FIRE DEPARTMENT • CITY OF NEW YORK

STUDY MATERIAL FOR THE EXAMINATION FOR THE CERTIFICATE OF FITNESS FOR

S-11 SUPERVISION OF RESIDENTIAL SPRINKLER SYSTEM

(RESIDENTIAL R2 OCCUPANCIES UP TO AND INCLUDING 6 STORIES WITH NOT MORE THAN 30 SPRINKLER HEADS OR A COMPACTOR SPRINKLER SYSTEM. SYSTEM WATER SUPPLY CONTAINS NO FIRE/BOOSTER PUMPS OR NO GRAVITY/PRESSURE TANKS.)

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

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NOTICE OF EXAMINATION

Title: **Examination for the Certificate of Fitness for Residential Sprinkler Systems (S-11)**

Date of Test: Written tests are conducted Monday through Friday (except legal holidays) 8:00 AM to 2:30 PM.

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. Applicant must provide two forms of identification, at least one identification must be government issued photo identification, such as a State-issued Drivers' License or Non Drivers License or a passport.
2. 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
3. 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.
   Sample of recommendation letter:
   http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-samplerec-letter.pdf
   Sample of self-employed letter:
   http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-sample-selfrec-letter.pdf
4. Applicants not currently employed may take the exam without the recommendation letter. 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 the recommendation letter from his/her employer.
5. Special requirement: None
6. **Application Fees:** 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)*

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

   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

Exam Information

The S-11 test will consist of **50** multiple-choice questions, administered on a "touch screen" computer monitor. It is a time-limit 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.

Special material provided during the test:
The following 3 materials will be provided to you as a reference material when you take the test at Metro Tech, however, the booklet will not be provided to you during the test.
1. Temperature Ratings Classifications and Color Coding Table
2. Reference Guide for Monthly Inspection (Section 12.3)
3. Inspection Testing and Maintenance of Sprinkler Systems Activities & Records (Section 12.4)

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-s11-noe-study-materials.pdf

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.

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.)***

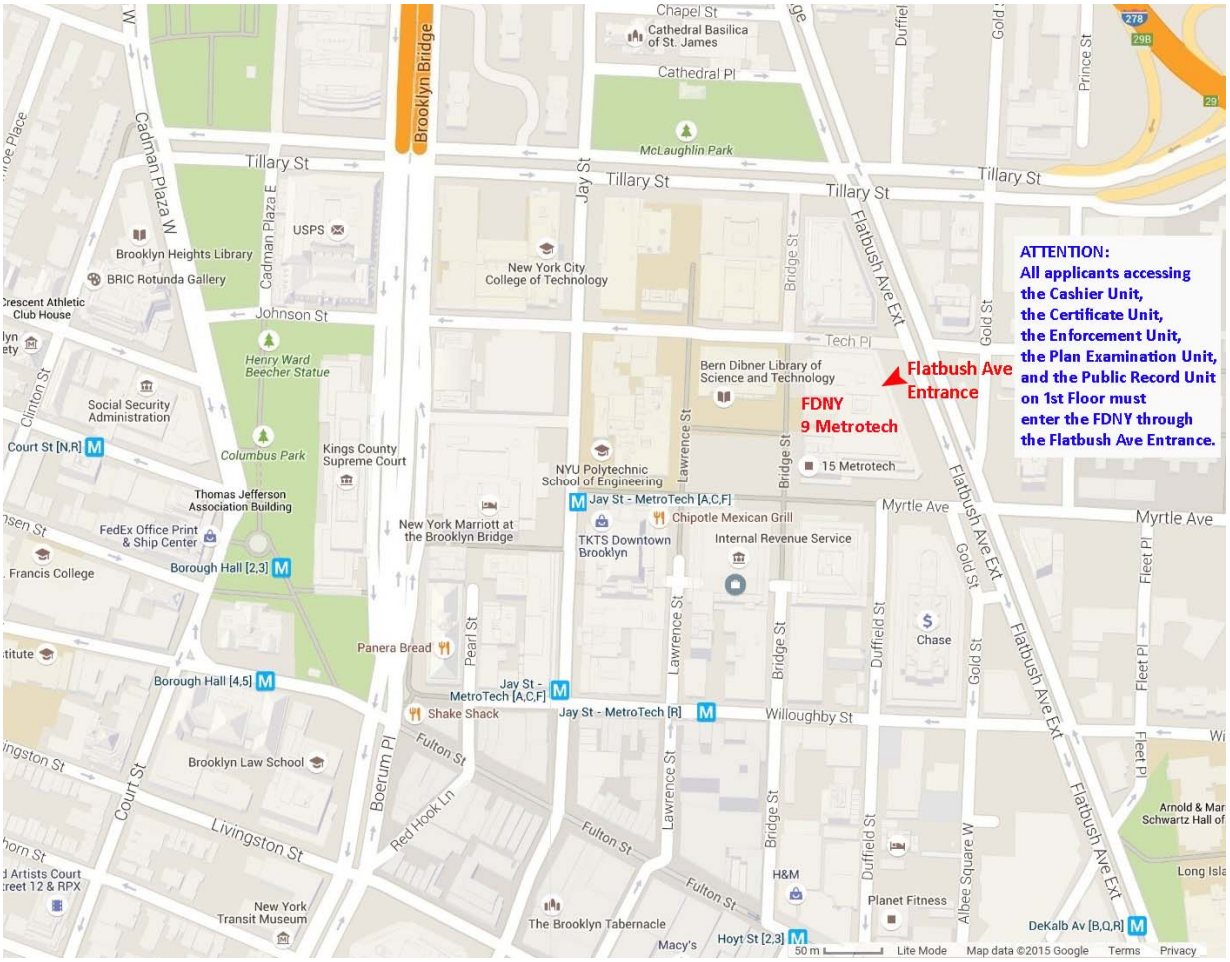
- A letter requesting fee waiver on the Agency's official letterhead stating applicant full name, exam type and address of premises; ***AND***
- Copy of identification card issued by the agency and if applicable, your supporting documents to:

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.

Test Site: **FDNY Headquarters,** 9 Metrotech Center, Brooklyn, NY. Enter through the **Flatbush Avenue entrance (between Myrtle Avenue and Tech Place)**.



STUDY MATERIAL AND TEST DESCRIPTION

ABOUT THE BOOKLET

This study material will help you prepare for the written examination for the Certificate of Fitness for Residential Sprinkler Systems. The study material includes information taken from the New 2014 New York City Fire Code (FC) Chapter 9, Fire Department Rules Chapter 9 Inspection, Testing and Maintenance of Water Based Fire Protection Systems. **It is critical that you read and understand this booklet to help increase your chances of passing this exam.**

ABOUT THE TEST

All questions on the Certificate of Fitness examination are multiple choice, with four alternative answers to each question. Each question has only one correct answer. If you do not answer a question or if you mark more than one answer you will be scored as incorrect. A score of not less than 70% correct is required on the examination in order to qualify for the Certificate of Fitness. 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 in the testing room
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 in the testing room
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.

PART 1: INTRODUCTION

A sprinkler system is a fire extinguishing system, other than a water mist system, that utilizes water as the extinguishing agent. Whether a building shall be provided with a sprinkler protection or not is generally set forth in the NYC Building Code. Inspection, testing, servicing and other maintenance of sprinkler systems must be **personally supervised** and be performed in accordance with NFPA (National Fire Protection Association) #25 2011 edition.

Required fire protection systems shall be extended or altered as necessary to maintain and continued protection whenever the building or structure is altered. Systems not complying with this section shall be considered to be impaired.

It shall be unlawful to install or maintain any fire protection system or device that has the physical appearance of fire protection equipment but that does not perform a fire protection function where it may be confused with actual fire protection equipment. An example would be a CCTV camera that is installed inside a shell that resembles a sprinkler head (as seen in the image on the right).

FIRE SPRINKLER SYSTEM

For fire protection purposes, an integrated system of underground and overhead piping shall be designed in accordance with fire protection engineering standards. The installation includes one or more automatic water supplies. The portion of the sprinkler system aboveground is a network of specially sized or hydraulically designed piping installed in a building, structure, or area, generally overhead, and to which sprinklers are attached in a systematic pattern. The valve controlling each system riser is located in the system riser or its supply piping. Each sprinkler system riser includes a device for actuating an alarm when the system is in operation. The system is may activated by heat from a fire and discharges water over the fire area.

PART 2: SYSTEM TYPES

2.1 AUTOMATIC WET SPRINKLER SYSTEMS

An automatic wet sprinkler system is an effective fire suppression system. This system discharges water to a localized area that is subject to fire. The sprinkler system is designed to extinguish the fire entirely, or to prevent the spread of the fire. However, the fire may still generate smoke, which can travel throughout the building.

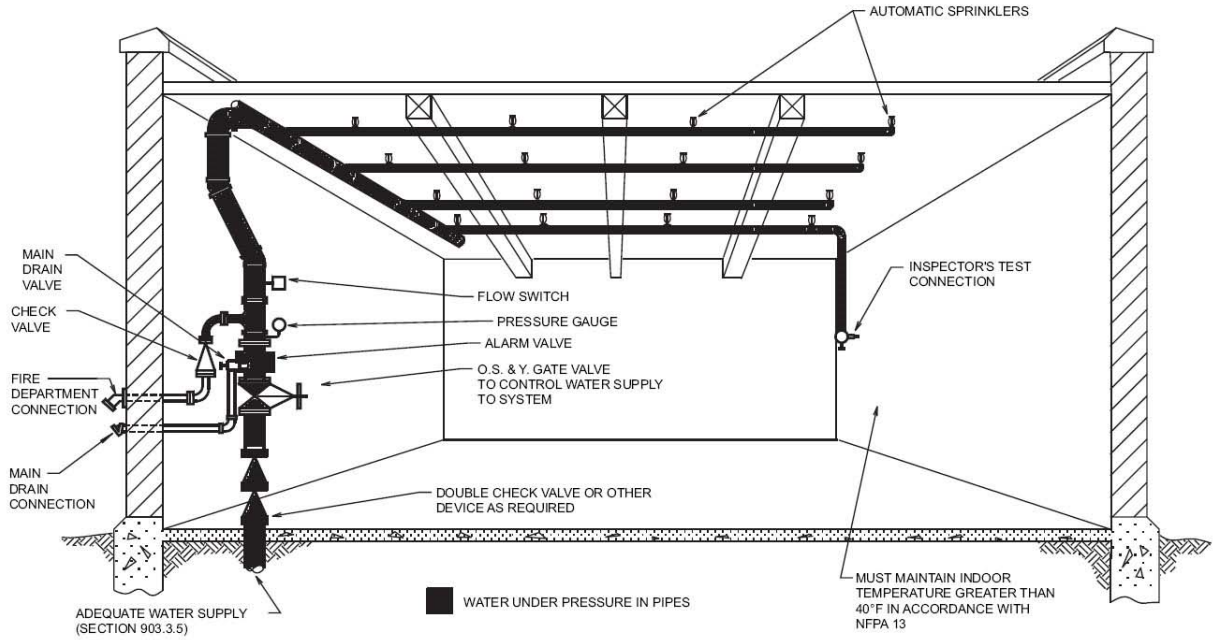
An automatic sprinkler system consists of a series of pipes at or near the ceiling in a building. The sprinkler system is fitted with automatic devices designed to release water on a fire. These devices are called sprinkler heads. The sprinkler heads are normally closed by a disc or cap. This cap is held in place by a heat sensitive releasing element. A rise in temperature to a predetermined level causes the sprinkler head to open. Water is then discharged in the form of spray. When the sprinkler heads open they are said to have fused. The sprinkler heads are fitted at standard intervals on the piping. If more than one head opens, the area sprayed by each overlaps that of the sprinkler head next to it.

Sprinkler systems are required by law in various occupancies. They also may be installed voluntarily by the owner of the building. The sprinklers are installed to protect the building and its residents. The installation of sprinklers has a major effect in reducing fire losses. About 96% of the fires are extinguished or controlled when sprinklers are installed. The 4% failure was due to a variety of causes including defective piping, closed supply valves, frozen water lines, improper maintenance, and blocked water supply piping.

Automatic sprinklers are very effective for preservation of life and property by discharging water to the burning area. Automatic sprinklers also reduce interference with visibility for firefighting due to smoke. The downward force of the water sprayed from sprinklers lowers the smoke level in the room. The sprinklers also serve to cool the smoke. This makes it possible for persons to remain in the area much longer than they could if the room were without sprinklers.

2.2 WET PIPE SYSTEM

The most common installation is a wet pipe system. This system has water in the piping at all times. The owner is to ensure that all areas of buildings with water-filled piping are maintained at a minimum of 40 degrees Fahrenheit and are protected from freezing. An example of a typical wet pipe system is shown below:



A TYPICAL WET PIPE SYSTEM

2.3 GARBAGE COMPACTOR SPRINKLER SYSTEMS

Waste compactors are usually found in tall multiple dwelling complexes such as apartment buildings. They are used to reduce the trash buildup in a building. They consist of a tall chute with an opening at each floor. These opening are used for trash disposal. Occupants of the buildings take their trash and throw it through the opening and down the chute. The trash piles up at the bottom of the chute where a device regularly crushes the trash into smaller blocks of trash. The blocks of trash are then removed and taken to a garbage dump. The compactor may be located indoors or outdoors.

The build-up of trash in the compactor chute is a fire hazard. Fires may be started in several ways, for example, by a smoldering cigarette thrown into the compactor chute. Sprinkler systems must be installed to put out fires that start in the compactor chute. Any of the standard water sources used to supply the compactor sprinkler system. Fire doors shall be installed in the chute to allow firefighter access to burning trash.

The S-11 Certificate of Fitness holder shall know the location of all sprinkler heads, control valves, supply lines and compactor rooms. A sketch of the entire compactor sprinkler system shall be drawn by the S-11 Certificate of Fitness holder. This sketch shall be posted in the compactor room in a frame under glass. The sketch shall be made available to any representatives from the Fire Department. The Certificate of Fitness holder may be questioned about this sketch by inspectors from the Fire Department during routine inspections. A sign indicating the location of all control valves shall be kept in the compactor room and it shall be displayed with the sketch. All control valves in the sprinkler system shall be labeled. The label is to

show the purpose of the valve. Additionally, the labels shall be attached to the yoke of the valves. All indicating valves in the compactor sprinkler system shall be sealed open.

A garden hose connected to a water supply shall be kept in the compactor room. This hose may be used to put out small fires or smoldering material in the compactor room.

The S-11 Certificate of Fitness holder shall conduct an inspection of the entire sprinkler system at least once a month. Special attention should be given to the condition of the sprinkler heads in the compactor chute and the compactor room. Any defects or violations shall be recorded in a detailed inspection report. All inspections are recorded on a card that shall be kept near the main control valve. The S-11 Certificate of Fitness holder shall sign and date the card each time an inspection is made. If any minor defects in the system are discovered they shall be reported to the owner of the building. If repairs are not made within 30 days the S-11 Certificate of Fitness holder must notify the Bureau of Fire Prevention. If any major defects (red tag) are discovered they shall be reported to the FDNY Dispatcher, the owner of the building, and the Bureau of Fire Prevention. Major defects shall be repaired immediately.

When a fire is discovered in the compactor the Certificate of Fitness holder should notify the local fire house immediately. He/she should not attempt to enter the compactor chute to put out the fire.

COMPACTOR ROOM

Refuse containers: Refuse containers in which refuse is deposited to await collection shall be constructed of metal. Containers shall be provided with tight-fitting covers. Containers shall be so constructed as to hold their contents without leakage. Adequate lighting shall be provided in refuse collection rooms.

Maintenance: Refuse chutes, refuse rooms, hoppers and all parts of the refuse collecting system shall be maintained in a clean and sanitary condition at all times and shall be maintained in good operating condition.

PART 3: WATER SUPPLIES FOR SPRINKLER SYSTEMS

There are two types of primary water supply sources that may be used in these dwellings. (1) Direct connection from the city water supply or (2) Connection to the domestic water supply. A single supply may be out-of-service (for maintenance or repair) and a secondary source of water is not required.

When a sprinkler system is supplied from a dedicated fire line connected to a public water main, the entire system shall be shut-down by closing a non-indicating type control valve. This valve is located between the building and the water main in a box that is recessed into the sidewalk. The location of the box is found by reading a sign on the building or on a post nearby. The sign should read **"Shut-Off for Sprinkler System Located 6 Feet from This Sign"**, or it may have similar instructions. A special key will be required to operate this valve.

AUTOMATIC SPRINKLER
SHUT OFF VALVE
LOCATED_____FEET
OPPOSITE THIS SIGN

Curb Valves - Gate valves of the non-indicating type are provided in water distribution systems, this type of valve is commonly known as curb valve. Gate valves allow the sprinkler system to be shut-off for repairs or maintenance. Such valves are normally a non-rising stem type. They are operated using a special key wrench. A valve box is located over the valve to keep dirt from the valve. The valve box also provides a convenient access point for the valve wrench to the valve nut. A complete record should be made for each valve in the system. This record should include the exact location, the date it was installed, the make, the direction of opening, number of turns to open, and any maintenance that was performed.

Square curb box

Round curb box

The main water supply for sprinklers may also be controlled by an OS&Y valve (Outside Stem and Yolk valve). The valves are found just inside the building wall on the main riser, or outside in protected pits. It is easy to tell at a glance if the valve is open or shut. When the stem is all the way out the valve is open. When the stem is

all the way in the valve is closed. Approved Indicator Valves use a flag that shows the valve position and the valves commonly are used to control the water supply for individual floors in a building. Indication Control Valves are also installed to shut-off certain sections of an individual floor. Being able to shutoff parts of a building allows the Fire Department to have greater control over the sprinkler system. When a fire is under control in an area the OS&Y valve can be closed to prevent any further water damage.

Sometimes repairs must be made to the sprinkler system. When this occurs the indicating control valves are used to close the water supply to only those sections being repaired. This is good safeguard since the rest of the sprinkler system does not have to be shut down.

PART 4: RESPONSIBILITY OF THE BUILDING OWNER

It shall be the owner's responsibility to maintain the sprinkler system and to determine the individual qualifications and competencies of the Certificate of Fitness holder that performs the functions related to inspection, testing and maintenance of such system.

The owner or managing agent of any building subject to the requirements of this Certificate of Fitness shall maintain a detailed record of each inspection and test and a listing of all outstanding violations issued pursuant to this study material. Detailed records and listing shall be made available for inspection by occupants of such residential buildings during regular business hours.

Fire Department Rules § 903-01 Flow Testing

The owner of the building (sprinkler system) shall take immediate corrective action and shall continue such corrective action until such time as the sprinkler system passes a flow test conducted in accordance with the procedure and standard required by NFPA 25 (2011).

The building owner or their agent shall assign an impairment coordinator to maintains of all system inspections, tests, servicing and other items of maintenance shall be kept on site for a period of five years (as required by the Fire Commissioner) and made available for inspection by any member of the FDNY. In absence of a specific designee, the building owner shall be considered the impairment coordinator.

PART 5: OUT OF SERVICE SYSTEMS (OOS)

THE IMPAIRMENT COORDINATOR PRIOR TO TAKING A SYSTEM OUT-OF-SERVICE SHALL:

- **Determine** the duration the system is to be out-of-service;
- **Inspect** the areas of the building affected and assess the increased risk;
- **Notify:** the insurance carrier, the central station operator (if so equipped), the occupants of the affected area, and place out-of-service tags and discs at the appropriate locations.

PLANNED REMOVAL FROM SERVICE: When the system, or a portion of the sprinkler system, is placed out of service for a scheduled inspection, testing, regular maintenance, minor repairs or for construction affecting not more than 1 floor, the S-11 Certificate of Fitness holder and the impairment coordinator shall be made aware of, and authorize the placing of the system out-of-service.

UNPLANNED OUT OF SERVICE CONDITION: A serious defect in the sprinkler system including, but not limited to: an empty tank, a break or major leak in the system's water piping, inoperative or shut water supply valves, defective Fire Department connections, construction related shut downs affecting more than one floor, or complete or partial shut downs of the sprinkler system, other than a shut down for a planned removal from service.

Impaired Equipment: Underground service mains, Fire Department connections and control valves that are out of service and are considered vital to part of the system are required to be tagged following procedures outlined according to 901.7 in Fire Code (See Part 11, #11.3)

WHEN A FIRE PROTECTION SYSTEM IS OUT-OF-SERVICE FIRE WATCH PERSONNEL MUST:

- Continuously patrol the area affected by the out-of-service fire protection system to which such person has been assigned, keeping constant watch for fires.
- Be provided with at least one approved means for notification of the Fire Department and emergency preparedness staff.
- Immediately report any fire to the Fire Department and notify emergency preparedness staff on premises.
- Be trained in the used of portable fire extinguisher.
- Be responsible for extinguishing fires limited in size and spread that can be readily extinguished.
- Maintain a record of such fire watch on the premises during the fire watch and for a minimum of 48 hours after the fire watch has concluded.
- Have no other duties.

FIRE GUARD

The impairment coordinator or other building staff trained and knowledgeable in conducting a fire watch may conduct a fire watch in lieu of a fire guard during the

initial 4 hours of a planned removal from service, or after discovery of an unplanned out-of-service condition, provided that the floor or area in which the fire protection system is out of service does not exceed 50,000 square feet. A sufficient number of fire guards shall be provided such that each floor or area in which the fire protection system is out of service is patrolled at least once an hour. Any removal of service after 4 hours requires a Fire Guard (F-01) with a valid Certificate of Fitness.

IDENTIFYING OUT-OF-SERVICE SYSTEMS USING DISCS/TAGS:

The Impairment Coordinator shall be made aware of and authorize the placing of systems out-of-service. Before authorizing such action, the impairment coordinator or the S-11 Certificate of Fitness holder, a Master Fire Suppression Piping Contractor - Class A or B, a Master Plumber (as restricted) or owner holding an S-12 Certificate of Fitness shall place these tags. The Impairment Coordinator or the S-11 Certificate of Fitness holder shall ensure placement of these discs or FDNY units. When the condition has been corrected, the disc(s) shall be removed immediately.

Systems that are out of service, both planned and unplanned, shall be immediately identified by placing a tag at each of the following locations:

- Fire Department connections
- System control valves
- Fire Command center or other clearly visible location in the lobby of the building;

Indicating which system or part thereof is out-of-service. Impairment coordinators/building owners shall ensure the placement of these tags by MFSPC's or MLP (as restricted). In addition, for an unplanned out-of-service condition, a disc (white or blue) shall be placed at all affected Fire Department connections to inform responding Fire Department units of the out-of-service condition. The impairment coordinator/building owner shall ensure placement of these discs by MFSPC's, MLP's (as restricted) or FDNY units. When the condition has been corrected, the disc(s) shall be removed immediately.

Tag Requirement: A tag shall be used to indicate that a system, or portion, is out-of-service. A Master Fire Suppression Piping Contractor, Class A or B, or a master plumber (as restricted), shall be required to post tags at the main control valve and at any closed sectional valves serving areas affected.

THE TAG SHALL INDICATE:

- The area affected;
- A brief description of the condition;
- The occupancy classification;
- C of F number of person on duty;
- Estimated time until the system becomes operational.

Drain test results shall be posted on the tag indicating both the static and flow pressures before and after the system was placed in an out-of-service condition.

If no impairment is found in the entire system **green** tags will be placed on the **main control valve.**

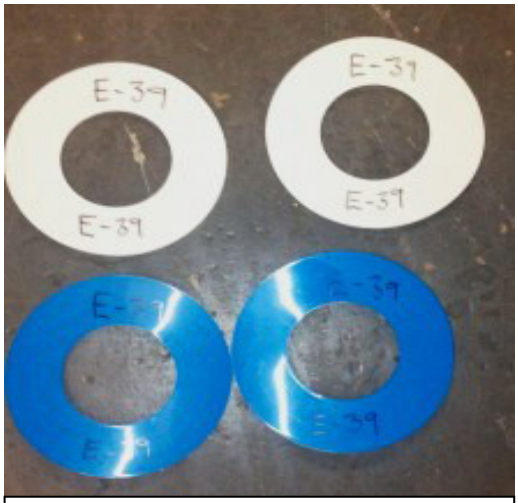
Tags placed at control valves shall indicate the level of impairment or defect as follows:

	Tag	Disc
System fully out-of-service	**Red**	**White**
System partially out-of-service	**Red**	**Blue**
System appears free of defects or deficiencies	**Green**	**N/A**

Only FDNY, owner, MFSPC or MLP (as restricted) may place a tag on a system. For systems that are fully or partially out-of-service that are not equipped with Fire Department connections, the appropriate tags shall be placed at the main control valve. FDNY is to be notified immediately.

Systems PARTIALLY or FULLY OUT-OF-SERVICE:
Fire suppression piping systems equipped with Fire Department connections shall follow the following procedures for identifying systems out-of-service:

The impairment coordinator/building owner shall ensure that the local administrative fire company, Master Fire Suppression Piping Contractor (MFSPC) (Class A or B) or Master Plumber (MP) (as restricted) has placed one **White** disk 8 to 9 inches in diameter on all affected Fire Department connections. **A RED** tag shall be placed at the main control valve indicating the sprinkler company name, date of removal from service and anticipated return to service date.



Example of FDNY White and Blue Discs

The S-11 Certificate of Fitness holder and the impairment coordinator shall be made aware of, and authorize the placement of system(s) out-of-service that are planned to be shut down.

FIRE DEPARTMENT NOTIFICATIONS FOR OUT-OF-SERVICE CONDITIONS:

NOTIFICATION THAT A SPRINKLER SYSTEM OR FIRE ALARM SYSTEM, OR ANY PART THEREOF, IS/OR WILL BE OUT-OF-SERVICE SHALL BE MADE TO THE FIRE DEPARTMENT UNDER THE FOLLOWING CIRCUMSTANCES:

1. The sprinkler system is/or will be out-of-service on more than one floor of a building; or

2. The work or repairs cannot be completed, and the system restored to service, within **8 hours** of the time the system was placed or went out of service; or

3. One or more other fire protection systems in the area in which a fire protection system is out-of-service are or **will also be out of service at the same time**.

The telephone numbers are as follows:

Manhattan	**212-570-4300**
Bronx	**718-430-0200**
Brooklyn	**718-965-8300**
Queens	**718-476-6200**
Staten Island	**718-494-4296**

a) THE INITIAL FIRE DEPARTMENT NOTIFICATION SHALL INCLUDE THE FOLLOWING:

1. A brief description and extent of the out-of-service condition and system it affects.
2. The area of the building affected, including the floors where fire protection system is out-of-service.
3. The type of occupancy.
4. The estimated time the system will be out-of-service.
5. The name and phone number of the person making the notification or the owner of the premises.
6. The building address.
7. Whether the fire protection system is out-of-service by reason of a planned removal from service (and if so, the reason for placing it out-of-service) or an unplanned out-of-service condition.
8. Whether or not the other fire protection systems are in good working order.

b) When the S-11 Certificate of Fitness holder observes a minor defect or other condition not presenting a serious safety hazard, he or she shall report the defect or condition to the owner, and if the defect or condition is not corrected within 30 days it shall be deemed to be an impairment and reported in writing to the Fire Department.

c) Correspondence should be sent via email **spkstp@fdny.nyc.gov** or by certified documents to:

New York City Fire Department
Bureau of Fire Prevention
Fire Suppression Unit, 3rd Floor
9 Metro Tech Center
Brooklyn, New York 11201

PRIOR TO RETURNING A SYSTEM TO SERVICE:

The impairment coordinator shall ensure that the necessary tests and inspections are conducted to verify that the system is operating normally, notify FDNY borough dispatcher, the building owner's tenants in the affected area, the insurance carrier, emergency preparedness staff, central station operator (if so equipped) and remove out of service tags and discs.

RESTORING SYSTEMS TO SERVICE:

When an out-of-service device, equipment or system is restored to normal working order, the impairment coordinator shall:

1. Verify that necessary inspections and tests have been conducted to verify that the affected systems made operational by a licensed MFSPC or MP (as restricted).
2. Notify the Fire Department.
3. Notify the owner, central station, insurance carrier and occupants in the affected areas.
4. Remove the out-of-service tags.

PART 6: PROCEDURE FOR DETAIL RECORD KEEPING, IMPAIRMENTS & SAFETY

IT SHALL BE THE RESPONSIBILITY OF THE S-11 CERTIFICATE OF FITNESS HOLDER TO PERFORM THE FOLLOWING:

RECORD KEEPING

The S-11 Certificate of Fitness holder shall maintain a **detailed record** of all inspections.

Additionally a record with the following shall be posted near the main control valve.

- Address of the premises;
- Date of each inspection;
- S-11 of the Certificate of Fitness holder;
- Signature of the S-11 Certificate of Fitness holder;

RECORDS

Records of all system inspections, tests, servicing and other maintenance required by this material or the referenced standards shall be maintained on the premises **or other approved location** for a minimum of 3 years and made available for inspection by any Fire Department representative.

FC 903.5.1(5) THE RECORD OF WITNESSED HYDROSTATIC AND RESIDENTIAL FLOW TEST

APPROVED CARD

In addition to those records required by Fire Code 901.6.2.1, an **approved card** bearing the dates of each inspection, S-11 Certificate of Fitness number and signature of the Certificate of Fitness holder shall be posted on the premises near the main water supply control valve. **(THIS APPROVED CARD SHALL NOT REPLACE OR SUPERSEDE THE DETAILED RECORD OF INSPECTION).**

Notification of all defects shall be reported to the owner or their representative by the S-11 Certificate of Fitness holder. After 30 days, any of the defects that have not been corrected shall be immediately reported to the Fire Department Borough Communication Office.

FAILURE TO MAKE INSPECTIONS, MAINTAIN RECORDS, AND REPORT DEFECTS OR VIOLATIONS MAY BE CAUSE FOR REVOCATION OF THE S-11 CERTIFICATE OF FITNESS AND COURT ENFORCEMENT PROCEEDINGS.

PART 7: DEFINITIONS

ALARM VALVE - A valve with trim that connects to a water motor gong or electric bell for the purpose of providing local notification during water flow. Alarm valves shall be inspected monthly to verify that they are free of physical damage.

AUTOMATIC BALL DRIP - An automatic drain valve horizontally installed at the low point
in the piping between the lower check valve and the Fire Department Connection of automatic sprinkler systems. Water pressure from a Fire Department pumper automatically closes this valve. It automatically re–opens when pressure ceases, permitting this piping to drain and thereby preventing freezing.

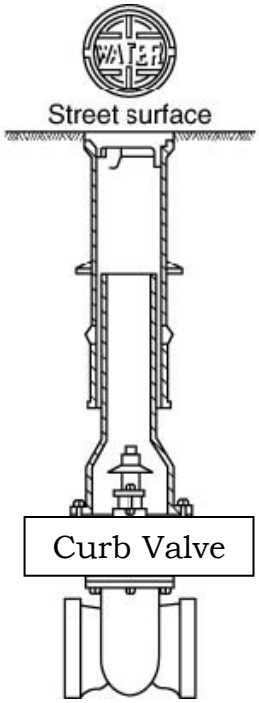
AUTOMATIC SPRINKLER - A fire suppression or control device that operates automatically when its heat-actuated element is heated to its thermal rating or above, allowing water to discharge over a specific area.

CENTRAL STATION - A facility that receives alarm signals from protected premises and retransmits or otherwise reports such alarm signals to the Fire Department.

CONCEALED SPRINKLER - A recessed sprinkler with a cover plate.

CHECK VALVE - A valve that allows flow in one direction only.

CONTROL VALVE - A valve controlling flow to water-based fire protection systems. Control valves do not include hose valves, inspector's test valves, drain valves, trim valves for dry pipe, pre-action and deluge valves, check valves, or relief valves.



OS & Y valve (Outside Stem and Yoke valve) is an indicating type of control valve used for fire sprinkler system. The stem indicates the position of the valve, when the stem is OUT the valve is open, when the stem is completely IN the valve is shut.

Curb Valve is a non-indicating gate valve equipped with a cast iron extension box flushed with a sidewalk with an operating nut of 1 ¼ inch, this valve is operated using a special curb key wrench. This valve controls the municipal water supply serving the fire sprinkler system.

DEFICIENCY: condition in which the application of the component is not within its designed limits or specifications.

CRITICAL DEFICIENCY – A deficiency that, if not corrected, can have an effect on the performance of the fire protection system.

NON CRITICAL DEFICIENCY – A deficiency that does not have an effect on the performance of the fire protection system, but correction is needed for the proper inspection, testing, and maintenance of the system(s).

DRY SPRINKLER - A sprinkler secured in an extension nipple that has a seal at the inlet to prevent water from entering the nipple until the sprinkler operates. May be configured with an upright pendent or sidewall sprinkler.

DISCHARGE DEVICE - A device designed to discharge water or foam-water solution in a predetermined, fixed, or adjustable pattern. Examples include, but are not limited to, sprinklers, spray nozzles, and hose nozzles.

DWELLING - Any building that contains not more than one or two dwelling units intended to be used, rented, leased, let, or hired out to be occupied or that are occupied for habitation purposes.

DWELLING UNIT - One or more rooms arranged for the use of one or more individuals living together, as in a single housekeeping unit, that normally have cooking, living, sanitary, and sleeping facilities.

FIRE DEPARTMENT CONNECTION - A connection , normally on the exterior of the building, through which the fire department can pump supplemental water into the sprinkler system, standpipe, or other system furnishing water for fire extinguishment to supplement existing water supplies. (Formerly known as Siamese connection). Not all sprinkler systems require a Fire Department Connection, see NYC Building Code.)

GLASS BULB SPRINKLER - A sprinkler operated by heat breaking a glass bulb filled with a non-freezing liquid with diameters that vary from 3mm for quick response sprinklers to 5mm for standard response sprinklers.

HYDRAULICALLY CALCULATED SYSTEMS - A method of sizing automatic sprinkler piping using a prescribed amount of water to be distributed over a specific area.

HYDROSTATIC TESTS - Where a Fire Department pumper connection is provided, the system shall pass a hydrostatic pressure test performed in accordance with NYC Fire Code

IMPAIRMENT COORDINATOR - The person responsible for ensuring that proper safety precautions are taken when a fire protection system is placed out of service.

LISTED DEVICE - A fire protection component that has been tested to perform under parameters specified for its use by a nationally recognized testing agency. Underwriter's Laboratory (UL) and Factory Mutual (FM) are the two most common.

MAIN DRAIN - The primary drain connection located on the system riser and also utilized as a flow test connection. These valves are typically globe pattern valves.

OUT OF SERVICE SYSTEM - A fire protection system that is not fully functional; or whose operation is impaired or is otherwise not in good working order.

OLD-STYLE/CONVENTIONAL SPRINKLER - A sprinkler that directs 40% to 60% of the water initially in a downward direction and is designed to be installed with the deflector in either the upright or pendent position.

PENDENT SPRINKLER - A sprinkler designed to be installed in such a way that the water stream is directed downward against the deflector.

PIPE SCHEDULE SYSTEMS – A method of sizing piping based upon the number of sprinkler heads and the occupancy of the protected area.

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

PSI - a unit of measure of pressure in **P**ounds per **S**quare **I**nch.

QUICK RESPONSE SPRINKLER HEAD - A sprinkler having a fusible link with a response time index (RTI) of 50 or less.

RISER, SPRINKLER - The vertical portion of the system piping that delivers the water supply for sprinklers on stand-alone as well as combined systems, vertically from floor to floor.

RECESSED SPRINKLER - A sprinkler in which all or part of the body, other than the shank thread, is mounted above the ceiling.

RESIDENTIAL SPRINKLER - A type of fast response sprinkler that has been specifically tested to enhance survivability in the room of fire origin and listed for use in dwelling units.

RESPONSE TIME INDEX (RTI) – A measurement of the thermal sensitivity of a sprinkler head expressed in (meters-seconds) 1/2.

RESIDENTIAL OCCUPANCIES - Occupancies, as specified in the scope of this standard, that include the following, (1) apartment buildings, (2) lodging and rooming houses, (3) board and care facilities, and (4) hotels, motels, and dormitories.

SPRINKLER IDENTIFICATION NUMBER (SIN) - Sprinklers manufactured after Jan. 1, 2000 are required to be marked to identify performance characteristics.

SIDEWALL SPRINKLER - A sprinkler having special deflectors that are designed to discharge most of the water away from the nearby wall.

SMALL ORIFICE SPRINKLERS - A sprinkler head with and orifice size smaller than ½".

SOLDER LINK SPRINKLER - A sprinkler operated by the melting of a metal link, they vary in size and configuration for quick response and standard response sprinklers. The smaller the size of the link, the faster the sprinkler operates.

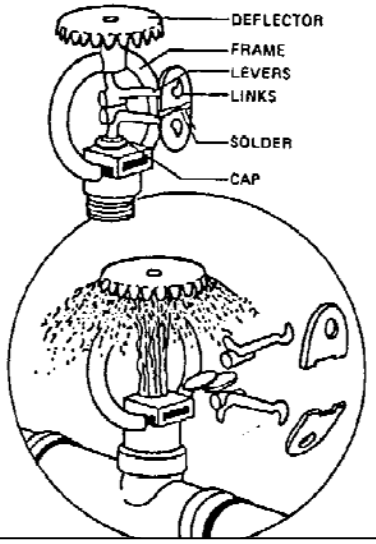
SPRAY SPRINKLER - A type of sprinkler listed for its capability to provide fire control for a wide range of fire hazards. The most commonly used sprinkler since 1953.

SPRINKLER (CONVENTIONAL) - sprinkler that directs from 40 percent to 60 percent of the total water initially in a downward direction and that is designed to be installed with the deflector either upright or pendent.

Sprinkler Branch Piping - The portion of the piping system to which the sprinkler heads or nozzles are directly connected to.

SPRINKLER SYSTEM - A fire extinguishing system, other than a mist fire extinguishing system that utilizes water as the extinguishing agent.

STANDARD RESPONSE SPRINKLER HEAD - A sprinkler having a fusible link with a response time index (RTI) of 80 or more.



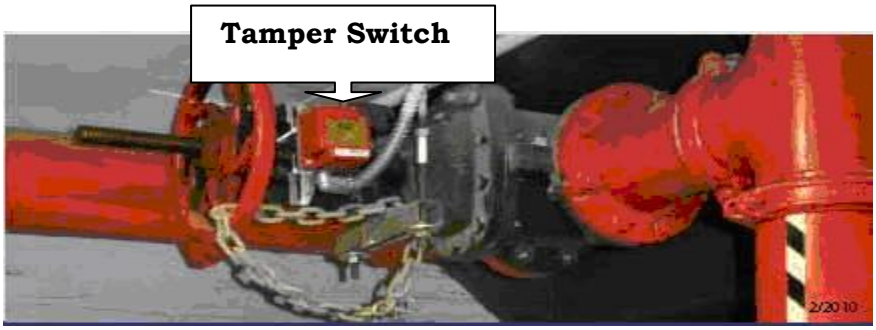
TYPICAL SPRINKLER HEAD

SUPPLY PRESSURE - The pressure within the supply (e.g., city or private supply water source).

SYSTEM PRESSURE - The pressure within the system (e.g., above the control valve).

SYSTEM WORKING PRESSURE - The maximum anticipated static (non-flowing) or flowing pressure applied to sprinkler system components exclusive of surge pressures.

TAMPER SWITCH - Sprinkler tamper switches are designed to notify a fire alarm panel if the sprinkler has been impaired or the water supply has been shut off.



TESTING - A procedure used to determine the status of a system as intended by conducting periodic physical checks on water based fire protection systems such as water-flow tests, fire pump tests, alarm tests, and trip tests of dry pipe, deluge, or preaction valves. These tests follow up on the original acceptance test at intervals specified in the appropriate chapter of NFPA #25, 2011 edition.

UPRIGHT SPRINKLER - A sprinkler designed to be installed in such a way that the water spray is directed upwards against the deflector.

WATER SUPPLY - A source of water that provides the flows [gal/min (L/min)] and pressures [psi (bar)] required by the water-based fire protection system.

WET PIPE SPRINKLER SYSTEM - A sprinkler system employing automatic sprinklers attached to a piping system containing water and connected to a water supply so that water discharges immediately from sprinklers opened by heat from a fire.

PART 8: SYSTEM COMPONENTS

SPRINKLER HEADS

Sprinkler heads are made of metal. They are screwed into the piping at standard intervals. The water is prevented from leaving the sprinkler head by an arrangement of levers and links. The levers and links are soldered together on the sprinkler head. The solder is a metal alloy with a fixed melting point. When a predetermined temperature is reached, the metal alloy melts away and allows the water to flow. Other types of sprinkler heads use a glass bulb which breaks when the activation temperature is reached, allowing the water to flow. The sprinkler head is factory tested to withstand at least 400 psi without injury or leakage. If properly installed, there is little danger of the sprinkler operating unless it is damaged. A minimum of 6 extra sprinkler heads with the appropriate wrenches shall be available to replace any opened or damaged sprinkler heads. Opened or damaged sprinkler heads shall be replaced immediately.

There are over 50,000 different variations of sprinkler heads. Sprinklers manufactured after 1/1/2000 are required to have a Sprinkler Identification Number (SIN). Sprinkler heads manufactured prior shall be replaced as required with sprinkler heads of similar characteristics such as orifice size, temperature rating, and deflector orientation. Upright, pendant and sidewall sprinkler heads are acceptable to use.

RECALLED SPRINKLER HEADS

Certain sprinkler heads have been recalled, one of which is called the "cycling sprinkler". All sprinkler heads listed for recall and replacement can be found at www.cpsc.gov.

Some sprinkler heads are designed to be used in special situations. Sprinkler heads exposed to corrosive conditions are often covered with a protective coat of wax, or lead. Corrosive vapors are likely to make automatic sprinklers inoperative or slow down the speed of operation. They can also seriously block the spray nozzles in the sprinkler heads. They can damage, weaken or destroy the delicate parts of the sprinkler heads. In most cases such corrosive action takes place over a long time. For this reason the sprinkler heads must be carefully checked for signs of corrosion. Care should be taken to make sure that the protective coating is not damaged when

handling or replacing the heads. A typical fusible link type sprinkler head is shown in the picture on the right.

SPRAY PATTERN OF SPRINKLER HEADS

The best way to put out a fire is to spray the water from the sprinkler head downward and horizontally. The spray pattern will also prevent the spread of the fire. The force of the water against the deflector creates a heavy spray which is directed outward and downward. The shape of the deflector determines the spray pattern of the water discharged from the sprinkler head. Usually, this is an umbrella shaped spray pattern. At a distance of 4 feet below the deflector, the spray covers a circular area having a diameter of approximately 16 feet when the sprinkler is discharging 15 gpm. Sprinkler Spray patterns must not be obstructed by building components or storage.

Temperature Ratings Classifications and Color Coding (This chart will be provided when taking this test)

Sprinklers shall have their frame arms, deflector, coating material, or liquid bulb colored in according the following table:

Temperature Ratings Classifications and Color Coding

Maximum Ceiling Temperature		Temperature Rating		Temperature Classification	Frame Color Code	Glass Bulb Colors
°F	°C	°F	°C			
100	38	135–170	57–77	Ordinary	Uncolored or Black	Orange or Red
150	66	175–225	79–107	Intermediate	White	Yellow or Green
225	107	250–300	121–149	High	Blue	Blue
300	149	325–375	163–191	Extra high	Red	Purple
375	191	400–475	204–246	Very extra high	Green	Black
475	246	500–575	260–302	Ultra-high	Orange	Black
625	329	650	343	Ultra-high	Orange	Black

In places where the temperature is normally high (e.g. boiler rooms, unit heaters, uninsulated steam piping, skylights, ovens and drying rooms) a sprinkler head with a higher temperature rating must be used. This is to make sure that the sprinkler head does not discharge water at the wrong time. If heads with a high temperature rating are used in ordinary room (e.g., an office, an apartment, and store) the value of the sprinkler protection is greatly reduced. This is because the temperature will have to increase much higher for the sprinkler heads to open.

Sprinkler systems are excellent for controlling fires. However, they can cause water damage if they are not shut-down soon after the fire has been extinguished. No control valve on the system should be closed except on the order of the fire officer in charge. If the fire has been completely extinguished, the building owner or their representative may close the control valve to prevent further water damage. Sometimes the Fire Department has a difficult time finding the control valve to shut

down the system. This problem can be prevented by keeping a small sketch of the sprinkler system and the position of the control valves. This sketch should always be readily available. This sketch is very helpful to the firefighters when they are responding to an affected premise.

BUILD-UP OF FOREIGN MATERIAL ON SPRINKLERS

Sometimes conditions exists which causes a build-up of foreign material on sprinkler heads. This may prevent the sprinkler head from working properly. This build-up is commonly called loading. The build-up of foreign material insulates the sprinkler head. This build-up prevents the sprinkler from opening at the desired temperature.

If the build-up is hard, it may prevent the sprinkler from opening. Replace loaded sprinkler heads with new sprinkler heads rather than attempting to clean them. Replacement of loaded sprinklers much be performed by MFSPC. If the deposits are hard, attempts to clean the heads are likely to damage them. This damage may prevent the sprinkler heads from working properly. The damage may also cause the sprinkler head to leak.

Deposits of light dust are less serious than hard deposits. Dust build-up may delay the operation of sprinkler heads. However, it will not prevent the eventual discharge of water. Dust deposits can be removed using compressed air or a vacuum, provided the equipment does not touch the sprinkler.

Removal of protective caps and straps on glass bulb sprinklers shall be performed at the time of installation.

SPARE SPRINKLER HEADS

Sprinklers required for emergency replacement must be representative of the type of sprinklers installed along with the proper wrenches. These wrenches shall be provided in the spare head cabinet. It is critical sprinklers be replaced with devices that will perform similarly to the original system sprinklers. Sprinklers that are replaced during an emergency by unlicensed individuals require that the devices used have been verified appropriate for the protected area by a Master Fire Suppression Piping Contractor. After activation by fire, sprinkler heads in close proximity to the affected area should be visually inspected and replaced, if required.

A stock of spare sprinklers (not less than 6) shall be kept on the premise. These sprinklers shall be stored in a cabinet where the temperature does not exceed 100 Degrees F. The sprinklers shall include all types and ratings installed in the protected facility along with the manufacturers sprinkler head wrench. Quantities of sprinklers shall be provided as follows:

# of Sprinklers on System	Min # of Spare Heads Required
Under 300	6
301 – 1,000	12
Over 1,000	24

A BRIEF OVERVIEW OF PIPING AND SUPPORT FUNDAMENTALS

Sprinkler system piping is categorized as follows:

Branch lines are directly connected to sprinkler heads.
Cross mains or **loop mains** are directly connected to branch lines.
Feed mains are directly connected to cross mains or loop mains.
Risers are able to supply feed mains or cross mains directly. The vertical supply pipes in a sprinkler system.

The spacing of hangers varies with the material and diameter of the piping, the location of piping connections, ability of the structure to support the piping, the location of the piping in relation to the building structure, and system the attachments.

Hangers generally consist of an attachment to the piping, an attachment to the building structure, and a ferrous rod attaching the components together. Hanging components are generally required to be listed devices; however, a licensed professional engineer may also certify that a hanger or hanging assembly may be used.

A partial list of specific hanger spacing requirements is noted below:

Standard wall steel pipe with diameters 1 inch and 1 ¼ inch are required to have hangers placed at a maximum of 12 feet apart. For all other pipe diameters the maximum distance between hangers is 15 ft. The maximum hanger spacing for threaded light wall steel pipe shall not exceed 12 Ft. apart.

The maximum hanger spacing for PVC (plastic) pipe varies from a maximum 5 ft 6 inches for ¾ inch piping to a maximum10 ft. on center for 3 inch.

There are extensive additional hangings and bracing requirements for CPVC piping and the installation and design manuals for this product must be referenced to perform adequate visual inspections required by the standard.

The distance for the hanger assembly to the centerline of an upright sprinkler head shall not be less than 3 inches. Hangers placed closer to sprinklers will cause an obstruction to the discharge pattern.

The cumulative length of an unsupported arm over to a sprinkler head, sprinkler drop, or sprinkler sprig-up shall not exceed 24 inches for steel pipe and 12 inches for copper pipe.

System risers (vertical piping passing from floor to floor) shall be supported with riser clamps and hangers located within 24 inches of the centerline of the riser. The distance between supports for risers shall not exceed 25 feet. The minimum size hanger rod required shall be 3/8 inch rod up to 4 inch pipe.

PART 9: WATER-FLOW ALARMS AND SPRINKLER SYSTEM SUPERVISION

Sprinkler systems equipped with more than 20 sprinklers in a fire area must have water flow indication alarms. The water-flow may be due to fire, leakage, or accidental rupture of the piping. It is important that prompt action is taken when water-flow is signaled by these devices.

FUNCTIONS OF ALARMS AND SUPERVISORY SIGNALS

A sprinkler system with a water flow alarm serves two functions: 1) It is an effective fire extinguishing system, and 2) It is an automatic fire alarm. An alarm is signaled soon after a sprinkler head has opened. This is important since it allows the occupants' time to leave the building. It also signals that the Fire Department should be summoned.

Any signal, whether water-flow or supervisory, may be used to sound an audible local sprinkler alarm. It may also send a signal to the central station company. In systems equipped with central monitored connections, the central station company shall be notified when any control valves are closed for maintenance and repair. This practice reduces false alarms.

Sprinkler systems equipped with more than 20 sprinklers in a fire area must have an approved water motor gong or an electric bell, horn, or siren on the outside of the building. An electric bell or other audible signal device may also be located inside the building.

WATER MOTOR ALARMS: The basic design of most water motor alarm valves is that of a check valve which lifts from its seat when water flows into a sprinkler system. This alarm then starts an audible signal to alert the occupants in the building that the sprinkler system has been activated.

1. **Vane Type Waterflow** – Switches have a paddle inserted inside the main supply piping perpendicular to the direction of flow. Upon water-flow, the paddle switch transmits an alarm. Vane type water-flow switches shall not be installed to monitor water-flow in dry pipe or pre-action sprinkler systems.

2. **Pressure Type Waterflow** – Switches mounted on a trim line. Upon water-flow, the switch transmits an alarm. Pressure type water-flow switches are commonly used to monitor water flow in dry pipe and pre-action systems.

3. **Alarm Retarding Devices** – An alarm check valve that is exposed to changing water supply pressure needs an alarm retarding device. This is required to prevent false alarms when the check valve clapper is lifted from its seat by a temporary pressure surge. Vane type water-flow switches sensitivity can also be adjusted to changing water pressures.

PART 10: INDIVIDUALS AUTHORIZED TO PERFORM TASKS AS PER NYC FIRE CODE

1. **Certificate of Fitness (COF) for S-11** - visual inspections only, proper notification and detail record inspection results for examination by FDNY.
2. **S-12 COF** holder employed by a site-specific building owner with the following certifications: **Refrigeration Operating Engineer (Refrigeration Q-99 or Q-01), High Pressure Operating Engineer and NYS High Pressure Operating Engineer** are permitted to perform visual inspections, test notification appliances, perform daily and weekly routine maintenance and record all inspection, testing and maintenance results for examination by FDNY.
   *****(For employees of a single or multiple properties under common ownership employed by the same building owner/management company)
3. **Master Fire Suppression Piping Contractor (A or B) (MFSPC)** – with S-12 COF can inspect, test, maintain and repair/replace all fire standpipe and sprinkler systems components, record maintenance, inspection and test results for examination and evaluation by FDNY.
4. **Master Plumber (MP)** with S-12 is limited to residential (R) occupancies 30 sprinkler heads or less without a booster pump.

PART 11: INSPECTION AND TESTING FREQUENCIES

COMMON DEFICIENCIES

The most common **sprinkler system deficiencies** include painted or loaded sprinkler heads, building contents located less than 18 inches below sprinkler deflectors, changes from the original wall locations, ceiling heights, and positioning of mechanical equipment.

For concealed sprinkler systems, cover plates with non-factory coatings and the lack of required gap between cover plate and ceiling and blocking of the spray patterns from light fixtures close to the sprinklers are the most common deficiencies seen in the field. Missing trim or cover plates not attached properly to sprinklers may indicate hanger deficiencies and may not allow the sprinkler deflectors to drop below the ceiling blocking the spray pattern.

The S-11 Certificate of Fitness holder shall assume that the system being inspected is installed in accordance to the NYC Building Code. The C of F holder is to report those items of change that impact the system components regarding, compliance with any retroactive requirements, the condition of the water supply control valves, unusual changes in water supply or system pressures, condition and accessibility of control valves, Fire Department Connections, clearance around sprinkler heads, accessibility of curb valve box, system control valves, required signage, attachments to piping other than system components, misaligned piping due to impact, missing pipe hangers and supports, easily recognized recalled sprinkler heads and visible leakage.

FACTORS THAT MAY REQUIRE FURTHER INVESTIGATION

Installations that don't appear to be correct including sprinkler heads located more than 22 inches below the ceiling or structure, sprinklers not installed in accordance with their listing, using sprinklers with different RTI in the same protected area or the wrong RTI for the occupancy classification, undersized piping, incompatible piping materials, flexible sprinkler hoses not attached to the building structure, along with areas of the building not protected by the sprinkler system all require further investigation by a qualified MFSPC.

When sprinklers are replaced, the following information is critical to be certain that the correct devices have been used. Sprinklers with different diameter glass bulbs will have a different RTI and must not be used together in the same compartment. Defective sprinklers without SIN identification shall be replaced with devices that perform a similar function. They shall have the same RTI, temperature rating, discharge pattern and orifice size. Residential/hotels group R (J in pre 2008 code) residential sprinklers are required in all sleeping compartments. Quick response sprinklers are required in all other portions of the facility. Business/Office group B (E in pre 2008 code), Institutional I (H in pre 2008 code), Education E (G in pre 2008 code), require quick response sprinklers be installed in all occupied areas.

Glass bulb sprinklers are sensitive to damage and are required to be shipped from the factory with protection. The orange "caps and straps" need to be removed prior

to putting the system in service. The sprinkler will fail to operate with these devices in place.

Fire department connections shall be hydrostatically tested at least once every 5 years.

Flow test shall be conducted at the owner's risk by his or her representative, who shall be a licensed master plumber or licensed master fire suppression contractor. At least one such test shall be conducted before a representative of the fire department at least once every 5 years.

11.1 A COMPLETE SUMMARY OF TASKS & FREQUENCIES TO BE PERFORMED

INSPECTION

A. Sprinkler Systems:

- Wet pipe sprinkler system shall be inspected **monthly** by a person holding a certificate of fitness to ensure good condition & that normal water supply pressure is being maintained.

Alarm Devices:

- Alarm devices shall be inspected **monthly** to verify that they are free of physical damage.

Gauges:

- Gauges shall be replaced every 5 yrs. or tested every 5 yrs. by comparison with a calibrated gauge. Gauges that are not accurate within 3% of the full scale shall be recalibrated or replaced.

Hydraulic Name Plate:

- For hydraulically designed systems shall be inspected **monthly** to ensure that it is attached securely to the sprinkler riser or sprinkler control valve and is legible.

Hanger:

- Hangers shall be inspected **monthly** from floor level to ensure they are in place, properly aligned and otherwise not damaged. All defects and deficiencies shall be corrected.

Old Sprinklers:

- Where sprinklers have been in service for 50 yrs. shall be replaced or representative samples from one of more sample areas shall be tested. Sprinklers from sample areas that do not pass performance tests shall be replaced. Test procedures shall be repeated at 10 yr. intervals. All sprinkler heads manufactured prior to 1920 shall be replaced.

Pipe and Fittings:

- Shall be inspected **annually** from the floor level to ensure there is no mechanical damage, leakage, corrosion, misalignment and that required

supports and bracing are in place and are in good condition. Nothing shall be attached to any sprinkler system component.

- Pipe installed within concealed (such as above suspended ceilings spaces) are not required to be inspected. Exposed piping installed in areas that are inaccessible for safety considerations due to process operations shall be inspected during each scheduled shutdown.
- Pipe installed in areas that inaccessible shall be inspected during each scheduled shutdown;

Spare Sprinkler Heads/Wrenches:

- The supply shall be inspected **monthly** for the proper number and type of sprinklers and a sprinkler wrench for each type of sprinkler.

Sprinklers:

- Sprinklers shall be inspected for the floor level **monthly** for signs of leakage, corrosion, foreign materials, paint and physical damage; and shall be installed in the proper orientation (such as upright, pendent or sidewall). If the above problem occurs the sprinkler shall be replaced;
- Glass bulb sprinklers shall be replaced if the bulbs have emptied;
- Unacceptable obstructions to spray patterns shall be corrected;
- Sprinkler installed in concealed (such as above suspended ceilings spaces) are not required to be inspected.

B. Valve and Valve Components:

Backflow Prevention Assemblies:

- The double and single check assembly valves and double check detector assembly valve shall be inspected **monthly** to ensure that the OS&Y isolation valves are in the normal open position;
- Valves secured with locks or electrically supervised shall be inspected **monthly**.

Control Valves:

- All indicating valves controlling water supplies shall be sealed, locked or provided with other approved methods as outlined in NFPA 25, 2011 edition. All indicating valves controlling water supplies shall be equipped with locks and/or supervised and be inspected **monthly**.
- The inspection shall verify that, it is the normal open or closed position, properly sealed, locked, or supervised, provided with appropriate wrenches, free from external leaks and provided with appropriate identification.

11.2 REFERENCE GUIDE FOR MONTHLY INSPECTION

Reference Guide for Inspection, Testing and Maintenance for Residential Sprinkler System

C of F	Certificate of Fitness S-11 Residential Sprinkler System

Components		May be performed by C of F
MONTHLY VISUAL INSPECTION		
Valves	Check valve for water supply	YES
	O S & Y valve coming to the building	
	Inspector test valve	
	Automatic sprinkler shut off valve (Curb Box) (if equipped)	
Sprinkler piping & fittings	Riser piping	YES
Sprinkler heads		YES
Spare sprinkler heads/wrenches		YES
Hanger/seismic bracing		YES
Gauges	Pressure gauge(if equipped)	YES
Fire Dept. Connection (if equipped)	Lower check valve	YES
	Ball Drip	
	Swivels, caps, signage	
Alarm Valves		YES
TESTING AND MAINTENANCE		
Testing and Maintenance shall be performed by Master Fire Suppression Piping Contractor or Master Plumber with S-12 C of F		

The monthly inspection of the sprinkler system is required to ensure all parts of the system are in perfect working order. Such inspection shall include a check of all control valves on the system, including the main supply control valve, making certain the valves are fully open and sealed in such open position; a check of the static pressure in the sprinkler system from a pressure gauge, if installed, located at or near the inspector's test connection, making certain the system design pressure is being maintained; a check that all sprinkler heads are in place; and such other requirements as may be necessary.

11.3 INSPECTION TESTING AND MAINTENANCE OF SPRINKLER SYSTEMS ACTIVITIES & RECORDS

Red Tag	- Notify FDNY & owner immediately (Shall be fixed Immediately) FC 901.7
Orange Tag	- Notify the owner immediately - If deficiency is not corrected after 30 days Notify FDNY
Yellow Tag	- Notify the owner immediately - If deficiency is not corrected after 30 days Notify FDNY
Green Tag	**System Fully operational**

Components	Inspection Activities (Reference NFPA 25 – 2011)	Tag Color	Repair required?	If Yes, explain.
I. INSPECTION				
A. Sprinkler Systems				
Sprinkler system Shut down	Partial or Full shut down	**Red**	☐ Yes ☐ No	
No Access	Control Valves - Inaccessible for more than 30 days	**Red**	☐ Yes ☐ No	
Sprinklers	Leaking, heavily corroded, painted operating element or bulb or deflector or cover plate, heavily loaded foreign materials attached to or suspended from, improper orientation, glass bulbs that have lost fluid	**Red**	☐ Yes ☐ No	
Sprinklers	Lightly corroded, painted frame arm or boss, lightly loaded	**Orange**	☐ Yes ☐ No	
Sprinklers	Spray pattern obstructed – less than 18"' below deflector (storage, signs, banner, etc.)	**Orange**	☐ Yes ☐ No	
Sprinklers	Spray pattern obstructed – greater than 18" below deflector (ducts, decks, etc. over 4" wide, overhead doors)	**Yellow**	☐ Yes ☐ No	
Spare sprinkler cabinet (If equipped)	Cabinet missing, temp, over 100°F, not proper number and type, missing wrench for each type	**Yellow**	☐ Yes ☐ No	
Sprinklers – standard	prior to 1920 not replaced	**Orange**	☐ Yes ☐ No	
Sprinklers – fast response	No test after 20 years, every 10 years thereafter	**Yellow**	☐ Yes ☐ No	
Sprinklers – Standard	No test after 50 years, every 10 years thereafter	**Yellow**	☐ Yes ☐ No	
Pipe and fittings	Leaking	**Red**	☐ Yes ☐ No	
Pipe and fittings	Poor condition/external corrosion, mechanical damage, not properly aligned, external loads	**Yellow**	☐ Yes ☐ No	
Pipe and fittings	Subject to freezing conditions		☐ Yes ☐ No	
Hangers & seismic braces	Damaged or loose	**Yellow**	☐ Yes ☐ No	
Gauges	Poor Condition	**Yellow**	☐ Yes ☐ No	
Gauges	Not showing normal water/air pressure	**Yellow**	☐ Yes ☐ No	

Building	Prior to freezing weather – exposed piping exposed to freezing	**Yellow**	☐ **Yes** ☐ **No**	
Building	Found during potential for freezing weather weather-exposed to freezing	**Orange**	☐ **Yes** ☐ **No**	
Alarm devices	Physical damage apparent	**Yellow**	☐ **Yes** ☐ **No**	
Hydraulic nameplate If equipped)	Not legible or missing	**Yellow**	☐ **Yes** ☐ **No**	
B. Valves, Valve components, and Trim				
Gauges	Poor condition	**Orange**	☐ **Yes** ☐ **No**	
Gauges	Not showing normal water/ pressure	**Orange**	☐ **Yes** ☐ **No**	
Control valve	Improper closed position	**Red**	☐ **Yes** ☐ **No**	
Control valve	Improper open position, leaking	**Orange**	☐ **Yes** ☐ **No**	
Control valve	Not locked or supervised, not accessible, no appropriated wrench if required, and no identification	**Yellow**	☐ **Yes** ☐ **No**	
Alarm valve (If equipped)	External physical damage, trim valves not in appropriate open of closed position, retard chamber or alarm drain leaking	**Orange**	☐ **Yes** ☐ **No**	
Alarm valve (If equipped)	Alarm valve, strainers , filters and restricted orifices not internally inspected after 5 years	**Orange**	☐ **Yes** ☐ **No**	
Check valve	Check valve not internally inspected after 5 years	**Orange**	☐ **Yes** ☐ **No**	
Valve enclosure	Not maintaining minimum 40°F temp.	**Orange**	☐ **Yes** ☐ **No**	
Backflow prevention assemblies	Reduced pressure assemblies differential-sensing valve relief port continuously discharging	**Orange**	☐ **Yes** ☐ **No**	
Fire Department connection	Not accessible, couplings & swivels damaged, do not rotate smoothly, clapper not operating properly or missing	**Red**	☐ **Yes** ☐ **No**	
Fire Department connection	Not visible, couplings & swivels do not rotate smoothly, plugs & caps or gaskets damaged or missing, check valve leaking, automatic drain not operating properly or missing	**Orange**	☐ **Yes** ☐ **No**	
Fire department connection (If equipped)	Missing identification sign	**Yellow**	☐ **Yes** ☐ **No**	
FDNY 5 year test not conducted	As per Chapter 9 NYC Fire Code	**Orange**	☐ **Yes** ☐ **No**	

PART 12: DIFFERENT TYPES OF SPRINKLER HEAD COMPONENTS

Adjustable Concealed Sprinkler Heads

Concealed Sprinkler Head

Recalled Omega Sprinkler Head

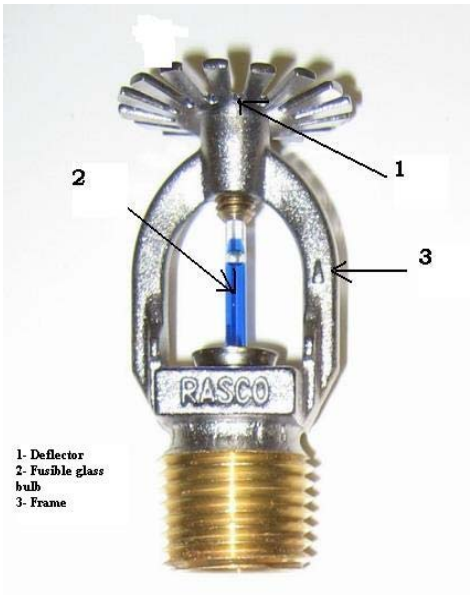
165° F Upright Sprinkler Head

Sidewall Sprinkler Head

Adjustable Concealed Sprinkler Head

Sidewall Sprinkler Head with a Factory Protective Cap

Conventional Sprinkler Heads



Pendant Sprinkler Head

Pendent Head with Protective Cap

Quick Response Ordinary Temperature Rated Factory Applied Finish Sprinkler

Flush Pendent Sprinkler

Flush Pendent Sprinkler

Sprinkler Wrenches

Sprinkler Head Wrenches

Concealed Sprinkler Head Wrench

Concealed Sprinkler Head Wrenches

Split Ring, Band Hanger, Clevis hanger

Impaired or Defective Components

Defective Water Pressure Gauge

Defective Water Pressure Gauge Exposed to Freezing Temps

Sprinkler System Improper Hanger

Rotted Piping

OS & Y valve not Sealed, Locked, and Electronically Monitored, Labeled and Valve Handle Not Painted

Loaded Sprinkler in Head Guards Cage Head

PART 13: NYC BUILDING LOCAL LAW 58 OF 2009 (NOT IN ITS ENTIRETY)

A LOCAL LAW #58/2009

NYC Buildings Department
280 Broadway, New York, NY 10007

Robert D. LiMandri, Commissioner

BUILDINGS BULLETIN 2010-014
Technical

Supersedes: Buildings Bulletin 2010-007 dated March 11, 2010

Issuer: James P. Colgate, RA, Esq.
Assistant Commissioner for Technical Affairs and Code Development

Issuance Date: May 3, 2010

Purpose: This document clarifies the types of fire protection system piping and valve handles that must be painted to comply with Local Law 58 of 2009.

Related Code/Zoning Section(s):	BC 903.6	BC Q103	LL	58/09	
	BC 905.11	BC Q104			
	BC Q102	BC Q105			

Subject(s): Fire protection systems, automatic sprinkler systems, painting of; Fire protection systems, standpipe systems, painting of; Sprinkler systems; Standpipe systems

Background:
Subsequent to the issuance of Buildings Bulletin 2010-007, it was found to be necessary to correct the section numbers, in the table below, under the riser, branch line, and gate valve handle sections, and to delete the check valve handle from the table.

Specifics:
Local Law 58 of 2009 amends the 2008 Building Code sections BC 903 and 905 to require, with the exception of horizontal branch piping, the painting of dedicated sprinkler and standpipe system piping and valve handles serving sprinkler and standpipe systems. In accordance with the local law, any listing information and labeling must not be obscured by the painting.

With reference to NFPA 13-02 and NFPA 14-03, as amended by Appendix Q of the 2008 Building Code, the standpipe and sprinkler system components shall be painted in accordance with the following table:

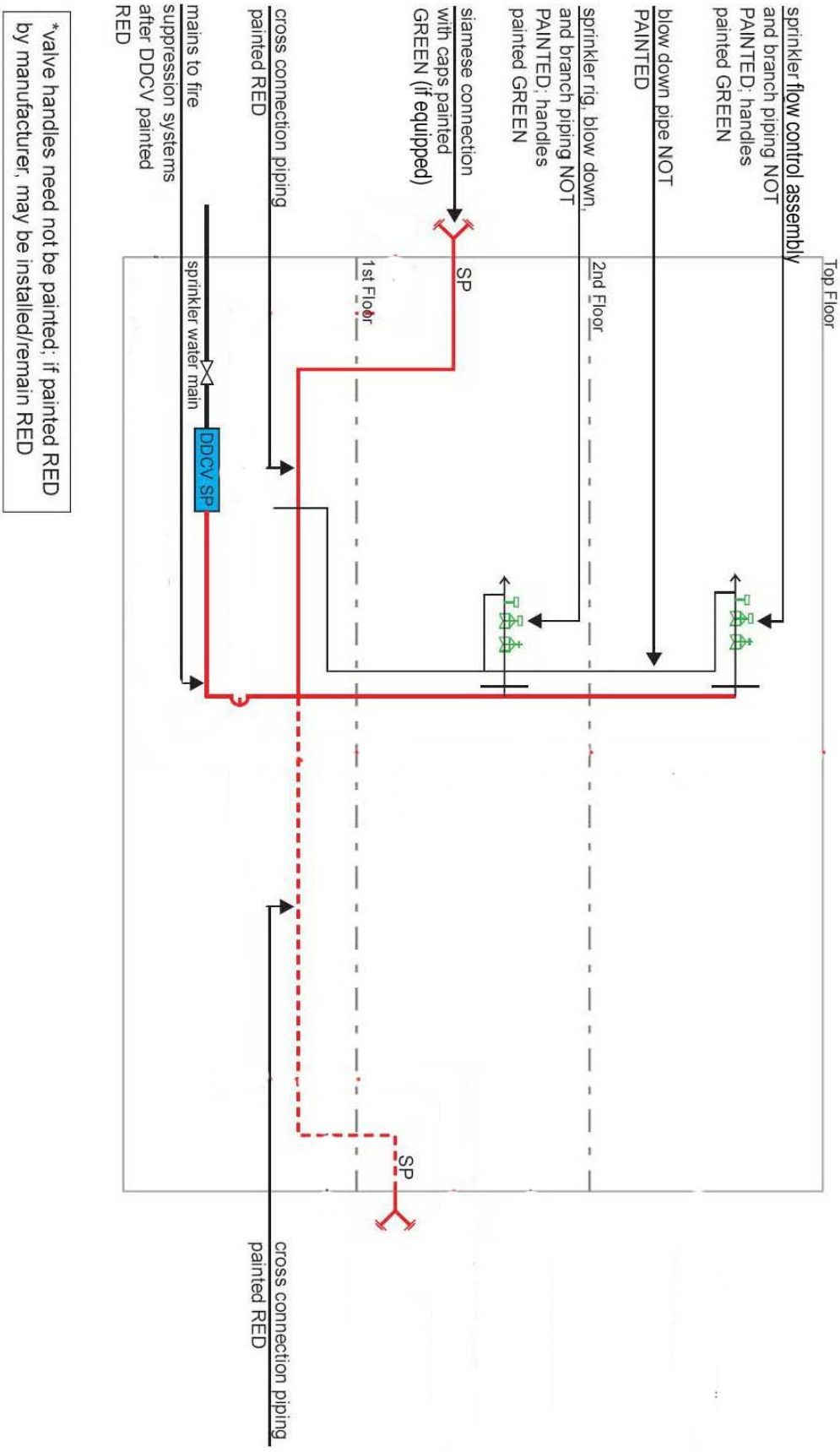
(See Table on Page 2)

Table I
Painting Requirements for Standpipe and Sprinkler System Components

	System Component	Painting Required?
System Piping	Riser (NFPA 13-02 §3.5.8; NFPA 14-03 §3.3.22)	**YES**
	Cross connection (NFPA 14-03 §7.5)	**YES**
	Standpipe feed main (NFPA 14-03 §3.3.7)	**YES**
	Branch line (NFPA 13-02 §3.5.1)	**NO**
	Cross main (NFPA 13-02 §3.5.2)	**NO**
	Sprinkler feed main (NFPA 13-02 §3.5.3)	**NO**
Valve Handles	Riser control valve handle (NFPA 14-03 §4.5.1, §6.2.2)	**YES**
	Section control valve handle (NFPA 14-03 §4.5.1, §6.2.2)	**YES**
	Gate valve handle (NFPA 14-03 §6.2.2, 6.2.3)	**YES**
	Floor control valve handle (NFPA 13-02 §8.15.1.1.1.7)	**YES**
	Valve handle serving gravity tank (NFPA 13-02 §8.15.1.1.5)	**YES**
	Hose valve handle (NFPA 14-03 §3.3.12)	**NO**
	Pressure control valve handle (NFPA 14-03 §3.3.15)	**NO**
	Pressure-reducing valve handle (NFPA 14-03 §3.3.16)	**NO**
	Test valve handle (NFPA 13-02 §6.7.3)	**NO**
	Drain valve handle (NFPA 13-02 §6.7.3; NFPA 14-03 §7.12.2.1)	**NO**

NYC Buildings

standpipe and sprinkler system



*valve handles need not be painted; if painted RED by manufacturer, may be installed/remain RED

07/10

PART 14: APPENDIX (NOT PART OF THE TEST)

14.1 FIRE SAFETY GUIDE

PART I -- BUILDING INFORMATION SECTION

BUILDING ADDRESS:

_____

BUILDING OWNER/REPRESENTATIVE:

Name:_____
Address:_____
Telephone:

_____

BUILDING INFORMATION:

Year of Construction: _____
Type of Construction: Combustible Non-Combustible
Number of Floors: _____ Aboveground _____Belowground
Sprinkler System: Yes No
Sprinkler System Coverage: Entire Building Partial *(complete all that apply)*:
Dwelling Units:

_____

Hallways:

_____

Stairwells:

_____

Compactor Chute:

_____

Other:

_____

Fire Alarm: Yes Transmits Alarm to Fire Dept/Fire Alarm Co No
Location of Manual Pull Stations:

_____

_____

_____

Public Address System: Yes No
Location of Speakers: Stairwell Hallway Dwelling Unit Other:

_____

_____

Means of Egress (e.g., Unenclosed/Enclosed Interior Stairs, Exterior Stairs, Fire Tower Stairs, Fire Escapes, Exits):

Type of Egress	Identification	Location	Leads to

Other information:

_____

_____

DATE PREPARED: _____

FIRE SAFETY GUIDE
PART II – FIRE EMERGENCY INFORMATION

BUILDING ADDRESS:

_____

THIS FIRE SAFETY GUIDE IS INTENDED TO HELP YOU AND THE MEMBERS OF YOUR HOUSEHOLD PROTECT YOURSELVES IN THE EVENT OF FIRE. THIS FIRE SAFETY GUIDE CONTAINS:

- **Basic fire prevention and fire preparedness measures that will reduce the risk of fire and maximize your safety in the event of a fire.**
- **Basic information about your building, including the type of construction, the different ways of exiting the building, and the types of fire safety systems it may have.**
- **Emergency fire safety and evacuation instructions in the event of fire in your building.**

PLEASE TAKE THE TIME TO READ THIS FIRE SAFETY GUIDE AND TO DISCUSS IT WITH THE MEMBERS OF YOUR HOUSEHOLD. FIRE PREVENTION, PREPAREDNESS, AND AWARENESS CAN SAVE YOUR LIFE!

IN THE EVENT OF A FIRE, CALL 911
OR THE FIRE DEPARTMENT DISPATCHER, AT

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

OR TRANSMIT AN ALARM FROM
THE NEAREST FIRE ALARM BOX

BASIC FIRE PREVENTION AND FIRE PREPAREDNESS MEASURES

These are fire safety tips that everybody should follow:

1. Every apartment should be equipped with at least one smoke detector. (All apartment buildings constructed after July 2009 are required to be equipped with multiple interconnected smoke alarms that sound throughout an apartment.) Check them periodically to make sure they work. Most smoke detectors can be tested by pressing the test button. Replace the batteries in the spring and fall when you move your clocks forward or back an hour, and whenever a smoke detector chirps to signal that its battery is low. The smoke detector should be replaced on a regular basis in accordance with the manufacturer's recommendation, but at least once every ten years.
2. Carelessly handled or discarded cigarettes are the leading cause of fire deaths. Never smoke in bed or when you are drowsy, and be especially careful when smoking on a sofa. Be sure that you completely extinguish every cigarette in an ashtray that is deep and won't tip over. Never leave a lit or smoldering cigarette on furniture.
3. Matches and lighters can be deadly in the hands of children. Store them out of reach of children and teach them about the danger of fire.
4. Do not leave cooking unattended. Keep stove tops clean and free of items that can catch on fire. Before you go to bed, check your kitchen to ensure that your oven is off and any coffeepot or teapot is unplugged.
5. Never overload electrical outlets. Replace any electrical cord that is cracked or frayed.
   Never run extension cords under rugs. Use only power strips with circuit-breakers.
6. Keep all doorways and windows leading to fire escapes free of obstructions, and report to the owner any obstructions or accumulations of rubbish in the hallways, stairwells, fire escapes or other means of egress.
7. Install window gates only if it is absolutely necessary for security reasons. Install only approved window gates. Do not install window gates with key locks. A delay in finding or using the key could cost lives. Maintain the window gate's opening device so it operates smoothly. Familiarize yourself and the members of your household with the operation of the window gate.
8. Familiarize yourself and members of your household with the location of all stairwells, fire escapes and other means of egress.
9. With the members of your household, prepare an emergency escape route to use in the event of a fire in the building. Choose a meeting place a safe distance from your building where you should all meet in case you get separated during a fire.
10. Exercise care in the use and placement of fresh cut decorative greens, such as Christmas trees and holiday wreaths. If possible, keep them planted or in water. Do not place them in public hallways or where they might block egress from your apartment if they catch on fire. Keep them away from any flame, including fireplaces. Do not keep for extended period of time; as they dry, decorative greens become easily combustible.

BUILDING INFORMATION

Building Construction

In a fire emergency, the decision to leave or to stay in your apartment will depend in part on the type of building you are in. Residential buildings built before 1968 are generally classified either as “fireproof” or “non-fireproof.” Residential buildings built in or after 1968 are generally classified either as “combustible” or “non-combustible.” The type of building construction generally depends on the size and height of the building.

A “non-combustible” or “fireproof” building is a building whose structural components (the supporting elements of the building, such as steel or reinforced concrete beams and floors) are constructed of materials that do not burn or are resistant to fire and therefore will not contribute to the spread of the fire. In such buildings, fires are more likely to be contained in the apartment or part thereof in which they start and less likely to spread inside the building walls to other apartments and floors. THIS DOES NOT MEAN THAT THE BUILDING IS IMMUNE TO FIRE. While the structural components of the building may not catch fire, all of the contents of the building (including furniture, carpeting, wood floors, decorations and personal belongings) may catch on fire and generate flame, heat and large amounts of smoke, which can travel throughout the building, especially if apartment or stairwell doors are left open.

A “combustible” or “non-fireproof” building has structural components (such as wood) that will burn if exposed to fire and can contribute to the spread of the fire. In such buildings, the fire can spread inside the building walls to other apartments and floors, in addition to the flame, heat and smoke that can be generated by the burning of the contents of the building.

Be sure to check Part I (Building Information Section) of this fire safety guide to see what type of building you are in.

Means of Egress

All residential buildings have at least one means of egress (way of exiting the building), and most have at least two. There are several different types of egress:

Interior Stairs: All buildings have stairs leading to the street level. These stairs may be enclosed or unenclosed. Unenclosed stairwells (stairs that are not separated from the hallways by walls and doors) do not prevent the spread of flame, heat and smoke. Since flame, heat and smoke generally rise, unenclosed stairwells may not ensure safe egress in the event of a fire on a lower floor. Enclosed stairs are more likely to permit safe egress from the building, if the doors are kept closed. It is important to get familiar with the means of egress available in your building.

Exterior Stairs: Some buildings provide access to the apartments by means of stairs and corridors that are outdoors. The fact that they are outdoors and do not trap heat and smoke enhances their safety in the event of a fire, provided that they are not obstructed.

Fire Tower Stairs: These are generally enclosed stairwells in a "tower" separated from the building by air shafts open to the outside. The open air shafts allow heat and smoke to escape from the building.

Fire Escapes: Many older buildings are equipped with a fire escape on the outside of the building, which is accessed through a window or balcony. Fire escapes are considered a "secondary" or alternative means of egress, and are to be used if the primary means of egress (stairwells) cannot be safely used to exit the building because they are obstructed by flame, heat or smoke.

Exits: Most buildings have more than one exit. In addition to the main entrance to the building, there may be separate side exits, rear exits, basement exits, roof exits and exits to the street from stairwells. Some of these exits may have alarms. Not all of these exits may lead to the street. Roof exits may or may not allow access to adjoining buildings.

Be sure to review Part I (Building Information Section) of this fire safety guide and familiarize yourself with the different means of egress from your building.

Fire Sprinkler Systems

A fire sprinkler system is a system of pipes and sprinkler heads that when triggered by the heat of a fire automatically discharges water that extinguishes the fire. The sprinkler system will continue to discharge water until it is turned off. When a sprinkler system activates, an alarm is sounded.

Sprinkler systems are very effective at preventing fire from spreading beyond the room in which it starts. However, the fire may still generate smoke, which can travel throughout the building.

Apartment buildings constructed before March 1999 were generally not required to have fire sprinkler systems. Some apartment buildings are equipped with sprinkler systems, but only in compactor chutes and rooms or boiler rooms. All apartment buildings constructed after March 1999 are required by law to be equipped with fire sprinkler systems throughout the building.

Be sure to review Part I (Building Information Section) of this fire safety guide to learn whether your building is equipped with fire sprinkler systems.

Interior Fire Alarm Systems

Although generally not required, some residential buildings are equipped with interior fire alarm systems that are designed to warn building occupants of a fire in the building. Interior fire alarm systems generally consist of a panel located in a lobby or basement, with manual pull stations located near the main entrance and by each stairwell door. Interior fire alarm systems are usually manually-activated (must be pulled by hand) and do not automatically transmit a signal to the Fire Department, so a telephone call must still be made to 911 or the Fire Department dispatcher. Do not assume that the Fire Department has been notified because you hear a fire alarm or smoke detector sounding in the building.

Be sure to review Part I (Building Information Section) of this fire safety guide to learn whether your building is equipped with an interior fire alarm system and whether the alarm is transmitted to the Fire Department, and familiarize yourself with the location of the manual pull stations and how to activate them in the event of a fire.

Public Address Systems

Although generally not required, some residential buildings are equipped with public address systems that enable voice communications from a central location, usually in the building lobby. Public address system are different from building intercoms, and usually consist of loudspeakers in building hallways and/or stairwells.

Starting in July 2009, residential buildings that are more than 125 feet in height are required by law to be equipped with a one way voice communication system that will enable Fire Department personnel to make announcements from the lobby to building occupants in their apartments or in building stairwells.

Be sure to review Part I (Building Information Section) of this fire safety guide to learn whether your building is equipped with a public address system.

EMERGENCY FIRE SAFETY AND EVACUATION INSTRUCTIONS

IN THE EVENT OF A FIRE, FOLLOW THE DIRECTIONS OF FIRE DEPARTMENT PERSONNEL. HOWEVER, THERE MAY BE EMERGENCY SITUATIONS IN WHICH YOU MAY BE REQUIRED TO DECIDE ON A COURSE OF ACTION TO PROTECT YOURSELF AND THE OTHER MEMBERS OF YOUR HOUSEHOLD.

THIS FIRE SAFETY GUIDE IS INTENDED TO ASSIST YOU IN SELECTING THE SAFEST COURSE OF ACTION IN SUCH AN EMERGENCY. PLEASE NOTE THAT NO FIRE SAFETY GUIDE CAN ACCOUNT FOR ALL OF THE POSSIBLE FACTORS AND CHANGING CONDITIONS; YOU WILL HAVE TO DECIDE FOR YOURSELF WHAT IS THE SAFEST COURSE OF ACTION UNDER THE CIRCUMSTANCES.

General Emergency Fire Safety Instructions

1. Stay calm. Do not panic. Notify the Fire Department as soon as possible. Firefighters will be on the scene of a fire within minutes of receiving an alarm.
2. Because flame, heat and smoke rise, generally a fire on a floor below your apartment presents a greater threat to your safety than a fire on a floor above your apartment.
3. Do not overestimate your ability to put out a fire. Most fires cannot be easily or safely extinguished. Do not attempt to put the fire out once it begins to quickly spread. If you attempt to put a fire out, make sure you have a clear path of retreat from the room.
4. If you decide to exit the building during a fire, close all doors as you exit to confine the fire. Never use the elevator. It could stop between floors or take you to where the fire is.

5. Heat, smoke and gases emitted by burning materials can quickly choke you. If you are caught in a heavy smoke condition, get down on the floor and crawl. Take short breaths, breathing through your nose.
6. If your clothes catch fire, don't run. Stop where you are, drop to the ground, cover your face with your hands to protect your face and lungs and roll over to smother the flames.

Evacuation Instructions If The Fire Is In Your Apartment
(All Types of Building Construction)

1. Close the door to the room where the fire is, and leave the apartment.
2. Make sure EVERYONE leaves the apartment with you.
3. Take your keys.
4. Close, but do not lock, the apartment door.
5. Alert people on your floor by knocking on their doors on your way to the exit.
6. Use the nearest stairwell to exit the building.
7. DO NOT USE THE ELEVATOR.
8. Call 911 once you reach a safe location. Do not assume the fire has been reported unless firefighters are on the scene.
9. Meet the members of your household at a predetermined location outside the building. Notify responding firefighters if anyone is unaccounted for.

Evacuation Instructions If The Fire Is Not In Your Apartment

"NON-COMBUSTIBLE" OR "FIREPROOF" BUILDINGS:

1. Stay inside your apartment and listen for instructions from firefighters unless conditions become dangerous.
2. If you must exit your apartment, first feel the apartment door and doorknob for heat. If they are not hot, open the door slightly and check the hallway for smoke, heat or fire.
3. If you can safely exit your apartment, follow the instructions above for a fire in your apartment.
4. If you cannot safely exit your apartment or building, call 911 and tell them your address, floor, apartment number and the number of people in your apartment.
5. Seal the doors to your apartment with wet towels or sheets, and seal air ducts or other openings where smoke may enter.
6. Open windows a few inches at top and bottom unless flames and smoke are coming from below. Do not break any windows.
7. If conditions in the apartment appear life-threatening, open a window and wave a towel or sheet to attract the attention of firefighters.
8. If smoke conditions worsen before help arrives, get down on the floor and take short breaths through your nose. If possible, retreat to a balcony or terrace away from the source of the smoke, heat or fire.

"COMBUSTIBLE" OR "NON-FIREPROOF" BUILDING

1. Feel your apartment door and doorknob for heat. If they are not hot, open the door slightly and check the hallway for smoke, heat or fire.
2. Exit your apartment and building if you can safely do so, following the instructions above for a fire in your apartment.
3. If the hallway or stairwell is not safe because of smoke, heat or fire and you have access to a fire escape, use it to exit the building. Proceed cautiously on the fire escape and always carry or hold onto small children.
4. If you cannot use the stairs or fire escape, call 911 and tell them your address, floor, apartment number and the number of people in your apartment.
    A. Seal the doors to your apartment with wet towels or sheets, and seal air ducts or other openings where smoke may enter.
    B. Open windows a few inches at top and bottom unless flames and smoke are coming from below. Do not break any windows.
    C. If conditions in the apartment appear life-threatening, open a window and wave a towel or sheet to attract the attention of firefighters.
    D. If smoke conditions worsen before help arrives, get down on the floor and take short breaths through your nose. If possible, retreat to a balcony or terrace away from the source of the smoke, heat or fire.

14.2 FIRE SAFETY NOTICES

The following fire safety notice shall be posted in buildings of non-combustible construction within the meaning of R408-02(c)(3)(E):

FIRE SAFETY NOTICE

IN THE EVENT OF FIRE, STAY CALM. NOTIFY THE FIRE DEPARTMENT AND FOLLOW THE DIRECTIONS OF FIRE DEPARTMENT PERSONNEL. IF YOU MUST TAKE IMMEDIATE ACTION, USE YOUR JUDGMENT AS TO THE SAFEST COURSE OF ACTION, GUIDED BY THE FOLLOWING INFORMATION:

YOU ARE IN A NON-COMBUSTIBLE (FIREPROOF) BUILDING

If The Fire Is In Your Apartment

- Close the door to the room where the fire is and leave the apartment**.**
- Make sure EVERYONE leaves the apartment with you.
- Take your keys.
- Close, but do not lock, the apartment door.
- Alert people on your floor by knocking on their doors on your way to the exit.
- Use the nearest stairwell to leave the building.
- DO NOT USE THE ELEVATOR.
- Call 911 once you reach a safe location. Do not assume the fire has been reported unless firefighters are on the scene.
- Meet the members of your household at a pre-determined location outside the building. Notify the firefighters if anyone is unaccounted for.

If The Fire Is Not In Your Apartment

- Stay inside your apartment and listen for instructions from firefighters unless conditions become dangerous.
- If you must exit your apartment, first feel the apartment door and doorknob for heat.
- If they are not hot, open the door slightly and check the hallway for smoke, heat or fire.
- If you can safely exit your apartment, follow the instructions above for a fire in your apartment.
- If you cannot safely exit your apartment or building, call 911 and tell them your address, floor, apartment number and the number of people in your apartment.
- Seal the doors to your apartment with wet towels or sheets, and seal air ducts or other openings where smoke may enter.
- Open windows a few inches at top and bottom unless flames and smoke are coming from below.
- Do not break any windows.
- If conditions in the apartment appear life-threatening, open a window and wave a towel or sheet to attract the attention of firefighters.
- If smoke conditions worsen before help arrives, get down on the floor and take short breaths through your nose. If possible, retreat to a balcony or terrace away from the source of the smoke, heat or fire.

The following fire safety notice shall be posted in buildings of combustible construction within the meaning of R408-02(c)(3)(E):

FIRE SAFETY NOTICE

IN THE EVENT OF FIRE, STAY CALM. NOTIFY THE FIRE DEPARTMENT AND FOLLOW THE DIRECTIONS OF FIRE DEPARTMENT PERSONNEL. IF YOU MUST TAKE IMMEDIATE ACTION, USE YOUR JUDGMENT AS TO THE SAFEST COURSE OF ACTION, GUIDED BY THE FOLLOWING INFORMATION:
YOU ARE IN A COMBUSTIBLE (NON-FIREPROOF) BUILDING

If The Fire Is In Your Apartment

- Close the door to the room where the fire is and leave the apartment.
- Make sure EVERYONE leaves the apartment with you.
- Take your keys.
- Close, but do not lock, the apartment door.
- Alert people on your floor by knocking on their doors on your way to the exit.
- Use the nearest stairwell to leave the building.
- DO NOT USE THE ELEVATOR.
- Call 911 once you reach a safe location. Do not assume the fire has been reported unless firefighters are on the scene.
- Meet the members of your household at a pre-determined location outside the building. Notify the firefighters if anyone is unaccounted for.

If The Fire Is Not In Your Apartment

- Feel your apartment door and doorknob for heat. If they are not hot, open the door slightly and check the hallway for smoke, heat or fire.
- Exit the apartment and building if you can safely do so, following the instructions above for a fire in your apartment.
- If the hallway or stairwell is not safe because of smoke, heat, or fire and you have access to a fire escape, use it to exit the building. Proceed cautiously on the fire escape and always carry or hold onto small children.
- If you cannot use the stairs or the fire escape, call 911 and tell them your address, floor, apartment number and the number of people in your apartment.
- Seal the doors to your apartment with wet towels or sheets, and seal air ducts or other openings where smoke may enter.
- Open windows a few inches at top and bottom unless flames and smoke are coming from below.
- Do not break any windows.
- If conditions in the apartment appear life-threatening, open a window and wave a towel or sheet to attract the attention of firefighters.

If smoke conditions worsen before help arrives, get down on the floor and take short breaths through your nose. If possible, retreat to a balcony or terrace away from the source of the flames, heat or smoke.