along normal paths of travel. Fire extinguishers having a gross weight 40 pounds or less must be installed so that the top of the extinguisher is not more than 5 ft above the floor. Hand-held fire extinguishers having a gross weight exceeding 40 pounds shall be installed so that their tops are not more than 3.5 feet above the floor. The clearance between the floor and the bottom of installed hand-held extinguishers shall not be less than 4 inches. In other words, **no fire extinguisher is allowed to be on the floor.**



(1) For the fire extinguisher having 40 pounds or less, its top must not be more than 5 ft above the floor
(2) The fire extinguishers must be accessible and unobstructed.

(1) The bottom of the fire extinguisher must be at least 4 in above the floor.
(2) The fire extinguisher must be properly mounted.



In the event of a fire extinguisher has been discharged, a fully charged replacement is required before work can resume. Portable fire extinguishers are important in preventing a small fire from growing into a catastrophic fire, however, they are not intended to fight large or spreading fires. By the time the fire has spread, fire extinguishers, even if used properly, will not be adequate to extinguish the fire. Such fires should be extinguished by the building fire extinguishing systems or trained firefighters only.

In case of any fire, 911 must be called. Fire extinguishers must be used in accordance with the instructions painted on the side of the extinguisher. They clearly describe how to use the extinguisher in case of an emergency. The Certificate of Fitness holder should be familiar with the use of portable fire extinguishers. When it comes to using a fire-extinguisher just remember the acronym P.A.S.S. to help make sure you use it properly. P.A.S.S. stands for Pull, Aim, Squeeze, Sweep. An example of these instructions is depicted in the picture.

5.1 Different Types of Fire Extinguishers

The Certificate of Fitness holder must be familiar with the different types of fire extinguishers that are present. He/she must know how to operate the extinguishers in a

safe and efficient manner. He/she must know the difference between the various types of extinguishers and when they should be used. A description of the five classes of fires and the appropriate extinguishers are described below.

Class A fires are caused by ordinary combustible materials (such as wood, paper, and cloth). To extinguish a Class A fire, these extinguishers utilize either the heat-absorbing effects of water or the coating effects of certain dry chemicals.

Class B fires are caused by flammable or combustible liquids and gases such as oil, gasoline, etc. To extinguish a Class B fire, the blanketing-smothering effect of oxygen-excluding media such as CO_2, dry chemical or foam is most effective.

Class C fires involve electrical equipment. These fires must be fought with fire extinguishers that do not conduct electricity. Foam and water type extinguishers must not be used to extinguish electrical fires. After the power has been isolated from the electrical equipment, extinguishers for Class A or B fires may be used.

Class D fires are caused by ignitable metals, such as magnesium, titanium, and metallic sodium, or metals that are combustible under certain conditions, such as calcium, zinc, and aluminum. Generally, water should not be used to extinguish these fires.

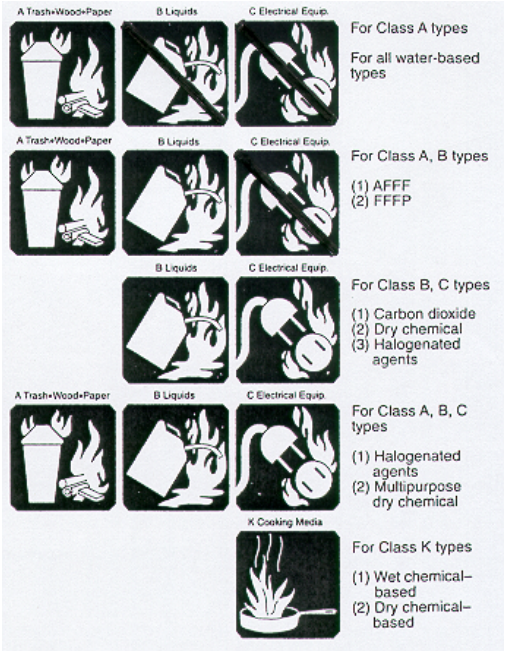
A multi-purpose dry chemical fire extinguisher may be used to extinguish more than 2 Classes fires. Examples of some fire extinguishers are shown below.

Examples of fire extinguishers

10-B:C (10BC)	3-A:40-B:C(3A40BC)
	

Symbols may also be painted on the extinguisher. The symbols indicate what kind of fires the extinguisher may be used on. Examples of these symbols are shown below.

CLASSES OF FIRES	TYPES OF FIRES	PICTURE SYMBOL
A	Wood, paper, cloth, trash & other ordinary materials.	
B	Gasoline, oil, paint and other flammable liquids.	
C	May be used on fires involving live electrical equipment without danger to the operator.	
D	Combustible metals and combustible metal alloys.	
K	Cooking media (Vegetable or Animal Oils and Fats)	



Fire Extinguisher Identification Symbols

The symbol with the shaded background and the slash indicates when the extinguisher must not be used. The Certificate of Fitness holder must understand these symbols. All fire extinguishers should be kept in good working order at all times.

5.2 Fire Extinguisher Inspections

MONTHLY

The portable fire extinguishers are required to be checked monthly. The owner of the business is responsible to select a person to do a monthly inspection. This monthly inspection is called a "quick check".

The **QUICK CHECK** should check if:
(1) the fire extinguisher is fully charged;
(2) it is in its designated place;
(3) it has not been actuated or tampered with;
(4) there is no obvious or physical damage or condition to prevent its operation.

The information of the monthly inspection record must include the date of the inspection, the name/initials of the person who did the inspection. This monthly quick check record must be kept on the back of the PFE tag or by an approved electronic method that provides a permanent record.

ANNUALLY

At least annually all Portable Fire Extinguishers must be checked by a W-96 Certificate of Fitness holder from FDNY approved company. After each annual inspection W-96 COF holder will replace the PFE tag. The information of the annual inspection record must be indicated on the new PFE tag.

5.3 Portable Fire Extinguisher Tags

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 your 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)

5.4 Emergency Procedures

5.4.1 Fire notification

Anyone becoming aware of any fire is required to immediately notify the emergency operator (911) or, depending upon the borough in which the property is located, insert one of the following the Fire Department Dispatcher numbers:

Manhattan properties	(212) 999-2222
Bronx properties	(718) 999-3333
Brooklyn properties	(718) 999-4444
Queens properties	(718) 999-5555
Staten Island properties	(718) 999-6666

The New York City Fire Department will respond. No supervisor or other person shall issue any directive or take any action to prevent or delay the reporting of a fire or other emergency to the department. You should also notify the building's designated fire safety person who is familiar with the building and can meet the responding emergency units upon their arrival, and direct them quickly to the fire area.

The Certificate of Fitness holder must know the locations of manual fire alarm system pull stations and portable fire extinguishers and how to operate them. In the case of a fire emergency, in addition to calling 911, you should activate the fire alarm system manual pull station. Activation of the manual pull station will sound the alarm in the building.

The Certificate of Fitness holder should know how to respond when an individual's clothing has caught fire. The most important instruction for the case of clothing fires: immediately drop to the floor and roll. If the person is panicking and running, other people in the area should immediately knock that person to the floor and roll that person around to smother the flames. If the safety shower is near, the use of this shower would also be an effective way to smother the flames. If after smothering the fire, if the clothing that caught fire can be removed, remove it. If the clothes are burnt onto your skin, do not remove the clothes but soak with water and keep cool. In all cases, immediately seek medical attention.

5.4.2 Spill notification

In case of a major spill, the Certificate of Fitness holder must notify the Fire Department by phone immediately. The Certificate of Fitness holder must know the telephone number of the Fire Department Dispatcher number in the borough where the building is located. These phone numbers must be posted near the phones most likely to be used in case of an emergency.

6. 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**
- **Overheating**
- **Change in color or shape**
- **Odd noises**
- **Leaking**
- **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.