

FIRE DEPARTMENT • CITY OF NEW YORK



STUDY MATERIAL FOR THE EXAMINATION FOR  
CERTIFICATE OF FITNESS  
FOR

**Supervision of Portable Fueled Space Heaters at  
Construction Sites**

**S-92**

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

***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.fdnyccloud.org/CitizenAccess>

ALSO INCLUDED IN THIS BOOKLET YOU WILL FIND THE FOLLOWING:

NOTICE OF EXAMINATION (NOE)

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## **NOTICE OF EXAMINATION**

**Title: Examination for Certificate of Fitness for Supervision of Portable Fueled Space Heaters at Construction Site (S-92)**

***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.fdnyccloud.org/CitizenAccess>

### **REQUIREMENTS FOR WRITTEN EXAM**

Applicants must be at least 18 years of age and must have a reasonable understanding of the English language. Applicants must apply the exam in person and bring the following materials and required fee:

1. **Identification.** Applicant must provide two forms of identifications; at least one form of identification must be government issued photo identification, such as a State-issued Drivers' License or Non Driver's License or a passport.
2. **Letter of Recommendation.** Applicants must present a letter of recommendation from his/her employer. The letter must be on official letterhead, and must state the applicant's full name, experience and the address where the applicant will work. If the applicants are self-employed or the principal of the company, they must submit a notarized letter attesting to their qualifications. For more info:
  - Sample of recommendation letter:  
<http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-sampler-rec-letter.pdf>
  - Sample of self-employed letter:  
<http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-sample-self-rec-letter.pdf>
3. **A-20.** Applicants must present a completed application for certificate of fitness (A-20 Form).  
<http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-application-form.pdf>
4. **Without Required Documentation.** Applicants not currently employed may take the exam without the required documentation. If the applicants pass the exam, FDNY will issue a temporary letter with picture for the job seeking purpose. The C of F card will not be issued unless the applicants are employed and provide all of the required documentation. *(Exception:*

*If COF has a school requirement, applicant will not be allowed to take COF exam until school is completed.)*

5. **Special requirements for the:** S-92 Certificate of Fitness: None

6. **APPLICATION FEE:**

Pay the **\$25** application fee in person by one of the following methods:

- Cash
- Credit card (*American Express, Discover, MasterCard, or Visa*)
- Debit card (*MasterCard or Visa*)
- Personal or company check or money order (*made payable to the New York City Fire Department*)

For fee waivers submit: ***(Only government employees who will use their C of F 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

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

**EXAM INFORMATION**

The **S-92** exam will consist of **25** 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 38 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-s92-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.

**OTHER RELATED FEES**

**To change a mailing address:**

- Submit a letter requesting the change of mailing address and a copy of your C of F with \$5.00 fee.

**To change a work location,**

- Submit a letter from your current employer (on company letterhead) confirming that you are an employee and stating your new work location with a copy of your C of F and a \$5.00 fee

**To request a replacement certificate:**

- Submit a driver's license or passport, social security number, mailing address and a \$5.00 fee.

**RENEWAL REQUIREMENTS**

This Certificate of Fitness must be renewed every **THREE YEARS**. The renewal fee is **\$15**. FDNY also reserves the right to require the applicants to take a re-examination upon submission of renewal applications.

You will receive a courtesy notice of renewal 90 days before the expiration date. However, it is your responsibility to renew your Certificate. It is very important to renew your C of F before it expires. Renewals submitted 90 days (up to one year) after the expiration date will incur a \$25 penalty in addition to the renewal fee. Certificates expired over one year past expiration date will not be renewed. New exams will be required.

**The certificate can be renewed On-line, by Mail or in Person.**

- **Renewal online**

If you are an individual, make sure you have your 12 digit Certificate of Fitness Access ID. This can be found on your Renewal Notice. If you do not have your Renewal Notice, your Access ID is your 8 digit Certificate of Fitness number and the last four digits of your social security number. If you are submitting renewals on behalf of a company's employees, the company must be approved by FDNY and have an 8 digit Company Code. To request approval, email [pubrenew@fdny.nyc.gov](mailto:pubrenew@fdny.nyc.gov).

Renewal fee can be paid by one of the following methods:

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

Fee exempted applicants cannot renew online only by mail or in person.

If all the requirements are met, the certificate of fitness will be mailed out within 10 days.

For online renewal go to: <https://a836-citypay.nyc.gov/citypay/FDNYCOF>

- **Renewal by mail**

Mail your Renewal Notice (or if you did not receive a Renewal Notice, a copy of your certificate), along with your fee payment, Personal or company check or money order (made payable to the New York City Fire Department)

For fee waivers submit: ***(Only government employees who will use their C of F 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 and if applicable, supporting documents to:

**NYC Fire Department (FDNY)**

Cashier's Unit

9 MetroTech Center, 1st Floor

Brooklyn, NY 11201

If all the requirements are met, the certificate of fitness will be mailed out within four to six weeks.

• **Renewal in person**

Submit your Renewal Notice (or if you did not receive a Renewal Notice, a copy of your certificate), along with your fee payment by one of the following methods:

- Cash
- Credit card (*American Express, Discover, MasterCard, or Visa*)
- Debit card (*MasterCard or Visa*)
- Personal or company check or money order (*made payable to the New York City Fire Department*)

For fee waivers submit: ***(Only government employees who will use their C of F for his or her 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 and if applicable, your supporting documents to:

**NYC Fire Department (FDNY)**

Cashier's Unit

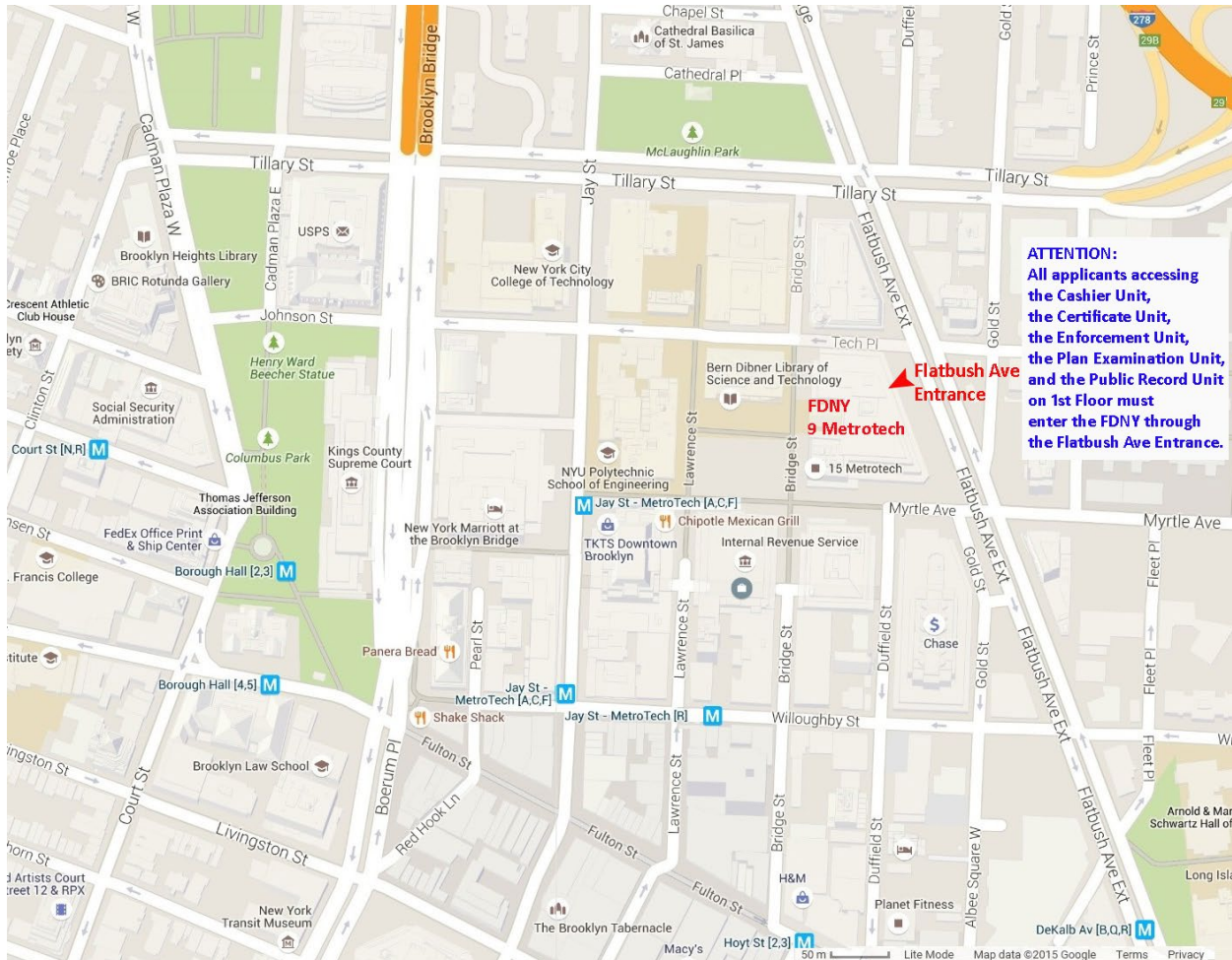
9 MetroTech Center, 1st Floor

Brooklyn, NY 11201

If all the requirements are met, the certificate of fitness will be issued the same day.

**A convenience fee of 2 % will be applied to all credit card payments for original or renewal certificates.**

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



## **About The Study Material**

These study materials will help you prepare for the written examination for the certificate of fitness for supervision of portable fueled space heaters. The study materials include information taken from the New York City Fire Code and Fire Department rules. The study material does not contain all the information you need to know in order to perform the responsibilities of conducting portable fueled space heaters operations safely. It is your responsibility to become familiar with all applicable laws, rules and regulations of the federal, state and city agencies having jurisdiction, even though such requirements are not included in this study material. You need to be familiar with FC Chapter 3, Fire Code Chapter 14, Section 1403, which regulates portable fueled space heaters and FC Chapter 34, Sections 3405 and 3406.2 - 3406.2.8 which regulates the storage, handling and use of flammable and combustible liquids in order to adequately prepare for the exam. **It is critical that you read and understand this booklet to help increase your chance of passing this exam.**

### **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 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 EXAM 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
- 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.*

**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
- C. the examiner in the testing room
- D. you should not ask about test questions since FDNY staff can not 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.*

## **I. Introduction**

This document outlines New York City Fire Department regulations for the use of portable (temporary) fueled space heaters for buildings undergoing construction during cold weather. Portable fueled space heaters shall only be used during the heating Season: October 15th through May 30<sup>th</sup>.

Depending on the trade: plaster work, tile work or poured concrete decking, portable fueled heaters of various sizes and fuel sources can be found throughout the construction industry. Portable fueled space heaters include salamanders/heaters fueled by either: LPG, CNG, piped natural gas or solid fuel (coke).

Portable fueled heaters permit temperature sensitive masonry products to cure properly by preventing freezing that can destroy the product's strength and adhesion.

If used safely, portable fueled heaters will allow for the proper curing of masonry products and construction to continue efficiently and on schedule.

### **TEMPORARY HEATING EQUIPMENT THAT USES GASEOUS, LIQUID AND SOLID FUELS IS PROHIBITED FROM USE FOR PROVIDING HEAT FOR HUMAN COMFORT.**

In addition to the supervision of portable fueled space heaters, the certificate of fitness holder may be required to carry out additional levels of competencies relating to: the connecting/disconnecting of LPG, CNG cylinders, the refilling of kerosene heaters and using gas torches to ignite solid fuel (coke).

This booklet incorporates the safety requirements found in the study materials for the following certificate of fitness:

*G-94 : Use of LPG and Natural Gas at Construction Sites;*

*G-95 : Torch use of Flammable Gases for Cutting and Welding;*

*S-93 : Supervising Temporary Storage and Dispensing Flammable or Combustible Liquids at Construction Sites.*

Only those individuals who are hold a Certificate of Fitness (S-92) for the Supervision of Portable Fueled Space Heaters at Construction Sites, will be exempt from having to obtain separate certificates of fitness for the Use of LPG and piped Natural Gas at Construction Sites and the Handling Motor Fuel Portable Containers when directly related to the supervision of portable space heaters at construction sites. For example: the connecting and disconnecting of LPG/CNG cylinders for the torch and the handling of kerosene to fuel space heaters.

*Torch use of Flammable Gases for Cutting and Welding is only permitted to ignite the coke salamanders.*

The use of Solid fuel (Coke) heaters are **only** allowed with written FDNY authorization.

**S-92 certificate holders are not certified for the connecting and disconnecting of LPG/CNG cylinders or the handling of kerosene if not part of the supervision of the portable fueled space heater.**

**S-92 certificate holders are not authorized to perform hot work using flammable gas.**

This chart provides clarification as to which previously issued C o F will be accepted by the FDNY for the supervision for the **Portable Fueled Space Heaters at Construction Sites**. The C of Fs must be current. Simply, the old categories remain in effect. The S-92 category is highly preferable since it covers the supervision all types of Portable Space Heaters.

<b>C of F Type</b>	<b>COKE</b>	<b>KEROSENE</b>	<b>LPG</b>	<b>PIPED NATURAL GAS</b>
<b>C26 OR S93</b>		✓		
<b>G94</b>			✓	✓
<b>S92</b>	✓	✓	✓	✓

If used improperly, portable (temporary) fueled space heaters can lead to: burns, carbon monoxide poisoning, asphyxiation, fire, explosion, delay in construction and millions of dollars in property loss. Of these hazards mentioned carbon monoxide (CO) is the most dangerous. CO is odorless, colorless, tasteless and deadly.

The minimum frequency between readings for carbon monoxide for solid fuel salamanders is 60 minutes.

Recognizing signs of CO poisoning is sometimes difficult because early symptoms of CO exposure (headache, dizziness, and nausea) are nonspecific and may be mistaken for symptoms of other illnesses such as colds, flu, or food poisoning. Moreover, CO poisoning causes disorientation, confusion and weakness which can inhibit a person's ability to escape the hazardous environment.

National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL) for carbon monoxide is 35 parts per million (ppm) over an 8 hour period and a ceiling limit of 200ppm. To help visualize the meaning of ppm: one ppm is equivalent to - one inch in 16 miles.

According to National Fire Protection Association (NFPA), in the United States, temporary heating is the third leading cause of fires in buildings under construction following (1) 'hot work' involving welding and cutting and (2) smoking.

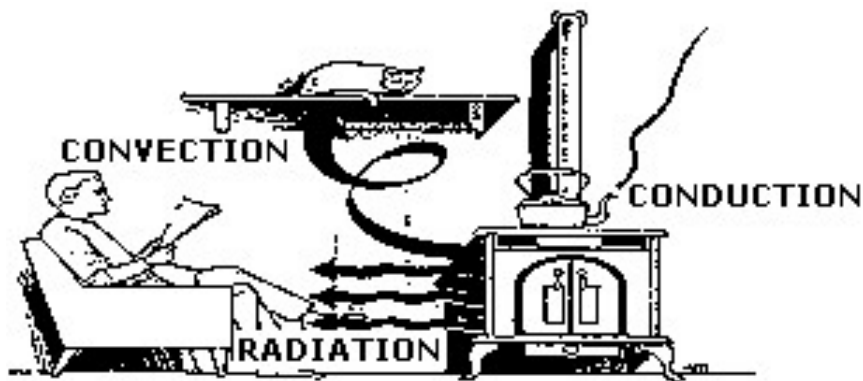
The information contained in this guide will familiarize you with the various types of portable fueled space heaters, and the associated hazards with their uses.

These heaters can be further classified by their forms of heat transfer. There are three forms of heat transfer: conduction, convection and radiation.

**CONDUCTION** is direct heat flow through matter, such as the conduction of heat from the hot surface of a stove to a cooking pot.

**CONVECTION** is the transport of heat within a gas or liquid caused by the actual flow of the material itself, such as heat traveling upward with the natural upward movement of air.

**RADIATION** is the transmission of electromagnetic rays through space. These rays have no temperature, only energy. Every material or object with a temperature above absolute zero emits these rays in all directions, in a straight line, until they are deflected or absorbed.



### **Direct-Fired Heaters**

Direct-fired heaters release all of the heat generated by the flame (and the emissions that result) directly into the heated area. They are nearly 100% efficient.

Direct-fired heaters operate like a gas fireplace in your home—but without a chimney to remove combustion products. This type of heater therefore requires

openings such as windows and doors to vent emission products outside. This requirement is usually not a problem for a building under construction.

Direct-fired heaters are the most common type of heater found at construction sites. They operate with an open flame (or heated element in the case of infrared heaters). Depending on the fuel burned, the condition of the heater, and the supply of air, the combustion process produces carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), other gases, and suspended particles.

### **Indirect-Fired Heaters**

These heaters can be set up in or outside the heated space. The flame is enclosed in a heat exchanger that separates combustion products from the air to be heated.

This system resembles a home furnace where combustion products are directed up a chimney and heat is transferred through a heat exchanger to supply the home with heated air free of emissions.

An indirect-fired heater is commonly located outdoors where combustion emissions vent directly to the atmosphere. No open flame is introduced to the workspace.

Heated air is ducted (or heated liquid is piped) to areas intended for heating. The heat generated by an indirect-fired heater is not captured 100% as it is with a direct-fired heater. But there is no need to ventilate emissions. This allows the building to stay airtight and retain all the heat produced.

Portable oil-fueled space heaters may be stored, handled and used at construction sites for construction related curing and drying purposes **only during the heating season (October 15<sup>th</sup> – May 30<sup>th</sup>)**. *Other times of year may be authorized by permit only.*

## **II. Definitions**

**CERTIFICATE OF FITNESS:** A written statement issued by the NYC Fire Department certifying that the person to whom it is issued has passed an examination as to his or her qualifications or is otherwise deemed qualified to use or supervise the storage, handling and use of a material, conduct or supervise an operation, or supervise a facility for which such certificate is required by this code or the rules. It is valid for 3 years.

**CONSTRUCTION SITE:** Any location at which a building, structure, premises or facility is under going construction, alteration or demolition.

**EXCESS FLOW CONTROL:** A fail-safe system or other approved device, equipment or system designed to shut off flow caused by a rupture in a pressurized piping system.

**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.

**FLAMMABLE AND COMBUSTIBLE LIQUID STORAGE SYSTEM:** A flammable or combustible liquid storage tank and all devices, equipment and systems associated with such tank, including the tank, piping, valves, fill connection, vent lines, pumps and any other ancillary equipment, except liquid motor fuel storage and dispensing systems and flammable and combustible liquid storage systems at a bulk plant or terminal used for bulk transfer operations.

**FLAMMABLE LIQUEFIED GAS:** A liquefied compressed gas which, under a charged pressure, is partially liquid at a temperature of 68°F (20°C) and which is a flammable gas.

**GENERAL SUPERVISION:** Except as otherwise provided in Fire Code, supervision by the holder of any department certificate who is responsible for performing the duties set forth in Fire Code 113.2 but need not be personally present on the premises at all times.

**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.

**LOWER EXPLOSIVE LIMIT (LEL):** See “Lower flammable limit.”

**LOWER FLAMMABLE LIMIT (LFL):** The minimum concentration of vapor in air at which propagation of flame will occur in the presence of an ignition source. The LFL is sometimes referred to as LEL or lower explosive limit.

**NATURAL GAS:** A mixture of hydrocarbon gases and vapors, consisting principally of methane in gaseous form.

**NATURAL GAS FIRED HEATER:** Any appliance used for the generation of heat that is not permanently installed on the premises under construction and that is connected to, and fueled by, piped natural gas.

**PIPED NATURAL GAS:** Natural gas supplied by means of piping connected to a public utility.

**PROCESS TRANSFER:** The transfer of flammable or combustible liquids between cargo tanks or tank cars and containers, tanks piping and other equipment that is to be used in process operations.

**PERMIT ISSUANCE:** Every permit shall be valid for a period specified therein, not to exceed one year, and shall expire at the end of such period unless the commissioner approves its renewal. **All FDNY original permits shall be on site and available for inspection at all times.** Permits are not transferable and any change in occupancy, operation, tenancy or ownership shall require that a new permit be issued. FDNY storage and use permits for **temporary heating** purposes shall be issued for a period not to exceed the date listed on the permit.

**SUPERVISION:** The handling and use of portable fueled space heaters shall be under the personal supervision of a person holding a certificate of fitness. The storage of portable fueled space heaters and the fuel therefore, shall be under the general supervision of a certificate of fitness holder.

**PERSONAL SUPERVISION:** A method of supervision by the holder 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.

### **III. Portable Fueled Space Heaters**

Portable fueled space heaters can be fueled using gaseous, liquid or solid fuels. There are several types of heating equipment and fuel sources used throughout New York City. Some examples are described below.

Portable fueled space heaters fueled by natural gas supplied from a public utility may be stored, handled and used for outdoor use when designed, installed, operated and maintained in accordance with this code, the rules and the construction codes, including the Building Code.

#### **1. Solid fueled Salamander**



**Salamander with coke burning**



**empty coke salamander**

**Solid fueled salamanders, also known as coke pots,** are common on high rise concrete superstructure sites. Solid fueled salamanders are solid-fuel-open-flame-heaters. These heaters will be found on the floor of the form work. They provide optimal heat transfer via convection to the newly poured concrete floor above. Radiant heat emitted from the solid fueled salamander travels horizontal and heats the vertical wood columns supporting the false-work. Solid fueled salamanders have been used for decades in the construction industry. For heating newly poured floors, they are the most efficient and the most hazardous. **Solid fueled salamanders are only permitted for heating newly poured concrete in buildings undergoing construction including form work as well steel structures.**

The solid fueled pots are usually ignited 6 to 8 hours before the concrete pour is scheduled. The fires will burn throughout the day and be kept lit into the evening. White, fire rated tarpaulins ringing the floor are used to contain the heat.



A solid fuel coke salamander shall be ignited with an approved liquid petroleum gas (LPG) torch.

When solid fueled salamanders are ignited, the Certificate of Fitness holder for Supervision of Portable Fueled Space Heaters at Construction sites (S-92) must personally perform this task.



### **Liquid Petroleum Gas Torch**

Solid fueled fired heaters are required to be kept at least **10 feet** from the combustible tarpaulins or other combustible enclosures; they must be on non-combustible platforms. Fire extinguishers must be in place. Records of carbon monoxide readings should be available. An escape hatch must be provided on the floor above passing through the floor that is being heated to the floor below.

The handling and use of coke and coke-fueled salamanders at construction sites, including the extinguishment of the coke, shall be under the **personal supervision** of the Certificate of Fitness holder (S92).

The COF may not supervise more than **50 coke-fueled salamanders**. Additionally, COF may not supervise the handling or use of coke or coke-fueled salamanders that are located on more than one floor.

A log of such supervision must be maintained for FDNY inspection.

### **Storage, Handling and Use**

Storage of combustible materials in buildings shall be **orderly**. Storage areas shall be separated from heaters. Empty salamanders not being used may be stored on site without a FDNY permit.



**Non-combustible Metal Storage bin**



**Unsafe (unorderly) stored coke**



**Storage cardboard bin (not recommended)**

## **2. Kerosene fueled salamander**



**Kerosene Forced Air Portable heater**



**Radiant Portable Heater**

Kerosene forced air portable heaters are a common means of providing heat on masonry construction and for wet trade work such as tile setting and drywall taping. Kerosene storage is regulated and permitted by the FDNY; all kerosene must be stored in a metal, ventilated enclosure that is kept locked when not in use.

Suitable fire extinguishers shall be in place near the kerosene blower at all times. Kerosene is a manned unit, its ignition source is electrical, and it has safety shut-offs. The unit must only be in use when there is a person holding a Certificate of Fitness, present, for the Supervision of Portable Fueled Space Heaters at Construction Sites (S-92).

**Refueling:** Refueling operations shall be conducted in accordance with Fire Code Section 3405. Portable fueled space heaters shall be shut down and cool to the touch before refueling.

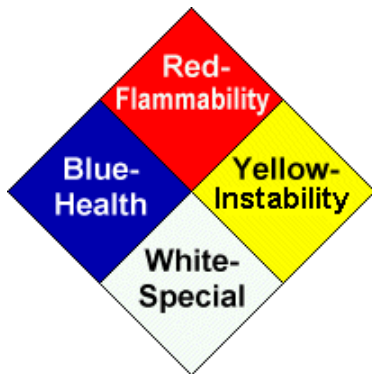
**Permit:**

A FDNY permit is required to store a combustible liquid (i.e. kerosene) in excess of 10 gallons. However, a Fire Department permit is required when there is more than 2 ½ gallons of gasoline on site. In addition to the heater, a separate permit shall be required for storage & use LPG, kerosene etc.

**Storage signs:**

For combustible liquids (e.g. Kerosene) storage areas, they must be provided with a hazard identification sign that complies with the requirements of NFPA Standard 704.

For flammable liquids storage areas, a warning sign made of a durable material stating Danger-Flammable Liquids be posted in any area where flammable liquid is being stored. Tanks and containers for aboveground storage of flammable liquids shall be conspicuously marked with the name of the product which they contain and the words: FLAMMABLE—KEEP FIRE AND FLAME AWAY. Tanks shall bear the additional marking: KEEP 50 FEET FROM BUILDINGS.



**NFPA 704 diamond**



**Warning sign for flammable liquids**

**Handling and use:**

The handling and use of flammable and combustible liquids, including the dispensing of such liquids, excluding combustible liquids with a flash point over 300°F (149°C), shall be under the **personal supervision** of a certificate of fitness holder.

It shall be unlawful to store flammable and combustible liquids in containers (e.g. metal drums) with individual capacity greater than **60 gallons**. Only the approved containers complying with NFPA30 must be used for Class I, Class II, and Class IIIA liquids. **It shall be unlawful to store flammable and combustible liquids in portable tanks, intermediate bulk containers and fiber drums.**

Kerosene is brought to the floor then transferred to approved safety cans with a maximum capacity of **five gallons**. The kerosene heater must be Underwriters Laboratories Listed (marked, UL).

The Certificate of Fitness holder may pump volatile flammable liquid only into an approved portable container. Discharge devices shall be of a type that **does not develop an internal pressure** on the container. Pumping devices or approved self-closing faucets used for dispensing liquids shall not leak and shall be well-maintained. Individual containers shall not be interconnected and shall be kept closed when not in use.

Fuel for equipments at construction sites shall be **stored in an approved outdoor area**, and shall be moved in approved **METAL** containers **not to exceed 5 gallons**. The cap must be fitted with a spout. The spout is designed to allow the volatile flammable liquid to be poured without spilling. The contents of the container must be clearly marked on the side of the container. Containers filled with motor fuel at a motor fuel dispensing facility are only allowed to have a maximum individual capacity of 2.5 gallons. In other words, metal containers having a capacity greater than 2.5 gallons and up to of 5 gallons can be only filled at a construction site from temporary tanks.

**Motor fuel liquids in portable containers shall not be dispensed into portable tanks or cargo tanks.** Portable containers shall not be filled while located inside the trunk, passenger compartment or truck bed of a vehicle or upon a watercraft. This is to make sure that no motor fuel is accidentally spilled into the trunk of the vehicle. No motor vehicle, motorcycle or watercraft shall be fueled from a portable container while inside a building or structure.

Example of an approved gasoline container is shown below:



Liquid transfer equipment and methods for transfer of Class I, II and IIIA liquids shall be subject to the approval of the commissioner (Department representatives) (definition, FC104.2). Positive-displacement pumps shall be provided with pressure relief discharging back to the tank, pump suction or

other approved location, or shall be provided with interlocks to prevent over-pressure. Any piping, hoses and valves used in liquid transfer operations shall be subject to the approval of the commissioner or listed for the intended use.

**Compressed gases shall not be used to pressurize containers or tanks to provide for transfer.** Container-filling operations for Class I liquids involving conveyor belts or other automatic-feeding operations shall be designed to prevent static accumulations.

**Class I and II liquids or Class III liquids in containers exceeding 5.3 gallons capacity** that are at a temperature higher than 20°F less than their flash points shall **not be dispensed by gravity**, but shall be transferred by one of the following methods:

From UL-30 safety cans.

Through an approved closed piping system.

From containers or tanks by an approved pump taking suction through an opening in the top of the container or tank.

Approved engineered liquid transfer systems.

Example: Turpentine having a flash point of 95°F would NOT be allowed to be dispensed by gravity if the material temperature was to exceed 75°F.

The following liquids shall not be transferred into containers unless the nozzle and containers are **electrically interconnected**:

**Any Class I liquids;**

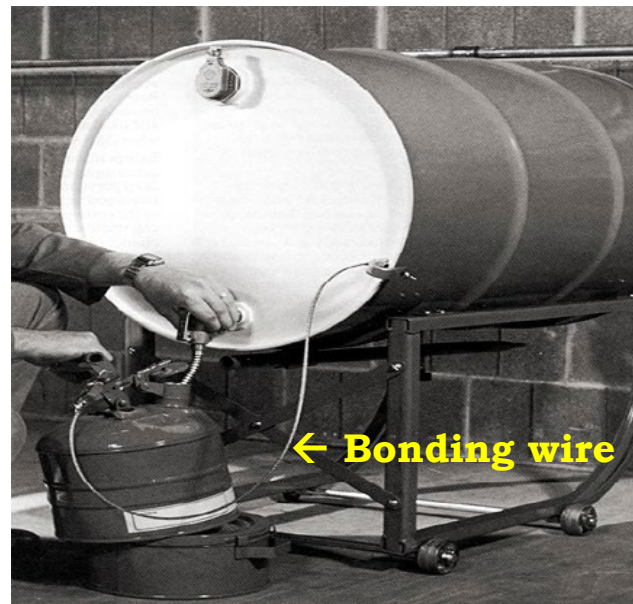
**The Class II or III liquids at a temperature higher than 20°F less than their flash points**

Acceptable methods of electrical interconnection include:

Metallic floor plates on which containers stand while filling, when such floor plates are electrically connected to the fill stem; or

Where the fill stem is bonded to the container during filling by means of a bond wire.

The Certificate of Fitness holder should pour sand or other absorbing material on a fuel spill. An absorbent material (i.e. like cat litter or sand) is commonly used to contain and soak up fuel spills. The area should then be cleaned. If a large spill or leak occurs, the Fire Department dispatcher must be notified immediately.



Volatile flammable liquids are easily ignited. ***Smoking is prohibited*** on the construction sites.

All construction sites are required by New York City Building Code Section BC3307.3.2 to be enclosed with a fence. Smoking is prohibited within the area enclosed by such fence, including in construction trailers and other indoor or outdoor areas.

**“No Smoking” signs** should be posted at all sliding and swinging gate openings, and any other openings allowing for access to the site by persons or vehicles. Within the fenced enclosure, signs should be posted at appropriate locations throughout the construction site sufficient to provide notice to persons entering or working on the site of the prohibition against smoking, including at the entrances to buildings, one or more locations on each floor of such buildings, and any indoor or outdoor areas on the construction site at which persons congregate.

In buildings undergoing alteration, where no fenced enclosure is required pursuant to BC3307.3.2, smoking is prohibited in all areas of the building in which alteration work is or will be conducted under the application filed with the Department of Buildings. **“No Smoking” signs** should be posted at all entrances to areas of the building undergoing alteration, and any place within those areas where persons would congregate.

In addition, smoking is prohibited at all locations, and at all times, where hazardous operations are conducted, or flammable or combustible materials or

explosives are stored, handled or used. **“No Smoking” signs** must be posted in the immediate area of such operations and materials.

**Durable warning signs should be noticeably posted.**



**Acceptable “No Smoking” Sign**



**Unacceptable Warning Sign**

### **3. Liquid petroleum gas (LPG) fueled salamander**

LPG salamanders are typically used for drying plaster, and similar wet trade applications. LPG salamanders are prohibited in any occupied building. The use of LPG salamanders must be conducted under the supervision of a person holding a FDNY Certificate of Fitness.

Liquid petroleum gases include: propane, propylene, butane and butylenes. They are naturally colorless and odorless. They are given an odor by mixing foul-smelling additive causing LP-gases to smell like rotten eggs. This odor allows leaks to be detected easily. LP-gases are extremely flammable and highly explosive if ignited in an enclosed area. LP-gases are non-toxic; however, they can cause asphyxiation (suffocation). LP-gases are heavier than air and tend to hug the ground and spread outward.

LP-gases are stored under pressure inside specially designed cylinder. The LP-gases are usually stored inside the cylinder in a liquid state. Greater amounts of LP-gases can be stored when it is pressurized to its liquid state. When the gas changes into a vaporous state it expands 269 times its original volume. The expansion rate causes a liquid leak to be a much greater fire than a vapor leak.

The Certificate of Fitness holder shall inspect the area where the LPG containers and heaters are located at least on an hourly basis. The results of each inspection shall be recorded in the log book which will be maintained on the premises and produced for inspection when requested by FDNY. All storage and use must be approved by FDNY.

The LPG salamanders are similar to the Natural Gas Salamanders in appearance, function and operation.



### **Propane radiant heaters**

**Propane Gas:** An odor-making agent is added to propane gas. The odor helps you detect a propane gas leak. However, the odor added to propane gas may fade. Propane gas may be present even though no odor exists.

LPG salamanders are typically used for drying plaster, and similar wet trade applications. LPG salamanders are prohibited in any occupied building.

The use of LPG salamanders must be conducted under the supervision of a person holding a FDNY Certificate of Fitness. The Certificate of Fitness holder shall inspect the area where the LPG containers and heaters are located at least on an hourly basis.

The results of each inspection shall be recorded in the log book which will be maintained on the premises and produced for inspection when requested by FDNY. All storage and use must be approved by FDNY.

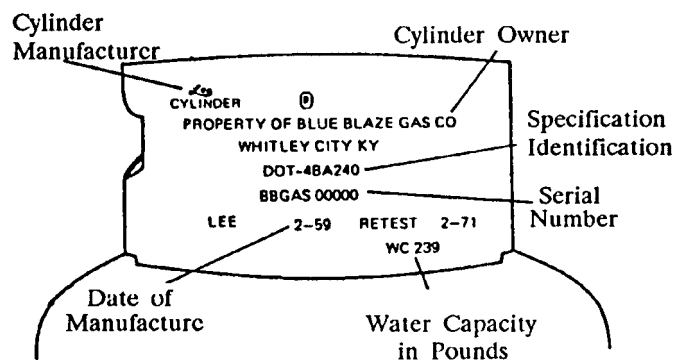
Fire extinguishers are required as per applicable code. The LPG salamanders are similar to the natural gas salamanders in appearance, function and operation.

### **Storage, Handling and Use**

In New York City, LPG gas must be stored in portable cylinders. Cylinders must be approved for use by the Federal Department of Transportation. Cylinders must be re-tested every five years. The Certificate of Fitness holder is responsible for checking the retest date and having the cylinder inspected, on time, by the supplier.

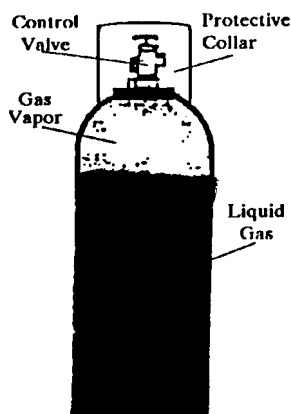
Several markings are stamped on the protective collar or near the control valve on the approved cylinders. A cylinder should not be accepted if it does not meet the time frames set by the Fire Department. Typical markings are shown below.





### Typical DOT Cylinder Markings

The cylinders are not filled to capacity with the LP-gas. A vapor space is left in the cylinder to allow for expansion of the LP-gas. This is necessary because LP-gas expands when it becomes warmer. Standard portable LP-gas cylinders may be charged to a maximum of 100 pounds in weight. When portable cylinders are moved they must be secured to a specially designed hand truck. LP-gas cylinders and the related equipment must be protected from extreme temperature and physical damage. High temperatures can cause the pressure inside the cylinder to increase to a dangerous level. Sometimes a cylinder is exposed to hot air blown by a heating appliance. If that is the case, a protective partition must be used to shield the cylinders. An example of a typical LP-gas cylinder is shown below.



### A Typical LP-gas Cylinder

The LP-gas is released from the cylinder by opening the control valve. The control valve must be opened by hand. The valve should be opened carefully to make sure that the valve is not damaged. The control valve is opened by turning the valve two full revolutions in a counter-clockwise direction. The valve must never be forced open by using a wrench. The valve must not be forced past the fully open position since that might damage the valve.

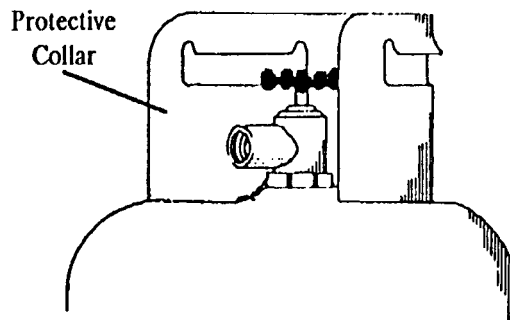
There are two types of LP-gas cylinders. One type is known as the STANDARD-type cylinder. A pressure relief valve is installed on the top of the standard LP-gas cylinder. The pressure relief valve opens when the pressure in the tank becomes too great for safe operation. The valve allows the excess pressure to escape into the atmosphere. The relief valve closes when the pressure in the cylinder returns to a safe level. The relief valve will operate properly only if the cylinder is in the upright position. If the cylinder is not upright, liquid gas will escape from the cylinder. Therefore the standard type cylinder must be kept in an upright position when it is being used or transported.

### **Excess Flow Check Valve**

If the LP-gas cylinder is not equipped with an internal excess flow check valve, it must be installed by the certificate of fitness holder. The excess flow check valve acts as a safety device when the control valve is open. It also shuts off the gas supply to the heater when the regulator is physically damaged. For example, the excess flow check valve will shut off the gas supply if the cylinder falls and the regulator is damaged in the fall. The excess flow check valve may also shut off the gas supply when the cylinder control valve is opened to quickly.

### **Protective Cap or Collar**

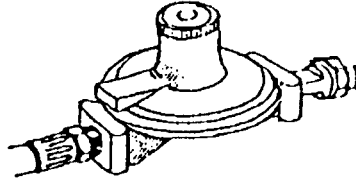
Every LP-gas cylinder must have either a protective cap or a collar. These devices protect the cylinder control valve from physical damage. The protective cap is shaped like an inverted cup. It is screwed on top of the cylinder. It must be in place when the cylinder is not in use. The protective collar is welded onto the top of the cylinder. The collar extends above the height of the cylinder's control valve. An example of a cylinder with a protective collar installed is shown below.



**A Typical Protective Collar**

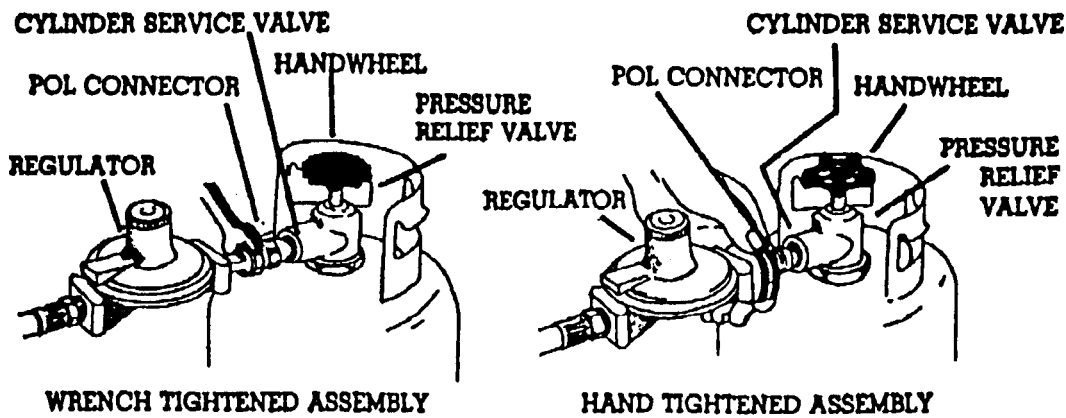
## **IV. USING LP-GASES**

A regulator must be installed before any LP-gas cylinder is used to fuel any heater. The regulator controls the discharge rate of LP-gas from the cylinder. The discharge rate of the regulator is factory-set and should never be adjusted. An example of a typical regulator is shown below.

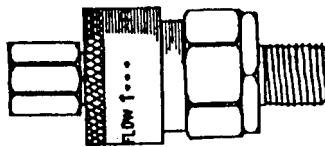


**A Typical Regulator**

The regulator is threaded into the control valve at the top of the cylinder. These connections have left-handed threads. They are tightened by turning the assembly counter-clockwise. Some connections may be tightened by hand only. Other connections must be tightened with a wrench. An example of each type of connection is shown on the following page.



A third kind of connection may be used to connect the regulator to the control valve. It is called a quick release connection. This allows the user to make the connection without the use of tools. An example of a quick release connection is shown below.



**A Quick Release Connection**

The regulator is also connected to a hose that supplies the LP-gas appliance (only approved hoses designed for a working pressure of 350 psi). All regulating equipment, when using LP-gases, must be approved as well. Hoses and related equipment must be protected from wear and physical damage. A leak in the cylinder or related equipment could cause a fire or explosion.

The Certificate of Fitness holder must regularly inspect the cylinders, connections, and heater for leaks. A foul smelling odor may indicate that there is a leak. When a leak is detected the cylinder control valve must be closed immediately. The cylinder must be isolated to a well-ventilated area, tagged, and returned to the supplier. The cylinder may not be used again until the leak is repaired. The damaged cylinder must be repaired and re-tested by an authorized person.

LP-gas is highly explosive when it accumulates in one area. As a precaution LP-gas must only be used in well-ventilated areas. Fans may be used to ventilate a confined space. The LP-gas cylinder must not be placed underground or in a below grade location. The cylinder must remain above ground at all times.

Sometimes LP-gas is used to provide heat in buildings under construction. Heaters must only be used in a well-ventilated area and must not be placed on unprotected wood flooring. All cylinders must be secured in an upright position. Combustible materials must be located at least **10 feet** away from any LP-gas appliance or cylinder.

The maximum allowable quantity of LP-gas in any single storage enclosure on construction sites must not exceed 2,500 pounds or a total capacity at any construction site must not exceed 5,000 pounds. The distance between two storage enclosures on a construction site must be at least 50 feet. As per NYC Fire Code all cylinders, full or empty, and which are not in use must be stored in an outdoors storage enclosure located at least 25 feet from the building under construction or as approved by FDNY. The storage enclosure must be kept securely locked when not in use. Flammable and combustible materials must be kept at a safe distance from the enclosure and must be located at least 50 feet from such enclosure.



## **V. Safe LPG Cylinder Storage**

The Certificate of Fitness holder is responsible for the safe storage and use of the LP-gas cylinders. Only those cylinders in use are permitted inside a building under construction. No extra cylinders may be located in the building while work is in progress. **Absolutely no cylinders may be stored indoors overnight.** Cylinders must be taken outside at the end of each work day. All LP-gas cylinders should be marked **Flammable - LP-gas** or **Flammable - LPG.**

### **Permit:**

A permit is required to store, handle or use LPG in excess of 400 SCF (standard cubic feet); this is equivalent to 47 lbs of liquid petroleum gas.



**20 lb LPG Cylinder**

### **Natural gas fueled salamander**

Natural gas is a gaseous fossil fuel consisting primarily of methane but includes significant quantities of ethane, butane, propane, carbon dioxide, nitrogen, helium and hydrogen sulfide.



**Natural Gas salamander**

Natural gas is often informally referred to as simply **“gas”**. Processed natural gas is tasteless and odorless. However, before gas is distributed to end-users, it

is odorized by adding small amounts of odorants to assist in leak detection. Breathing natural gas in trace amounts is harmless; however, natural gas is a simple asphyxiant and can kill if it displaces air to the point where the oxygen content will not support life.

Natural gas is a flammable gas. It can be hazardous to life and property by explosion. Natural gas is lighter than air, and tends to escape into the atmosphere. However, when natural gas is confined, such as within a building or other enclosed space, gas concentrations can reach explosive mixtures and, if ignited, result in blasts that could level and destroy buildings. Methane has a lower explosive limit of 5% in air, and an upper explosive limit of 15%.

Any Natural gas leak shall be regarded as a serious hazard that requires immediate response. Therefore:

- Temporary natural gas piping shall be clearly marked "Natural Gas" at least once every 30 feet, and at least once in each room or other separate area.
- A shut-off valve shall be installed at each natural gas pipe outlet that is to be used for a natural gas fired heater with a flexible hose connection. A maximum of four (4) heaters may be connected to each such shut-off valve. Flexible hoses used for connecting portable fueled space heaters fueled by piped natural gas shall be of a type designed for a working pressure of not less than 350 psi. Flexible hoses used for connecting portable fueled space heaters fueled by piped natural gas shall not exceed 20 ft in length.
- All shut-off valves required by this subdivision shall be hand operable and of the quarter-turn type.
- All valves required by this subdivision shall be installed in unobstructed locations where they are clearly visible and readily accessible. Access shall be provided to any valve located more than seven (7) feet above floor level by means of a fixed or otherwise stable stair, ladder or platform.



**Gas Meter**



**Gas shut-off valve in sidewalk**

- The outdoor gas service line shut-off valve shall be clearly marked with metal tags or in another permanent manner.

- Defective gas piping, tubing and fittings (including valves, strainers, and filters) shall be replaced and not repaired. An adequate supply of spare parts and material shall be available on the premises for replacement.

-When curing or drying is taking place within a temporary enclosure, only non-combustible panels, flame-resistant tarpaulins or similar fire-retardant materials shall be used for such enclosure. The enclosure shall be secured from movement by a wind or other causes. Natural gas fired heaters shall not be placed closer than ten (10) feet from any surface of the enclosure.

### **Storage, Handling and use:**

The connecting and disconnecting of compressed natural gas (CNG) containers shall be performed by a person holding a certificate of fitness. The handling and use of CNG containers in quantities requiring a permit, or for the purpose of conducting torch operations, curing concrete, drying plaster and similar applications, shall be under the **personal supervision** of a person holding a certificate of fitness.

### **Permit:**

A permit is required to store, handle or use CNG in excess of 400 SCF (standard cubic feet) equivalent to 47 lbs.



**CNG Cylinders**

## **VI. GENERAL SAFETY REGULATIONS**

**Fire safety manager:** Where a site safety manager or site safety coordinator is required by the Building Code, the owner shall designate a person to be the Fire Safety Manager for the construction site. The Fire Safety Manager may be the site safety manager or site safety coordinator required by the Building Code. The fire safety manager shall be responsible for ensuring compliance with the requirements of this code, including this chapter, and the rules.

The Fire Safety Manager shall conduct an inspection of the construction site and all fire safety measures and maintain a record of these inspections in a bound log book or other approved system of recordkeeping. The log book or

other approved recordkeeping shall be made available for inspection by any representative of the department. Where fire watch service is provided, the fire safety manager shall be responsible for the general supervision of the fire guards.

The project manager or superintendent should be notified about the outcome of daily inspections by the person holding the Fire Department C of F for the Supervision of Portable Fueled Space Heaters at Construction Sites.

### **Certificate of fitness holder's Inspection:**

A person responsible for the supervision of portable fueled space heaters at a construction site is prohibited to perform any illegal activities and/or create an unsafe condition.

### **Handling Gas Emergencies:**

1. Gas leaks that have not ignited:

Minor gas leaks can be mitigated by shutting off the gas valve at the appliance and the area ventilated.

2. Gas leaks that have ignited:

If a leak involving natural gas, compressed natural gas or liquefied petroleum gas is burning:

- Call immediately the Fire Department 911.
- Allow the gas to burn until the gas supply is shut off.
- Extinguishing the burning gas before the gas supply is shut off will allow the gas to continue to discharge after extinguishment, an explosion may occur or the leaking gas may suddenly ignite if it comes in contact with a source of ignition.
- Combustible material near the burning gas should be wet down while waiting for the gas supply to be shut off.
- Shutting the gas supply is the safest way to extinguish a gas fire.

### **Notifications:**

The person responsible for the supervision of portable fueled space heaters at a construction site should notify immediately call 911 if a fire occurs.

## **VII. Fire Extinguishers:**






At least one (1) portable fire extinguisher having a minimum 20-B: C rating shall be provided on each floor of the construction site at a location not more than 30 feet from where a heater is in use or connected for use. A travel



distance of up to 50 feet is allowed if a fire extinguisher having a minimum 40-B: C rating is provided.

According to the **National Fire Protection Association and New York City Fire Department Rule**, fire extinguishers are categorized according to their compatibility with the fuel they are expected to extinguish or the danger of energized electrical equipment. Fuels include four basic groups: wood, liquids, metals, and animal fats; the hazard is electrical conductivity.

Further, extinguishers are designated by alphabetical letters and symbols as shown in the table below.

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

**In case of any fire, immediately call 911.**

Moreover, rooms or areas are generally classified as: (1) Light Hazard, (2) Ordinary Hazard and (3) Extra Hazard.

The New York City Fire Code § 1415 considers buildings undergoing construction, alteration or demolition as an **Ordinary Hazard**.

Fire extinguishers should be provided for the protection of **BOTH** the building protection and the occupancy hazards contained therein regardless of the presence of any fixed fire suppression systems.

Generally, **building protection** shall be provided for by fire extinguishers for Class A fires. **Occupancy hazard** protection shall be provided by fire

extinguishers for such Class A, B, C, D, or K fire potentials as might be present.

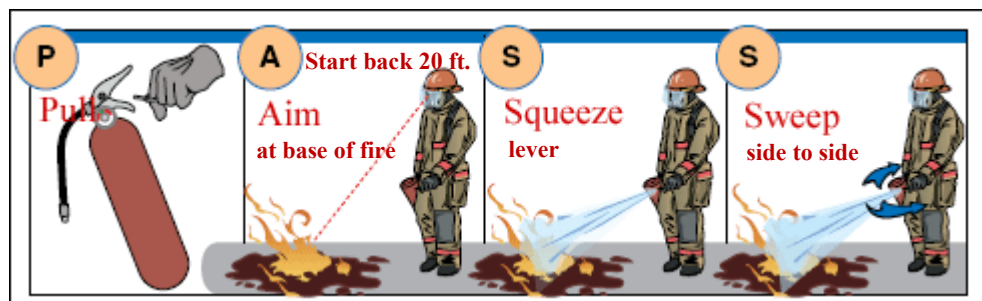
Using a building undergoing construction as an example, the requirements for **building protection** under the NYC Fire Code §1415, are: there shall be not less than one approved portable fire extinguisher for ordinary hazard at each stairway on all floor levels where combustible material are being stored and at the entrance of each storage shed.

In addition, Occupancy Hazards (portable fueled space heaters excluding Solid fueled salamanders) shall be protected by at least one 20-B: C rated extinguisher located not more than 30' from the heater. A travel distance of up to 50 feet is allowed if a portable fire extinguisher with at least a 40-B: C rating is provided.

Solid fuel (coke) salamanders, are considered an Extra Hazard and require one portable fire extinguisher with a 4-A rating to be provide for each 1000 square feet, or fraction there of and located not more than 75 feet from the furthest salamander on the same floor.

**Travel Distance** is the actual walking distance from any point to the nearest fire extinguisher.

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 on the next page.



## **Portable 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:

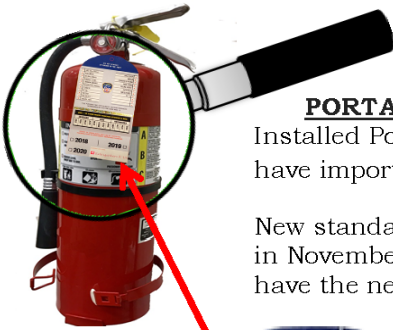
- (1) the fire extinguisher is fully charged;
- (2) it is in its designated place;
- (3) it has not been actuated or tampered with;
- (4) there is no obvious or physical damage or condition to prevent its operation.

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.

## Portable Fire Extinguisher Tags



### PORTABLE FIRE EXTINGUISHER (PFE) TAGS (NEW)

Installed Portable Fire Extinguishers must have a PFE tag affixed. This tag will have important information about the extinguisher.

New standardized PFE tags (see below) will begin appearing at premises starting in November 2018. By November of 2019, all portable fire extinguishers must have the new PFE tags.

**DO NOT REMOVE BY ORDER OF THE**

• ABC (Dry Chem)
• AFFF/FFFP
• BC (Dry Chem)
• PURPLE K (PK)
• CARBON DIOXIDE
• CLASS D (Dry Powder)
• CLASS K
• FE-36
• FM 200
• HALON 1211
• HALON 1301

THIS PORTABLE FIRE EXTINGUISHER HAS BEEN SERVICED AS REQUIRED BY NYC FIRE CODE 906.2.1.2

**2018**  | **2019**  | **2020**

**VOID 1 YR. FROM MONTH PUNCHED**

SERVICED	NEV	RECHARGED
JAN		
FEB		
MAR		
APR		
MAY		
JUNE		
JULY		
AUG		
SEPT		
OCT		
NOV		
DEC		

**DO NOT REMOVE BY ORDER OF THE FDNY**

**COF STAMP:**  
Stamped information of Certificate of Fitness holder who performed the work.

**HOLOGRAM:**  
Real PFE tags will have high quality silver hologram measuring 3 inches long by ¼ inch high.

**QR CODE:**  
Scan this QR Code to view FDNY approved company PFE list.

**MONTHLY INSPECTION RECORD**

DATE	BY	DATE	BY
12/1/2018	I.L.		
1/1/2019	I.L.		

**WU-387294**

PREMISES ADDRESS: **123 Flatbush Ave, Brooklyn**

UNAUTHORIZED POSTING IS A CRIME PUNISHABLE BY FINE AND/OR IMPRISONMENT

### TIPS

A real hologram strip is 3 inches long by ¼ inch wide. Counterfeit tags will NOT have a high quality silver hologram.

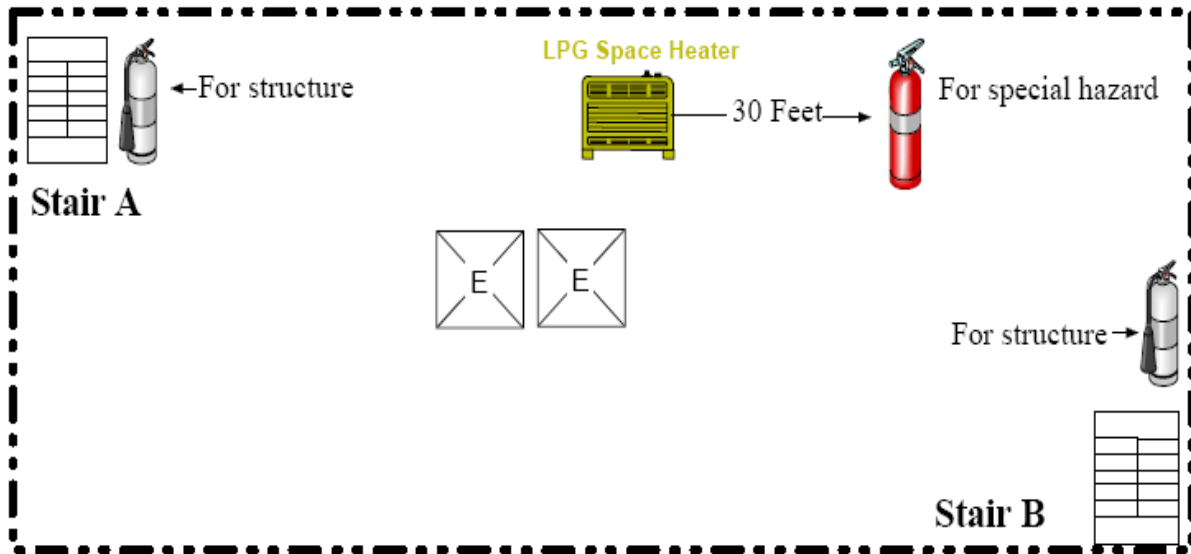
The hologram on a counterfeit tag will NOT change color as it is moved against the light.






If your PFE tags look different than the one pictured above, contact your supervisor. If you suspect your PFE is a counterfeit, contact FDNY immediately by e-mail: [Tags.Decal@fdny.nyc.gov](mailto:Tags.Decal@fdny.nyc.gov)

The Certificate of Fitness holder must contact the Fire Department directly by calling **911**, in the case of an emergency. It is also recommended that they have the Fire Department Borough Communication Office (listed below) posted near the phones most likely to be used in case of an emergency.

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

After notification by phone, the local fire alarm must be sounded. In some cases, the activation of the fire alarm will transmit a signal to the Fire Department via a FDNY approved central station company. The C of F holder shall initiate an orderly evacuation when necessary following a hazardous incident, and take reasonable steps to isolate the hazard until the Fire Department arrives. The Certificate of Fitness holder must answer any questions asked by Firefighters and officers when they arrive. For example, he or she must indicate the location of the fire, describe the type of fire protection devices available, and describe the materials stored on the fire floor. The Bureau of Fire Prevention must be notified as soon as possible after an explosion or fire has occurred. The Bureau of Fire Prevention may require a detailed report on the causes and the consequences of the explosion or fire. Generally, this report must be filed within ten days after the incident.



Portable Heaters	Fire Extinguisher Requirements
 <b>Coke Salamander</b>	Fire Code Section 906.3 Table 906.3(1): Portable Fire Extinguisher with a 4-A rating per 1000 square feet with a travel distance not exceeding 75 feet
 <b>Kerosene Portable Heater</b>	Fire Code 3406.2.7 Portable fire extinguishers with a minimum rating of 20-B:C and complying with the requirements of Section 906
 <b>Compressed Natural gas portable heater</b>	RCNY3, Section 3507-01(j)(H)(6) CNG/heaters assemblies shall be provided with a portable fire extinguisher with at least a 20-B:C rating located not more than 30 feet away. A travel distance of up to 50 feet is allowed if a portable fire extinguisher with at least a 40-B:C rating is provided
 <b>Liquefied Petroleum Gas LPG Portable Heater</b>	RCNY3 Section 3809(H)(5) LPG/heater assemblies shall be provided with a portable fire extinguisher with at least a 20-B:C rating located not more than 30' away. A travel distance of up to 50' may be allowed if a Portable fire extinguisher with at least a 40-B:C rating is provided
 <b>Natural Gas Portable Heater</b>	RCNY3 1403-01(h) At least one 20 B:C rated located not more than 30' from heater. A travel distance of up to 50 feet is allowed if 40 B:C rated

### Dangerous areas

In areas where special danger to the public exists, such as at vehicle entrances and exits, hoisting areas, points of storage of explosives or highly flammable material, or discharge ends of chutes, descriptive warning signs shall be provided. Such warning signs shall contain the word **“DANGER”** in prominent letters and, where in, or adjacent to, a public way, shall be illuminated from sunset to sunrise. Barricades and /or designated personnel shall be provided to the extent necessary to keep the public away from such areas or to guide them around the areas.

### Hoist in Readiness

The exterior hoist for personnel and material is required whenever the building reaches 75 feet in height. The hoist is always within 75 feet of the working deck

for permits filed at NYC after July 1, 2008. For permits filed on or before June 30, 2008, the hoist must be within 40 feet of the working deck.

During off hours the hoist is locked. The lock can be broken to allow the power feed for the cars. For the hoist to operate, the gates must be closed, engaging the safety switch, the power switch must be in the on position, and the start button must be pressed.

The project manager, superintendent or site safety manager / coordinator is responsible to ensuring that when the hoist reaches the designated floor, the hoist gates separate top and bottom to allow access to the floor. There is a locked hoist gate at the floor. Before leaving the floor, the hoist gate must be closed to secure the shaft. The hoist platform cannot run above the uppermost floor.

During heating operations, the hoist in readiness must:

- have at least one car parked at the hoist platform for FDNY use at all times.
- be clear of all debris, debris containers, and materials etc for clear access by the FDNY.
- be labeled as to what is the top floor is where the hoist can travel and must stop.

### **Standpipe**

Standpipe risers are large vertical pipes usually installed in stairways. They are used for firefighting by providing water to manually controlled outlet valves located in the stairways where risers are found. Standpipe risers are required when construction reaches a height greater than 75 feet. Depending upon the stage of construction, standpipe rises may be maintained dry. In such case, the Fire Department would have to supply water to the system using a siamese connection located at street level on the exterior of the building. Heating operations are prohibited when standpipe systems are not operational. The project manager, superintendent or site safety manger/coordinator is responsible for ensuring that the standpipe system meets the code and shall be maintained in service one floor below the stripping floor in reinforced concrete or one floor below the upper most poured concrete floor in steel structures.

**Quick Checklist for Portable Fueled Space Heaters**

<b>Business name:</b> _____  <b>Address:</b> _____  <b>City &amp; State:</b> _____ <b>Phone #:</b> _____	<b>Company Name</b> <b>Address</b> <b>Zip Code</b>	<b>Date:</b> _____ <b>C of F Holder's Name:</b> _____  <b>Signature:</b> _____ <b>C of F #:</b> _____ <b>Exp Date:</b> _____
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SECTION A.		
General Requirements	Responses	Recommended action
1. What type of space heater is being used?	<input type="checkbox"/> Coke <input type="checkbox"/> Kerosene/Diesel <input type="checkbox"/> LPG <input type="checkbox"/> Compress Natural Gas <input type="checkbox"/> Piped Natural gas	
2. Is there a valid FDNY permit for the portable fueled space heater?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No, discontinue use and remove from site and obtain a permit. (Call District Office at 718-999-2457, 2458)
3. Is there a storage and/or use permit?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Kerosene/Diesel <input type="checkbox"/> LPG <input type="checkbox"/> Compress Natural Gas <input type="checkbox"/> Piped Natural gas If No, discontinue use and remove from site obtain Permit.
4. Is there any additional Certificate of Fitness (C of F) for handling the type of fuel being use?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Kerosene/Diesel <input type="checkbox"/> LPG <input type="checkbox"/> Compress Natural Gas <input type="checkbox"/> Piped Natural gas If No: correct and comply.
5. Are there Certificate of Fitness holders (C of F) for portable fueled space heater coverage?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
6. Is there a copy of manufacture's operating and maintenance instructions for the heaters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
7. If the building is at 75 ft, the standpipe system is operating to code?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
8. If the building is at 75 ft, is the elevator in readiness?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
9. Have you discontinued heating operation due to safety concerns (see answers above)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, Notify the project manager, superintendent or site safety manager / coordinator.

SECTION B.		
Pre-Operation check	Responses	Recommended action
1. Have you calculated how many extinguishers are required for each floor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, Amount # _____ If No: correct and comply.
2. Are the extinguishers properly placed and easily accessible?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
3. Have you calculated how many C of F holders are required for each floor? (Solid fuel only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	One (1) C of F holder for every 50 solid fuel (coke) salamanders or fraction thereof. If No: correct and comply.
4. Are all signs properly posted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
5. Are the tarps being used rated by a recognized laboratory?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
6. Are the tarps secured?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
7. Are carbon monoxide detectors available for readings? ( For coke salamanders only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
8. Is there adequate ventilation to allow any build up of gases to escape?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
9. Is there a log book available for required entries?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
10. Is there escape hatch in place as required?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
11. A portable combustible gas leak detector maintained and readily	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.



available in the premises for Natural Gas (NG) heaters <b>ONLY?</b>		
<b>12.</b> Has lighting been provided on the heating floor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
<b>13.</b> Is temporary lighting equipped with heavy duty electrical cords?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: correct and comply.
<b>14.</b> Have you discovered any items that would prevent the starting of heating operations?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, Notify the project manager, superintendent or site safety manager / coordinator.
<b>SECTION C.</b>		
<b>Heating Operations other than Curing Concrete Check</b>	<b>Responses</b>	<b>Recommended action</b>
<b>1.</b> What type of heating operation is occurring?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes: <input type="checkbox"/> Kerosene/Diesel <input type="checkbox"/> LPG <input type="checkbox"/> Piped Natural gas <input type="checkbox"/> Compress Natural Gas
<b>2.</b> How many heaters are connected for use?	<input type="checkbox"/> Quantity	
<b>3.</b> Is the proper distance of 10 Ft maintained from all combustibles?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: discontinue heating operation.
<b>4.</b> Is the heating area supervised and maintained by a C of F (S-92) holder?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: discontinue heating operation.
<b>5.</b> How many C of F's are there on the premise?	<input type="checkbox"/> Quantity	
<b>6.</b> How many floors are being heated?	<input type="checkbox"/> Quantity	
<b>7.</b> Is the log book on site and available?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: discontinue heating operation.
<b>8.</b> Have heating operations been discontinued due to safety concerns?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, Notify the project manager, superintendent or site safety manager / coordinator.
<b>SECTION D.</b>		
<b>Use of Coke Salamanders Check</b>	<b>Responses</b>	<b>Recommended action</b>
<b>1.</b> Are the hourly reading of carbon monoxide taking places?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes: how many times per day <input type="checkbox"/> Quantity If No: discontinue heating operation.
<b>2.</b> Have heating operations been discontinued due to safety concerns?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, Notify the project manager, superintendent or site safety manager / coordinator.
<b>SECTION E.</b>		
<b>End of Shift – Inspection</b>	<b>Responses</b>	<b>Recommended action</b>
<b>1.</b> Will heating operations continue after the end of the work day?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes: answer the following question (#2).
<b>2.</b> Is there a C of F holder on the premise to provide supervision in order for the operations to continue?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No: discontinue heating operation.
<b>3.</b> Have heating operations been discontinued due to safety concerns?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, Notify the project manager, superintendent or site safety manager / coordinator.

## **VIII. 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
- 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](http://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](http://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.

