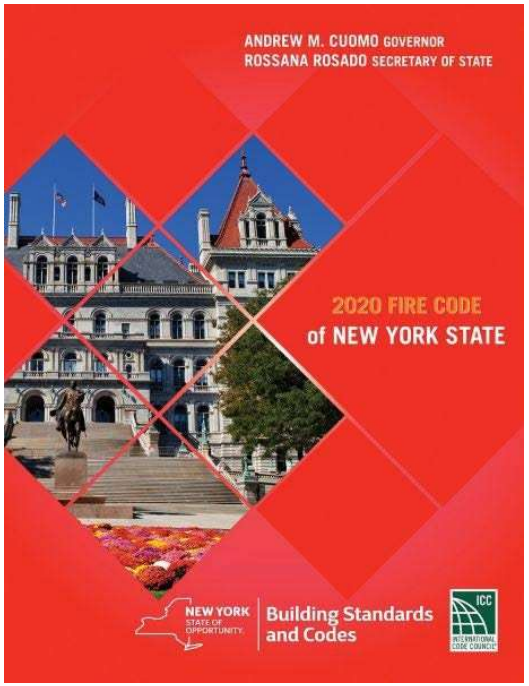


2020 Fire Code of New York State

PART I

Chapter 2 Definitions – Chapter 9 Fire Protection

Course Objectives

The goal is to familiarize building officials, fire officials, plans examiners, inspectors, design professionals, contractors, and others in the construction industry with many of the important changes in the 2020 Fire Code of New York State.

The 2020 Fire Code of New York State is a model code that regulates minimum fire safety requirements for new and existing buildings, facilities, storage and processes.

The FCNYS addresses fire prevention fire protection, life safety and safe storage and use of hazardous materials in new and existing buildings, facilities and processes.

The 2020 Fire Code of New York Stateprovides a total approach of controlling hazards in all buildings and sites, regardless of the hazard being indoors or outdoors.

2020 FCNYS Significant Changes

Chapter 2 Definitions

All terms used in the code and their definitions are listed alphabetically in Chapter 2.

While a defined term may be used in one chapter or another, the meaning provided in Chapter 2 is applicable throughout the code.

Words and terms defined in Chapter 2, Definitions, are ***italicized*** where they appear in code text and the Chapter 2 definition applies. Where such words and terms are not italicized, common-use definitions apply.

The words and terms selected have code-specific definitions that the user should read carefully to facilitate better understanding of the code

2020 FCNYS Significant Changes

RED UNDERLINED text within the body of the code indicate a technical change from the requirements of the 2015 International Fire Code.

~~Text Stricken~~ or deletion indicators, detail an item in a list of items or a table has been deleted from the requirements of the 2015 International Fire Code.

2020 FCNYS Significant Changes

General Safety Provisions

(Chapters 3 and 4)

314.4 Indoor Display of Vehicles

4.Vehicles. Liquid**-fueled** or ~~gas fired~~ **gascous-fueled** vehicles, boats or other motorcraft shall not be located indoors except as follows:

1.Batteries are disconnected **except where the fire code official requires that the batteries remain connected to maintain safety features.**

2.Fuel in fuel tanks does not exceed one-quarter tank or 5 gallons (19 L) (whichever is least).

3. Fuel tanks and fill openings are closed and sealed to prevent tampering.

4.Vehicles, boats or other motorcraft equipment are not fueled or defueled within the building.

MODIFICATION

315.3.1
Ceiling Clearance for Indoor Storage

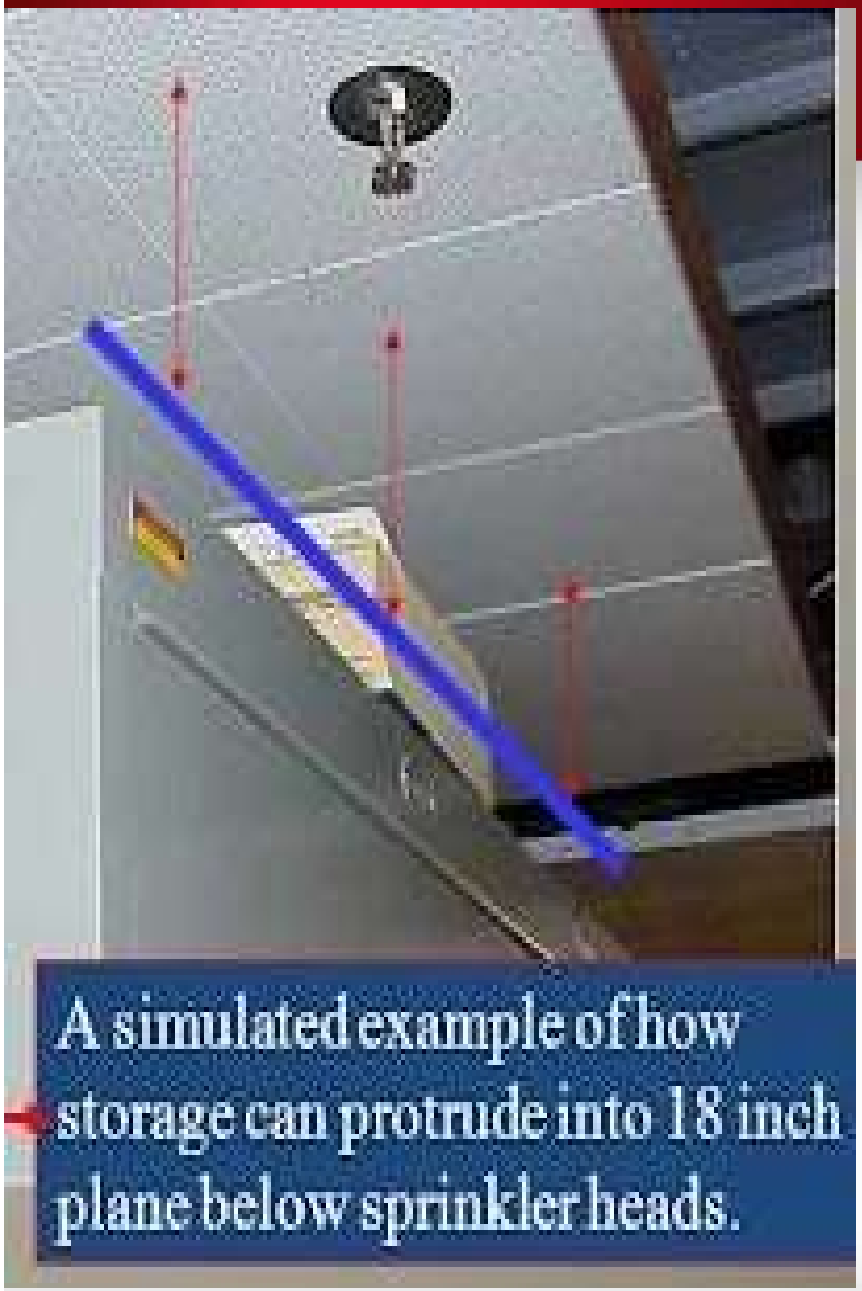
1.Ceiling clearance. Storage shall be maintained 2 feet (610 mm) or more below the ceiling in nonsprinklered areas of buildings or not less than 18 inches (457 mm) below sprinkler head deflectors in sprinklered areas of buildings.

Exceptions:

1. **The 2-foot (610 mm) ceiling clearance is not required for storage along walls in nonsprinklered areas of buildings.**

2. **The 18-inch (457 mm ceiling clearance is not required for storage along walls in areas of buildings equipped with an automatic sprinkler system in accordance with Section 903.3.1- 903.3.1.2 or 903.3.1.3**

MODIFICATION



The 18-inch dimension is not intended to limit the height of shelving on a wall or shelving against a wall in accordance with NFPA 13 Section 8-6.6.

Where shelving is installed on a wall and is not directly below sprinklers, the shelves, including storage thereon, can extend above the level of a plane located 18 inches below ceiling sprinkler deflectors.

Shelving, and any storage thereon, directly below the sprinklers cannot extend above a plane located 18 inches below the ceiling sprinkler deflectors.

Where shelving is installed on a wall and is not directly below sprinklers, the shelves, including storage thereon, shall extend above the level of a plane located 18 in. (457 mm) below ceiling sprinkler deflectors.

315.3.1
Ceiling Clearance for Indoor Storage

The theory behind permitting wall storage to extend above the 18-inch plane is that the wall will already obstruct sprinkler spray discharge patterns, so shelving along a wall isn't going to make that situation worse.

315.1 General

Storage shall be in accordance with Sections 315.2 through 315.6. Outdoor pallet storage shall be in accordance with Sections 315.2 and 315.7.

Exception:

Wood and wood composite pallets stored outdoors at pallet manufacturing and recycling facilities and complying with Section 2810.

ADDITION

315.7 Outdoor Pallet Storage

7.Outdoor pallet storage. Pallets stored outdoors shall comply with Sections 315.7 through 315.7.7. Pallets stored within a building shall be protected in accordance with Chapter 32.

1.Storage beneath overhead projections from buildings. Where buildings are equipped throughout with an automatic sprinkler system, the outdoor storage of pallets under eaves, canopies or other projections or over hangs are prohibited except where automatic sprinklers are installed under such eaves, canopies or other projections or overhangs.

ADDITION

315.7 Outdoor Pallet Storage

2. Distance to lot line. Pallet storage shall not be located within 10 feet (3048 mm) of a lot line.

3. Storage height. Pallet storage shall not exceed 20 feet (6096 mm) in height.

4. Pallet pile stability and size. Pallet stacks shall be arranged to form stable piles. Individual pallet piles shall cover an area not greater than 400 square feet (37 m2).

ADDITION

315.7 Outdoor Pallet Storage

315.7.5 Pallet types. Pallets shall be all wood, with slatted or solid top or bottom, with metal fasteners, or shall be plastic or composite pallets, listed and labeled in accordance with UL 2335 or FM 4996. Plastic pallets shall be both solid and gridded deck, independent of the pallet manufacturing process, type of resin used in fabrication or geometry of the pallet.

ADDITION

315.7 Outdoor Pallet Storage

315.7.6 Pile separation distances. In addition to the other requirements of this section, pallet stacks and piles shall be separated in accordance with Sections 315.7.6.1 and 315.7.6.2.

ADDITION

315.7 Outdoor Pallet Storage

315.7.6.1 Building separation. Pallet stacks and piles shall be separated from buildings in accordance with Table 315.7.6(1) for wood pallets and Table 315.7.6(2) for plastic pallets.

ADDITION

Table 315.7.6 (1)

TABLE 315.7.6(1)
SEPARATION DISTANCE BETWEEN WOOD PALLET STACKS AND BUILDINGS

WALL CONSTRUCTION	OPENING TYPE	WOOD PALLET SEPARATION DISTANCE (feet)		
		≤ 50 Pallets	51 to 200 Pallets	>200 Pallets
Masonry	None	2	2	2
Masonry	Fire-rated glazing with open sprinklers	2	5	20
Masonry	Fire-rated glazing	10	5	20
Masonry	Plain glass with open sprinklers	10	5	20
Noncombustible	None	10	5	20
Wood with open sprinklers	—	10	5	20
Wood	None	15	30	90
Any	Plain glass	15	30	90

For SI: 1 foot = 304.8 mm.

ADDITION

Table 315.7.6(2)

TABLE 315.7.6(2)
SEPARATION DISTANCE BETWEEN PLASTIC PALLET STACKS AND BUILDINGS

WALL CONSTRUCTION	OPENING TYPE	PLASTIC PALLET SEPARATION DISTANCE (feet)		
		≤ 50 Pallets	51 to 200 Pallets	>200 Pallets
Masonry	None	2	2	2
Masonry	Fire-rated glazing with open sprinklers	10	20	50
Masonry	Fire-rated glazing	15	40	100
Masonry	Plain glass with open sprinklers	15	40	100
Noncombustible	None	15	40	100
Wood with open sprinklers	—	15	40	100
Wood	None	30	80	150
Any	Plain glass	30	80	150

For SI: 1 foot = 304.8 mm.

ADDITION

315.7 Outdoor Pallet Storage

315.7.6.2 Separation from other pallets and on-site storage. Pallets shall be separated from other pallet piles and other storage in accordance with Table 315.7.6(3) for wood pallets and Table 315.7.6(4) for plastic pallets.

315.7.7 Prohibited locations. Pallets shall not be stored underneath high-voltage transmission lines, elevated roadways or elevated railways.

ADDITION

Table 315.7.6(3) / (4)

TABLE 315.7.6(3)
SEPARATION FROM OTHER PALLET PILES AND ON-SITE STORAGE (WOOD PALLETS)

	WOOD PALLET SEPARATION DISTANCE (feet)		
	≤ 50 Pallets	51 to 200 Pallets	>200 Pallets
Between pallet piles	7.5	15	45
Other on-site storage	7.5	15	45

For SI: 1 foot = 304.8 mm.

TABLE 315.7.6(4)
SEPARATION FROM OTHER PALLET PILES AND ON-SITE STORAGE (PLASTIC PALLETS)

	PLASTIC PALLET SEPARATION DISTANCE (feet)		
	≤ 50 Pallets	51 to 200 Pallets	>200 Pallets
Between pallet piles	15	40	75
Other on-site storage	15	40	75

For SI: 1 foot = 304.8 mm.

ADDITION

2020 FCNYS Significant Changes

NEW SECTION

SECTION 319

MOBILE FOOD PREPARATION VEHICLES

ADDITION

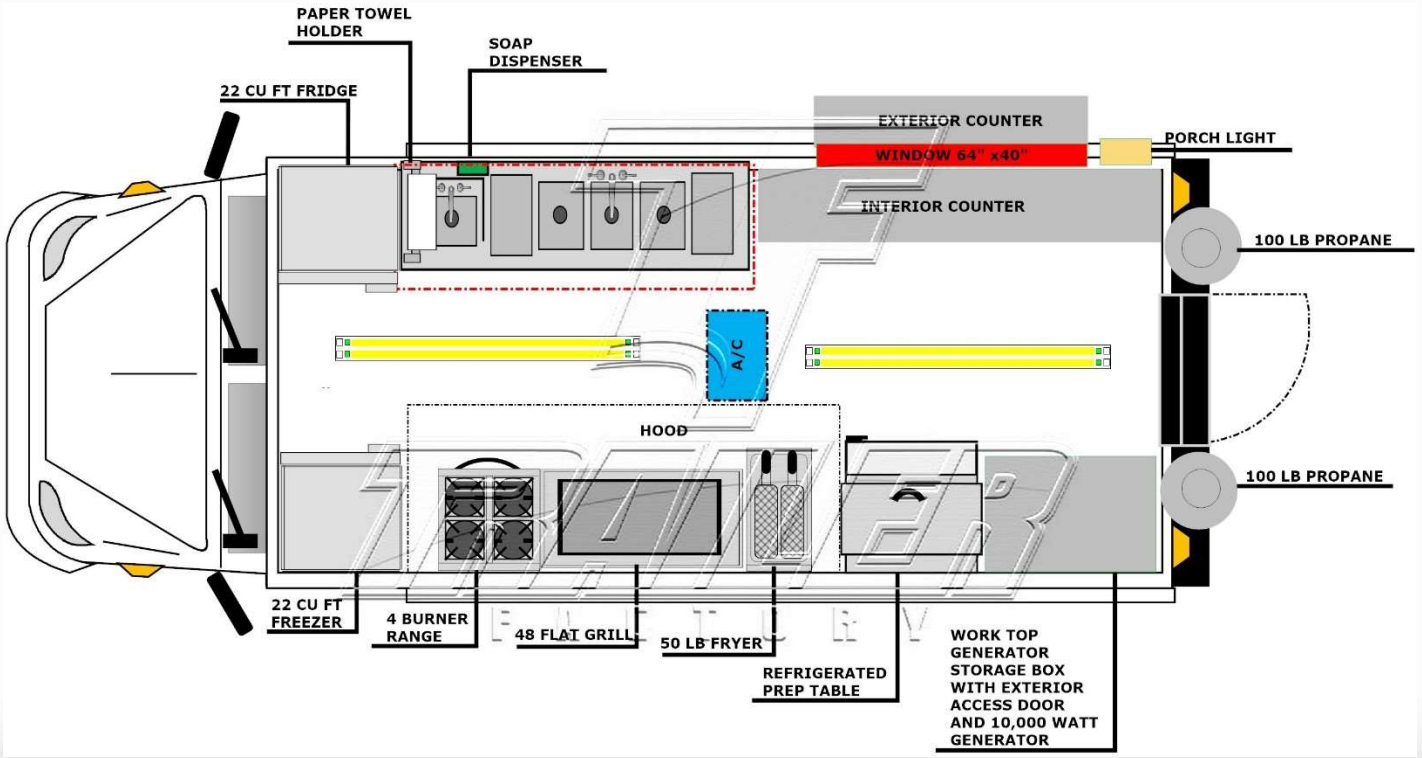
319.1 General

Mobile food preparation vehicles **that are equipped with appliances that produce smoke or grease laden vapors shall comply with this section.**

This newly created section introduces the requirements for mobile food preparation vehicles that have equipment that produces smoke or grease-laden vapors.

MOBILE FOOD PREPARATION VEHICLES

Vehicles that contain cooking equipment that produce smoke or grease-laden vapors for the purpose of preparing and serving food to the public. Vehicles intended for private recreation shall not be considered mobile food preparation vehicles.



MOBILE FOOD PREPARATION VEHICLES

This definition is provided in support of Section 319 addressing mobile food preparation vehicles (food trucks and their associated hazards). The definition helps to clarify what types of trucks are being regulated.

The definition is focused only on trucks that have food preparation operations producing smoke and grease-laden vapors.

Concerns with food preparation vehicles are the fire hazards associated with the actual preparation, including cooking oils, and the cooking fuel and associated connections to the equipment.

319.1 General

NOT A MOBILE FOOD PREPARATION VEHICLE

319.3 Exhaust hood

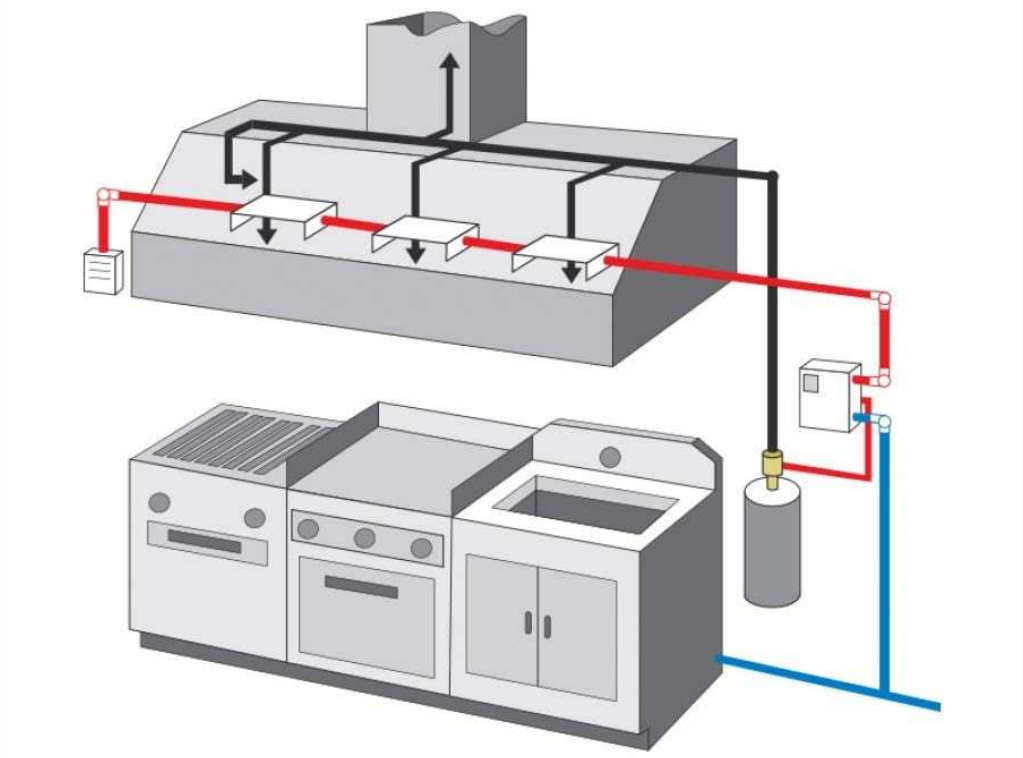
Cooking equipment that produces grease laden vapors shall be provided with a kitchen exhaust hood in accordance with Section 607.

319.4
Fire protection

Fire protection shall be provided in accordance with Sections 319.4.1 and 319.4.2.

319.4.1
Fire protection for cooking equipment

Cooking equipment shall be protected by automatic fire extinguishing systems in accordance with Section 904.12.



This section provides the direct section reference to fire protection requirements for these vehicles and makes it clear that the same requirements that apply to fixed indoor commercial cooking operations also apply in this specific mobile vehicle use.

319.4.2
Fire protection

319.4.2 Fire extinguisher. Portable fire extinguishers shall be provided in accordance with Section 906.4.

319.5
Appliance connection to fuel supply piping

Gas cooking appliances shall be secured in place and connected to fuel-supply piping with an appliance connector complying with ANSI Z21.69/CSA 6.16. The connector installation shall be configured in accordance with the manufacturer's installation instructions. Movement of appliances shall be limited by restraining devices installed in accordance with the connector and appliance manufacturers' instructions.

Similar to the requirements of Section 607.4, this section is intended to prohibit the practice of replacing listed flexible piping with residential flexible piping and using any connections that do not conform to the referenced standards.

319.6
Cooking oil storage containers

Cooking oil storage containers within mobile food preparation vehicles shall have a maximum aggregate volume not more than 120 gallons (454 L), and shall be stored in such a way as to not be toppled or damaged during transport.

Frymaster PF95LP Low Profile Mobile Fryer Oil Filter - 80 lb. Capacity

This section provides the limit on the amount of cooking oil that can be stored in containers within the vehicles. The additional requirement for container restraint and protection is provided to ensure that the level of hazard is not increased in this specific use beyond what the code allows for a fixed container location.

319.7
Cooking oil storage tanks

Cooking oil storage tanks within mobile food preparation vehicles shall comply with Sections 319.7.1 through 319.7.5.2

Metallic and nonmetallic cooking oil storage system components shall include, but are not limited to, piping, connections, fittings, valves, tubing, hose, pumps, vents and other related components used for the transfer of cooking oil.

The Dura-Cast Design Team created tanks that are pounds lighter than comparable fabricated metal tanks, and developed structural models that permit tanks to withstand hot oils up to 140°F.

319.7.1
Metallic storage tanks

Metallic cooking oil storage tanks shall be listed in accordance with UL 80 or UL 142, and shall be installed in accordance with the tank manufacturer's instructions.

319.7.2
Nonmetallic storage tanks

Nonmetallic cooking oil storage tanks shall be installed in accordance with the tank manufacturer's instructions and shall comply with both of the following:

1. Tanks shall be *listed* for use with cooking oil, including maximum temperature to which the tank will be exposed during use.
2. Tank capacity shall not exceed 200 gallons (757 L) per tank.

Essentially, a listing for use with cooking oil is required, as is making sure that the maximum temperature limits associated with the tank match the application in which the tank is used

319.8
LP-gas systems

Where LP-gas systems provide fuel for cooking appliances, such systems shall comply with Chapter 61 and Sections 319.8.1 through 319.8.5.

This section introduces the requirements for LP-gas that is used as fuel for cooking appliances within mobile food preparation vehicles. Additionally, it makes it clear that the requirements of Chapter 61 also apply in this situation.

Propane Safety

According to NFPA, “a standard 20-gallon propane tank has the same explosive capability as 170 sticks of dynamite. . . [and] some trucks in unregulated jurisdictions carry propane tanks in excess of 100 gallons”.

With this much propane on trucks, leaks are extremely problematic. NFPA says that, “because propane gas is heavier than air, an undetected leak can seep out and pool in pockets and crevasses inside and outside the truck”.

A single spark from an oven or stove can cause those propane pools to ignite. With this much propane one lit leak can be deadly.

319.8.1
Maximum aggregate volume

The maximum aggregate capacity of LP-gas containers transported on the vehicle and used to fuel cooking appliances only shall not exceed 200 pounds (91 kg) propane capacity.

319.8.2
Protection of container

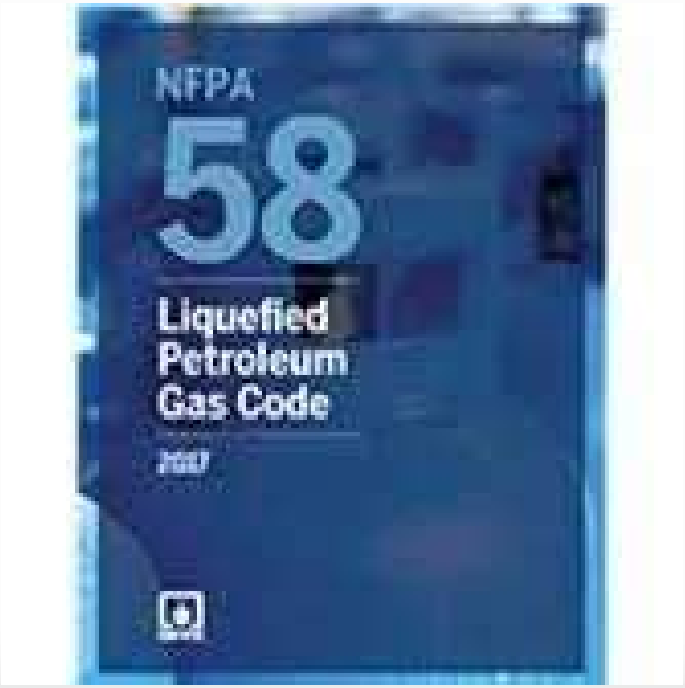
LP-gas containers installed on the vehicle shall be securely mounted and restrained to prevent movement.

YES

NO

319.8.3
LP-gas container construction

LP-gas containers shall be manufactured in compliance with the requirements of NFPA 58.



319.8.4
Protection of system piping

LP-gas system piping, including valves and fittings, shall be adequately protected to prevent tampering, impact damage, and damage from vibration.

319.8.4
Protection of system piping

Valve assemblies must be protected from physical impact. Cylinders having propane capacities up to 60 pounds (27 kg) will usually have collars that extend above the height of the valves.

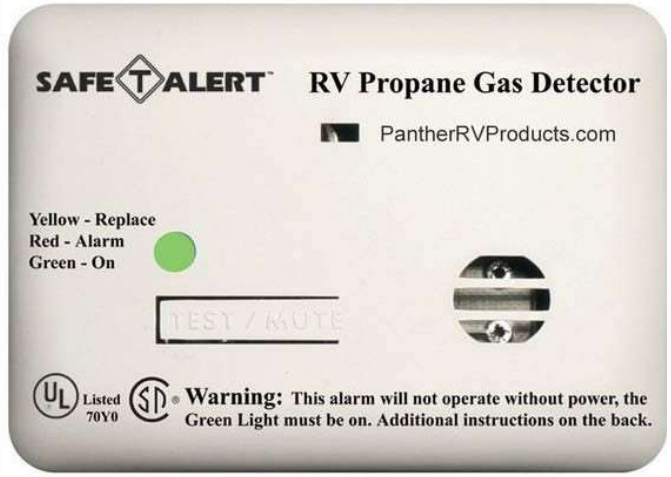
Larger cylinders will have screw-on caps or domes that serve the same function.

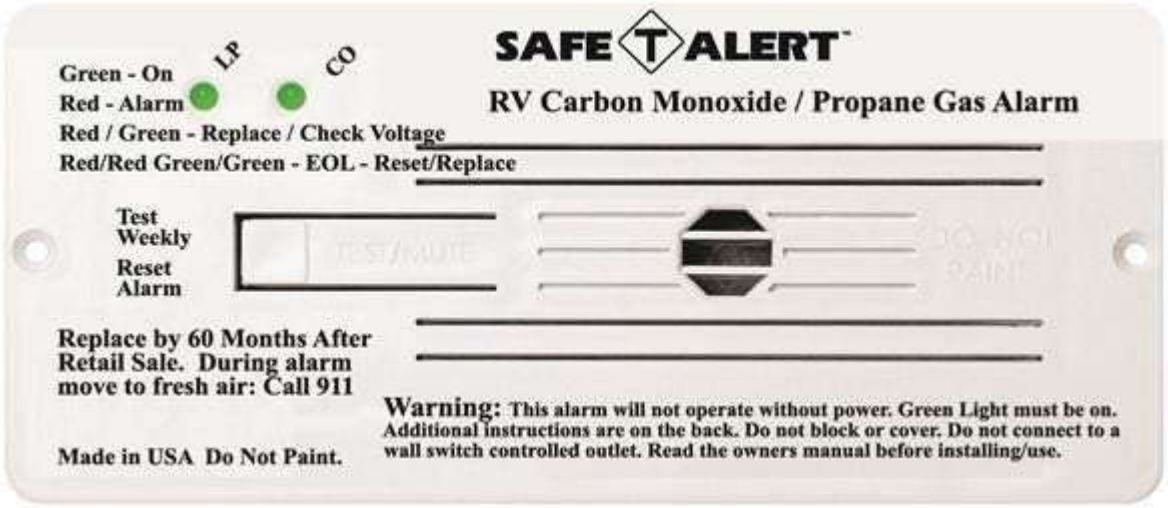
319.8.4
Protection of system piping

A flexible connector shall be installed between the regulator outlet and the fixed pipe system. (NFPA 58 6.24.5.1(B))

319.8.5
LP-gas alarms

A *listed* LP-gas alarm shall be installed within the vehicle in the vicinity of LP-gas system components, in accordance with the manufacturer's instructions.





Specific to the use of LP-gas within mobile vehicles, a listed LP-gas alarm is required to be installed close to the system and as specified by the manufacturer's installation instructions. An applicable standard would be UL 2075.

319.10
Maintenance

Maintenance of systems on mobile food preparation vehicles shall be in accordance with Sections 319.10.1 through 319.10.3.

319.10.1
Exhaust system

The exhaust system, including hood, grease-removal devices, fans, ducts and other appurtenances, shall be inspected and cleaned in accordance with Section 607.3.

319.10.2
Fire protection systems and devices

Fire protection systems and devices shall be maintained in accordance with Section 901.6.

319.10.3
Fuel gas systems

LP-gas containers installed on the vehicle and fuel-gas piping systems shall be inspected annually by an approved inspection agency or a company that is registered with the U.S. Department of Transportation to requalify LP-gas cylinders, to ensure that system components are free from damage, suitable for the intended service and not subject to leaking.

2020 FCNYS Significant Changes

CHAPTER 4
EMERGENCY PLANNING AND PREPAREDNESS

- 403.12.3 Crowd Managers

- 404.2.3 Lockdown Plans

403.12.3 Crowd managers

403.12.3 Crowd managers ~~for gatherings exceeding 1,000 people.~~ Where facilities or events involve a gathering of more than ~~1000~~ **500** people, crowd managers shall be provided in accordance with Sections 403.12.3.1 through 403.12.3.3.

MODIFICATION

403.12.3 Crowd managers

403.12.3.1 Number of crowd managers. ~~The minimum number of~~ **Not fewer than two trained** crowd managers ~~shall be established at ratio of~~ and not fewer than one **trained** crowd manager for ~~every~~ **each** 250 persons **or portions thereof, shall be provided for the gathering.**

~~Exception: Where approved by the fire code official, the number of crowd managers shall be permitted to be reduced where the facility is equipped throughout with an approved automatic sprinkler system or based upon the nature of the event~~.

403.12.3.1 Number of crowd managers

Exceptions:

1. Outdoor events with fewer than 1,000 persons in attendance shall not require crowd managers.

2. Assembly occupancies used exclusively for religious worship with an occupant load not exceeding 1,000 shall not require crowd managers.

3. The number of crowd managers shall be reduced where, in the opinion of the fire code official, the fire protection provided by the facility and the nature of the event warrant a reduction.

404.2.3 Lockdown plans

404.2.3 Lockdown plans. ~~Where facilities develop a lockdown plan, it shall be in accordance with Sections 404.2.3.1 through 404.2.3.3.~~ **Lockdown plans shall only be permitted where such plans are approved by the fire code official and are in compliance with Sections 404.2.3.1 and 404.2.3.2.**

ADDITION

404.2.3.1 Lockdown plan contents

404.2.3.1 Lockdown plan contents. Lockdown plans shall ~~be *approved* by the *fire code official* and shall~~ include the following:

~~1.Initiation. The plan shall include instructions for reporting an emergency that requires a lockdown.~~

~~2.Accountability. The plan shall include accountability procedures for staff to report the presence or absence of occupants.~~

~~3.Recall. The plan shall include a prearranged signal for returning to normal activity.~~

~~4.Communication and coordination. The plan shall include an *approved* means of two-way communication between a central location and each secured area.~~

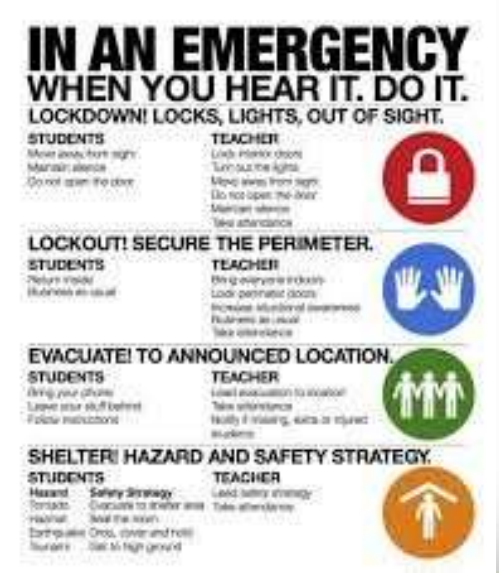
404.2.3.1 Lockdown plan contents

404.2.3.1 Lockdown plan contents. Lockdown plans shall include the following:

1. Identification of individuals authorized to issue a lockdown order.

2.Security measures used during normal operations, when the building is occupied, that could adversely affect egress or fire department operations.

3.A description of identified emergency and security threats addressed by the plan, including specific lockdown procedures to be implemented for each threat condition.



404.2.3.1 Lockdown plan contents

4.Means and methods of initiating a lockdown plan for each threat, including:

1.The means of notifying occupants of a lockdown event, which shall be distinct from the fire alarm signal.

2.Identification of each door or other access point that will be secured.

3.A description of the means or methods used to secure doors and other access points.

4.A description of how locking means and methods are in compliance with the requirements of this code for egress and accessibility.

5.Procedures for reporting to the fire department any lockdown condition affecting egress or fire department operations.

6.Procedures for determining and reporting the presence or absence of occupants to emergency response agencies during a lockdown

404.2.3.1 Lockdown plan contents

7.Means for providing two-way communication between a central location and each area subject to being secured during a lockdown.

8. Identification of the prearranged signal for terminating the lockdown.

9.Identification of individuals authorized to issue a lockdown termination order.

10.Procedures for unlocking doors and verifying that the means of egress has been returned to normal operations upon termination of the lockdown.

11. Training procedures and frequency of lockdown plan drills.

404.2.3.2 Drills

404.2.3.2 ~~Training frequency. The training frequency shall be included in the lockdown plan. The lockdown drills shall not substitute for any of the fire and evacuation drills required in Section 405.2.~~

404.2.3.2 Drills. Lockdown plan drills shall be conducted in accordance with the approved plan. Such drills shall not be substituted for fire and evacuation drills required by Section 405.2.

404.2.3.3 Lockdown notification

~~404.2.3.3 Lockdown notification. The method of notifying building occupants of a lockdown shall be included in the plan. The method of notification shall be separate and distinct from the fire alarm signal.~~

2020 FCNYS Significant Changes

Building and Equipment Design Features (Chapters 5–12)

2020 FCNYS Significant Changes

Building and Equipment Design Features Chapter 5

- 510 Emergency Responder Radio Coverage

Due to the extent of the revisions it is recommended that you refer to Section 510 of the 2018 International Fire Code

2020 FCNYS Significant Changes

Chapter 6

Building and Equipment Design Features

- 603.1, 603.3 Fuel-fired Appliances
- 603.13, 603.16, 603.17 Refrigerants w/ Lower Flammability Hazards
- 610.3 Nonmetallic Cooking Oil Storage Tanks

2020 FCNYS Significant Changes

603.1 Installation. The installation of nonportable ~~fuel gas~~ **gas-fired** appliances and systems shall comply with the International Fuel Gas Code. **The installation of nonportable liquid fuel-fired appliances and systems shall comply with this section and the International Mechanical Code.** The installation of all other fuel-fired appliances, other than **portable** internal combustion engines, oil lamps and **other** portable devices such as blow torches, melting pots and weed burners, shall comply with this section and the International Mechanical Code.

MODIFICATION

2020 FCNYS Significant Changes

1.Quantity limits. One or more fuel oil storage tanks containing Class II or III combustible liquid shall be permitted in a building. The aggregate capacity of all such tanks shall not exceed **the following** ~~660 gallons (2498L)~~ :

~~**Exception:** The aggregate capacity limit shall be permitted to be increased to 3,000 gallons (11 356 L) of Class II or III liquid for storage in protected above-ground tanks complying with Section 5704.2.9.7, where all of the following conditions are met:~~

~~1. The entire 3,000-gallon (11 356 L) quantity shall be stored in protected above-ground tanks.~~

~~2. The 3,000-gallon (11 356 L) capacity shall be permitted to be stored in a single tank or multiple smaller tanks.~~

~~3. The tanks shall be located in a room protected by an *automatic sprinkler system* complying with Section 903.3.1.1.~~

2020 FCNYS Significant Changes

1.Quantity limits. One or more fuel oil storage tanks containing Class II or III combustible liquid shall be permitted in a building. The aggregate capacity of all such tanks shall not exceed **the following**:

1.660 gallons (2498 L) in unsprinklered buildings, where stored in a tank complying with UL 80, UL 142 or UL 2085.

2.1,320 gallons (4996 L) in buildings equipped with an *automatic sprinkler* system in accordance with Section 903.3.1.1, where stored in a tank complying with UL 142.

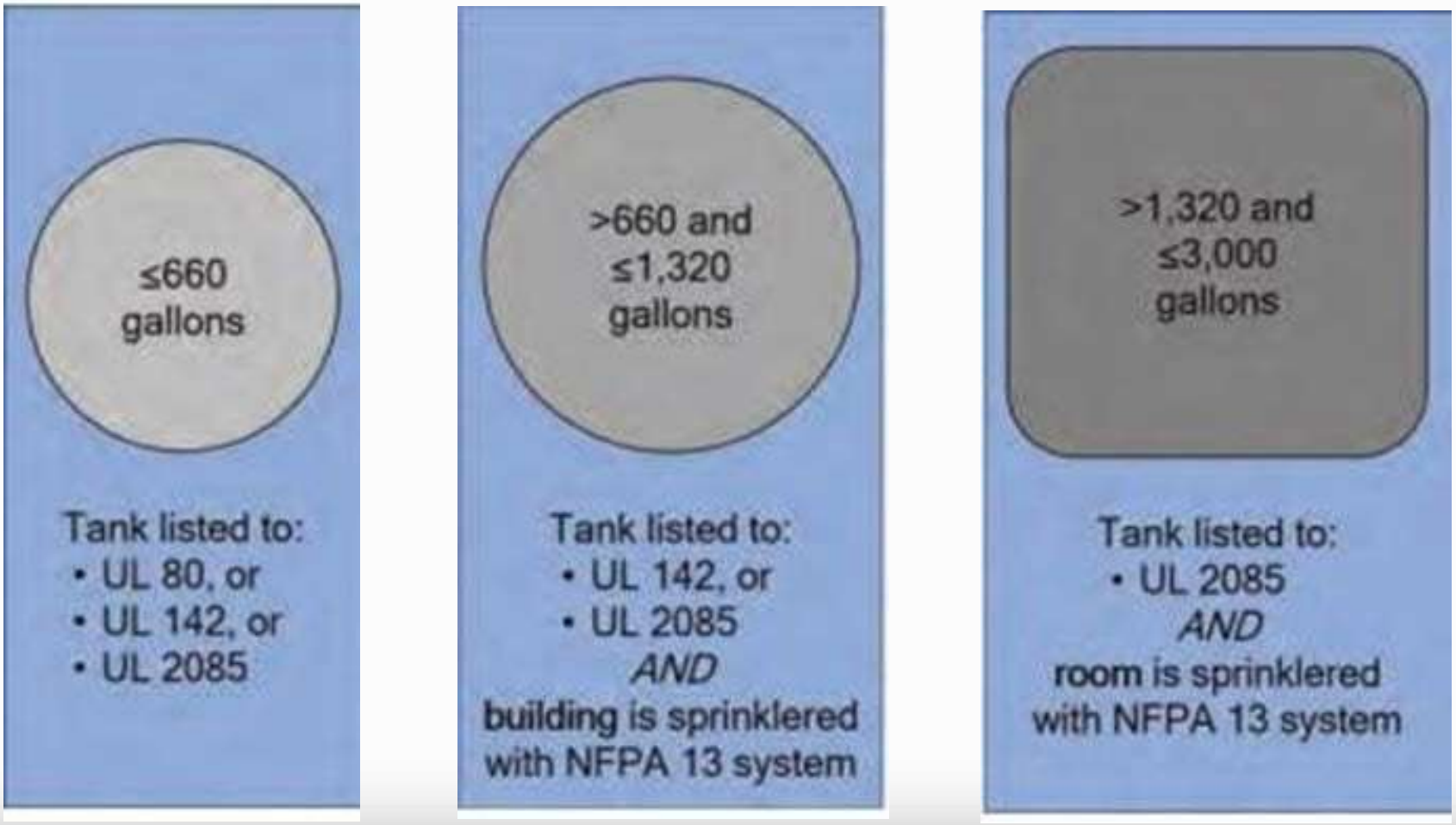
3.3,000 gallons (11 356 L) where stored in protected above-ground tanks complying with UL 2085 and Section 5704.2.9.7 and the room is protected by an automatic sprinkler system in accordance with Section 903.3.1.1.

2020 FCNYS Significant Changes

TANK DESIGN	NONSPRINKLERED BUILDING	FIRE SPRINKLERS PROVIDED IN THE ROOM	FIRE SPRINKLERS PROVIDED IN THE BUILDING
UL 80	660 gallons	660 gallons	660 gallons
UL 142	660 gallons	660 gallons	1,320 gallons
UL 2085	660 gallons	3,000 gallons	3,000 gallons

2020 FCNYS Significant Changes

Requirements for fuel oil storage tanks inside of buildings



2020 FCNYS Significant Changes

603.3.2.2 Restricted use and connection. Tanks installed in accordance with Section 603.3.2 shall be used only to supply fuel oil to fuel-burning **equipment, generators** or ~~generator equipment~~ **fire pumps** installed in accordance with Section 603.3.2.4. Connections between tanks and equipment supplied by such tanks shall be made using closed piping systems.

2020 FCNYS Significant Changes

603.3.2.4 Installation. Tanks and piping systems shall be installed ~~and separated from other uses~~ in accordance with Section 915 and Chapter 13, both of the International Mechanical Code, as applicable.

~~**Exception:** Protected above-ground tanks complying with Section 5704.2.9.7 shall not be required to be separated from surrounding areas.~~

2020 FCNYS Significant Changes

603.3.2.5 Separation. Rooms containing fuel oil tanks for internal combustion engines shall be separated from the remainder of the building by fire barriers, horizontal assemblies, or both, with a minimum 1-hour fire-resistance rating with 1-hour fire-protection-rated opening protectives constructed in accordance with the International Building Code.

Exception:

Rooms containing protected above-ground tanks complying with Section 5704.2.9.7 shall not be required to be separated from surrounding areas.

2020 FCNYS Significant Changes

603.3.2.6 Spill containment. Tanks exceeding 55-gallon (208 L) capacity or an aggregate capacity of 1,000 gallons (3785 L) that are not provided with integral secondary containment shall be provided with spill containment sized to contain a release from the largest tank.

~~603.3.2.5~~ **603.3.2.7 Tanks in basements.** Tanks in *basements* shall be located not more than two stories below grade plane.

2020 FCNYS Significant Changes

605.13 ~~606.13 Discharge location for refrigeration machinery room ventilation~~. **Mechanical ventilation exhaust.** Exhaust from mechanical ventilation systems serving refrigeration machinery rooms containing flammable, toxic or highly toxic refrigerants, other than ammonia, capable of exceeding 25 percent of the LFL or 50 percent of the IDLH shall be equipped with *approved* treatment systems to reduce the discharge concentrations to those values or lower.

Exception: Refrigeration systems containing Group A2L complying with Section 605.17.

2020 FCNYS Significant Changes

16.Electrical equipment. Where *refrigerant* of Groups A2, A3, B2 and B3, as defined in the *International Mechanical Code*, are used, refrigeration machinery rooms shall conform to the Class I, Division 2 hazardous location classification requirements of NFPA 70.

Exceptions:

1.Ammonia machinery rooms that are provided with ventilation in accordance with Section 1106.3 of the *International Mechanical Code*.

2.Machinery rooms for systems containing Group A2L *refrigerants* that are provided with ventilation in accordance with Section 605.17.

2020 FCNYS Significant Changes

605.17 Special requirements for Group A2L refrigerant machinery rooms. Machinery rooms with systems containing Group A2L refrigerants shall comply with Sections 605.17.1 through 605.17.3.

Exception: Machinery rooms conforming to the Class 1, Division 2 hazardous location classification requirements of NFPA 70.

2020 FCNYS Significant Changes

1. Refrigerant detection system. The machinery room shall be provided with a refrigerant detection system. The refrigerant detection system shall be in accordance with Section 605.8 and all of the following:

    1. The detectors shall activate at or below a refrigerant concentration of 25 percent of the LFL.

    2. Upon activation, the detection system shall activate the emergency ventilation system in Section 605.17.3.

    3. The detection, signaling and control circuits shall be supervised.

2020 FCNYS Significant Changes

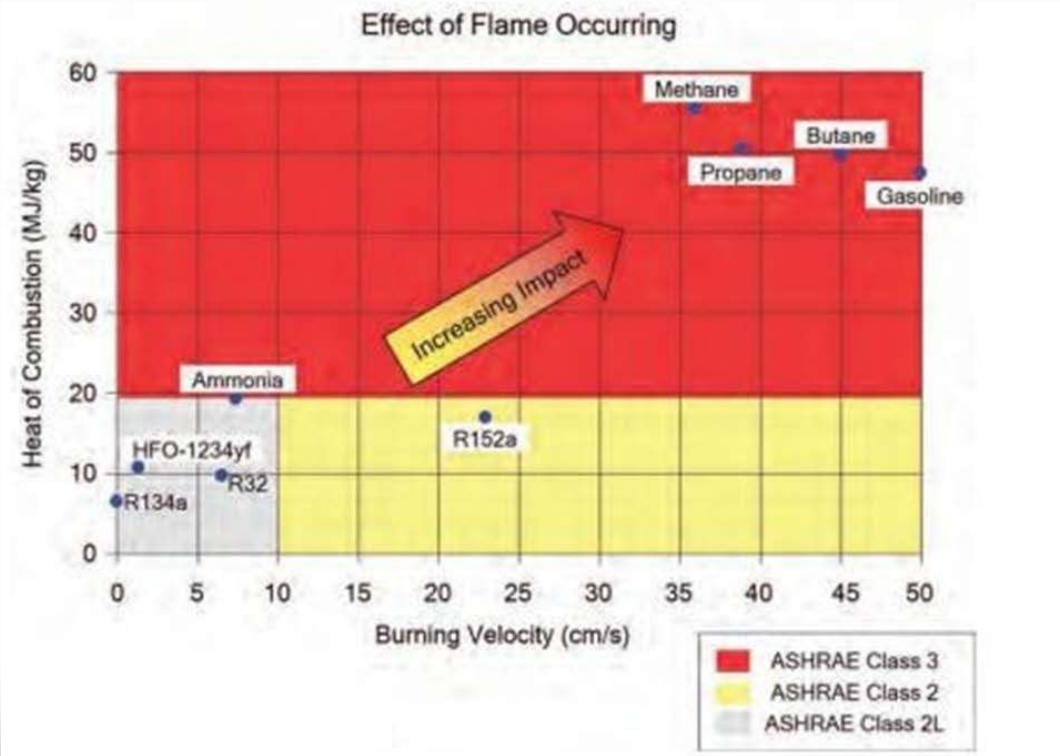
605.17.2 Emergency ventilation system. An emergency ventilation system shall be provided at the minimum exhaust rate specified in ASHRAE 15 or Table 605.17.2. Shut down of the emergency ventilation system shall be by manual means.

TABLE [M] 605.17.2
MINIMUM EXHAUST RATE

REFRIGERANT	Q (m^3/sec)	Q (cfm)
R32	15.4	32,600
R143a	13.6	28,700
R444A	6.46	13,700
R444B	10.6	22,400
R445A	7.83	16,600
R446A	23.9	50,700
R447A	23.8	50,400
R451A	7.04	15,000
R451B	7.05	15,000
R1234yf	7.80	16,600
R1234ze(E)	5.92	12,600

2020 FCNYS Significant Changes

605.17.3 Emergency ventilation system discharge. The point of discharge to the atmosphere shall be located outside of the structure at not less than 15 feet (4572 mm) above the adjoining grade level and not less than 20 feet (6096 mm) from any window, ventilation opening or exit.



2020 FCNYS Significant Changes

608.3 Nonmetallic storage tanks. Nonmetallic cooking oil storage tanks **shall be listed in accordance with UL 2152** and shall be installed in accordance with the tank manufacturer's instruction. ~~and shall also comply with all of the following~~:

~~1.~~ ~~Tanks shall be listed for use with cooking oil, including maximum temperature to which the tank will be exposed during use.~~

2. Tank capacity shall not exceed 200 gallons (757 L) per tank.

Typically, two tanks are installed for cooking oil storage; one for fresh oil, and one for waste oil.

2020 FCNYS Significant Changes

Building and Equipment Design Features Chapter 8

- 807.1, 807.2, 807.5 Combustible Decorative Materials
- 807.4 Artificial Decorative Vegetation

2020 FCNYS Significant Changes

~~1.General. Combustible decorative materials, other than decorative vegetation, shall comply with Sections 807.2 through 807.5.6.~~

2.**807.1** ~~Limitations~~ **General.** The following requirements shall apply to all occupancies:

1.Furnishings or decorative materials of an explosive or highly flammable character shall not be used.

2.Fire-retardant coatings in existing buildings shall be maintained so as to retain the effectiveness of the treatment under service conditions encountered in actual use.

3.Furnishings or other objects shall not be placed to obstruct exits access thereto, egress therefrom or visibility thereof.

4.The permissible amount of decorative vegetation and noncombustible decorative materials shall not be limited.

2020 FCNYS Significant Changes

807.~~3~~ 2 Combustible decorative materials. In ~~other than Group I-3~~, **Groups A,B,E,I,M and R-1 and in dormitories in Group R-2**, curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall comply with Section 807.4 and shall not exceed 10 percent of the specific wall or ceiling area to which they are attached.

Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered *interior finish*, shall comply with Section 803 and shall not be considered *decorative materials* or furnishings.

Exceptions:

1.In auditoriums in Group A, the permissible amount of curtains, draperies, fabric hangings and other similar combustible decorative material suspended from walls or ceilings shall not exceed 75 percent of the aggregate wall area where the building is equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and where the material is installed in accordance with Section 803.11 of the *International Building Code*.

2.In Group R-2 dormitories, within sleeping units and dwelling units, the permissible amount of curtains, draperies, fabric hangings and other similar decorative materials suspended from walls or ceilings shall not exceed 50 percent of the aggregate wall areas where the building is equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section903.3.1.

2020 FCNYS Significant Changes

3.In Group B and M occupancies, the amount of combustible fabric partitions suspended from the ceiling and not supported by the floor shall comply with Section 807.3 and shall not be limited.

4.The 10-percent limit shall not apply to curtains, draperies, fabric hangings and similar combustible decorative materials used as window coverings.

2020 FCNYS Significant Changes

SECTION 807

DECORATIVE MATERIALS ~~OTHER THAN~~ **AND ARTIFICIAL** DECORATIVE VEGETATION IN NEW AND EXISTING BUILDINGS

2020 FCNYS Significant Changes

4.Artificial decorative vegetation. Artificial decorative vegetation shall comply with this section and the requirements of Sections 806.2 and 806.3. Natural decorative vegetation shall comply with Section 806.

Exception: Testing of artificial vegetation is not required in Group I-1; Group I-2, Condition 1; Group R-2; Group R-3; or Group R-4 occupancies equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1, where such artificial vegetation complies with the following:

1. Wreaths and other decorative items on doors shall not obstruct the door operation and shall not exceed 50 percent of the surface area of the door.

2. Decorative artificial vegetation shall be limited to not more than 30 percent of the wall area to which it is attached.

3. Decorative artificial vegetation not on doors or walls shall not exceed 3 feet (914 mm) in any dimension.

This artificial vegetation is not required to comply with the flammability ratings since the wreath is less than 50 percent of the door and the flower arrangement has dimensions less than 3 feet

2020 FCNYS Significant Changes

~~806.2~~ **807.4.1 Artificial vegetation. Flammability.** Artificial decorative vegetation meet the flame propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701. ~~Meeting the flame propagation performance~~ **such** criteria ~~of Test Method 1 or Test Method 2, as appropriate, of NFPA 701~~ shall be documented and certified by the manufacturer in an *approved* manner. Alternatively, the artificial decorative vegetation item shall be tested in accordance with NFPA 289, using the 20 kW ignition source, and shall have a maximum heat release rate of 100 kW.

2020 FCNYS Significant Changes

807.4.2 Electrical fixtures and wiring on artificial vegetation. The use of unlisted electrical wiring and lighting on artificial decorative vegetation shall be prohibited. The use of electrical wiring and lighting on artificial trees constructed entirely of metal shall be prohibited.

2020 FCNYS Significant Changes

807.5 occupancy-based requirements. ~~In occupancies specified, combustible decorative materials not complying with Section 807.3~~

Occupancies shall comply with Sections 807.5.1 through 807.5.6

2020 FCNYS Significant Changes

Building and Equipment Design Features Chapter 9

- 901.4.6.1, 901.4.6.2, 901.4.6.3, 901.4.6.4 Fire Pump and Fire Sprinkler Riser Rooms
- 901.6.2 Integrated Fire Protection System Testing
- 901.8.2 Removal of Occupant-use Hose Lines
- 903.2.1 Sprinklers in Group A Occupancies
- 903.2.3 Sprinklers in Group E Occupancies
- 903.3.1.1.2 Sprinklers in Bathrooms in Group R Occupancies
- 903.3.1.2.1 Sprinklers Beneath Balconies
- 903.3.1.2.3 Protection of Attics in Group R Occupancies
- 903.3.3 Sprinkler Obstructions
- 904.12 Commercial Cooking Operations

2020 FCNYS Significant Changes

Building and Equipment Design Features (Chapter 9 continued)

- 904.13 Domestic Cooking in Institutional Occupancies
- 904.14 , Table 901.6.1 Aerosol Fire-extinguishing Systems
- 905.3.1 Class III Standpipes
- 905.4 Class I Standpipe Hose Connections
- 905.11 Locking Caps on Standpipe Outlets
- 906.1 Portable Fire Extinguishers
- 907.1.2 Fire Alarm Construction Documents
- 907.2.1 Fire Alarms in Group A Occupancies
- 907.2.10 (Deleted) Group R-4 Fire Alarm System
- 907.5.2.2.4 Emergency Voice/Alarm Communication System Captions
- 910.5 Maintenance of Smoke and Heat Removal Equipment
- 916 Gas Detection Systems

2020 FCNYS Significant Changes

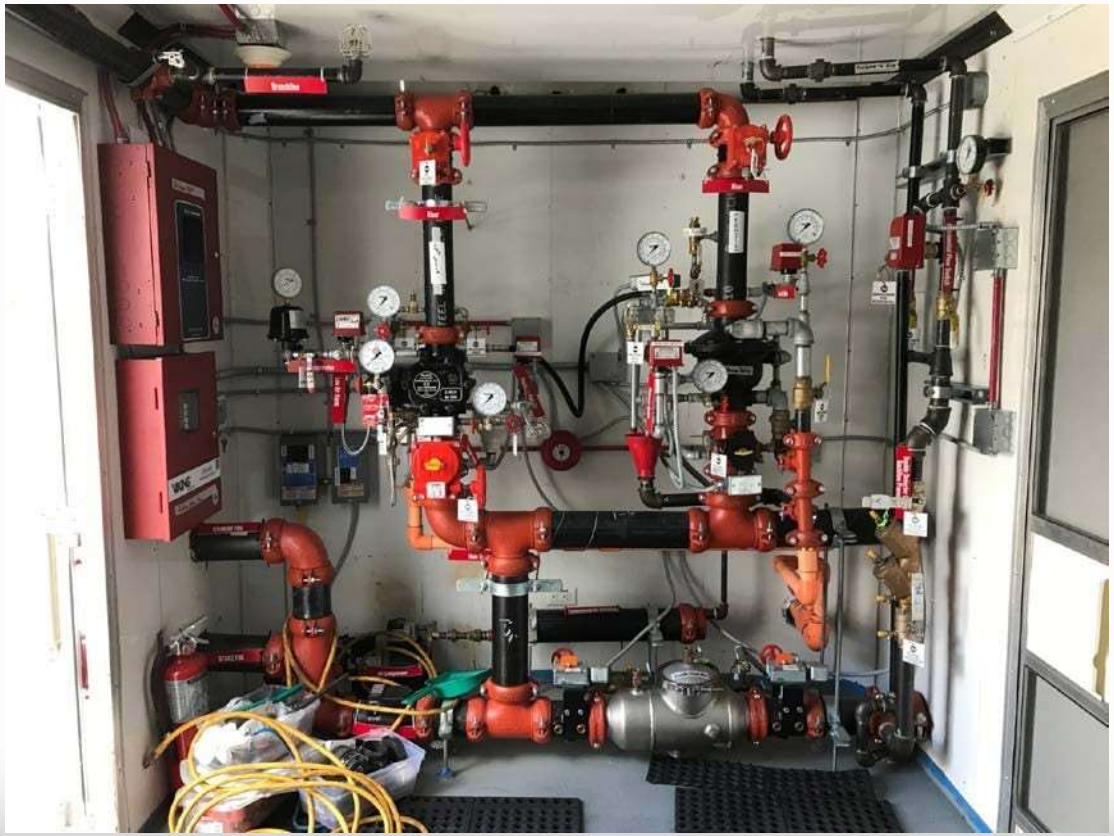
901.4.6.1 Access. Automatic sprinkler system risers, fire pumps and controllers shall be provided with ready access. Where located in a fire pump room or automatic sprinkler system riser room, the door shall be permitted to be locked provided that the key is available at all times.

2020 FCNYS Significant Changes

901.4.6.2 Marking on access doors. Access doors for automatic sprinkler system riser rooms and fire pump rooms shall be labeled with an approved sign. The lettering shall be in contrasting color to the background. Letters shall have a minimum height of 2 inches (51 mm) with a minimum stroke of 3/8 inch (10 mm).

2020 FCNYS Significant Changes

901.4.6.3 Environment. Automatic sprinkler system riser rooms and fire pump rooms shall be maintained at a temperature of not less than 40ºF (4ºC). Heating units shall be permanently installed.



2020 FCNYS Significant Changes

901.4.6.4 Lighting. Permanently installed artificial illumination shall be provided in the automatic sprinkler system riser rooms and fire pump rooms.

2020 FCNYS Significant Changes

901.6.2 Integrated testing. Where two or more fire protection or life safety systems are interconnected, the intended response of subordinate fire protection and life safety systems shall be verified when required testing of the initiating system is conducted. In addition, integrated testing shall be performed in accordance with Sections 901.6.2.1 and 901.6.2.2.

2020 FCNYS Significant Changes

Chapter 2: Definitions

SUBORDINATE (FIRE PROTECTION AND LIFE SAFETY SYSTEM).

A system that is activated by another fire protection or life safety system. For example, where a fire alarm system activates a smoke removal or elevator recall system, the smoke removal or elevator recall system is considered to be "subordinate" to the fire alarm system.

2020 FCNYS Significant Changes

Chapter 2: Definitions

INTEGRATED TESTING (FIRE PROTECTION AND LIFE SAFETY SYSTEM).

A testing procedure to establish the operational status, interaction and coordination of two or more fire protection and safety systems.

2020 FCNYS Significant Changes

901.6.2.1 High-rise buildings. For high-rise buildings, integrated testing shall comply with NFPA 4, with an integrated test performed prior to issuance of the certificate of occupancy and at intervals not exceeding 10 years, unless otherwise specified by an integrated system test plan prepared in accordance with NFPA 4. If an equipment failure is detected during integrated testing, a repeat of the integrated test shall not be required, except as necessary to verify operation of fire protection or life safety functions that are initiated by equipment that was repaired or replaced.

2020 FCNYS Significant Changes

901.6.2.2 Smoke control systems. Where a fire alarm system is integrated with a smoke control system as outlined in Section 909. integrated testing shall comply with NFPA 4. with an integrated test performed prior to issuance of the certificate of occupancy and at intervals not exceeding 10 years. unless otherwise specified by an integrated system test plan prepared in accordance with NFPA 4. If an equipment failure is detected during integrated testing. a repeat of the integrated test shall not be required. except as necessary to verify operation of fire protection or life safety functions that are initiated by equipment that was repaired or replaced.

2020 FCNYS Significant Changes

901.8.2 Removal of existing occupant-use hose lines. The fire code official is authorized to permit the removal of existing occupant-use hose lines where ~~all~~ **both** of the following conditions exist:

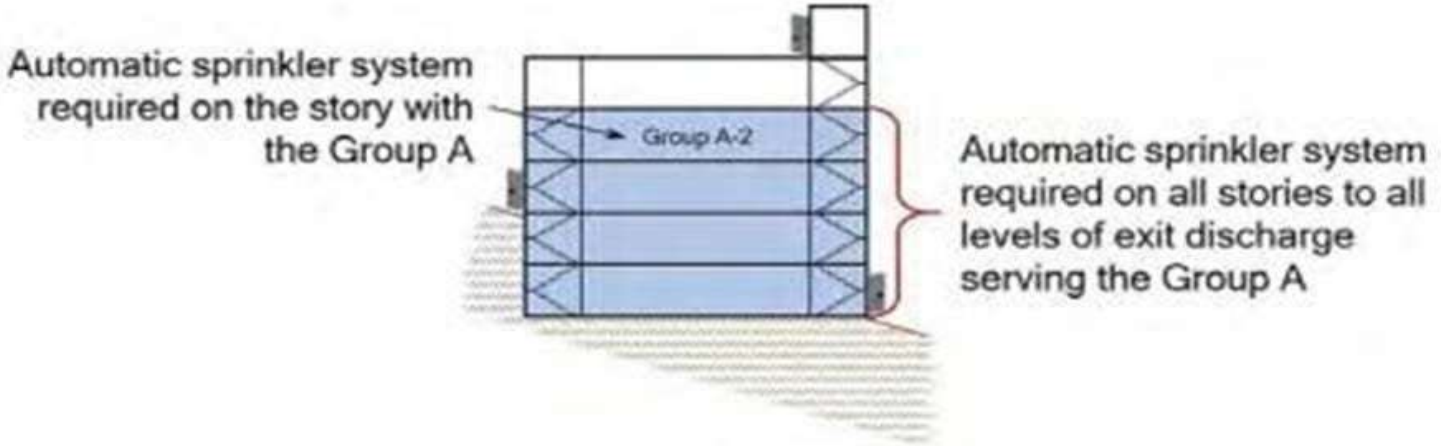
~~Installation is not required by this code or the International Building Code.~~

1.The hose line would not be utilized by trained personnel or the fire department.

2.The remaining outlets are compatible with local fire department fittings.

2020 FCNYS Significant Changes

903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. ~~For Group A-1, A-2, A-3 and A-4 occupancies, the automatic sprinkler system shall be provided throughout the story where the fire area containing the Group A-1, A-2, A-3 or A-4 occupancy is located, and throughout all stories from the Group A occupancy to, and including, the levels of exit discharge serving the Group A occupancy. For Group A-5 occupancies, the automatic sprinkler system shall be provided in the spaces indicated in Section 903.2.1.5~~.



Where a Group A occupancy is located on a level other than the level of exit discharge, an automatic sprinkler system is required in the entire story and all stories to and including all levels of exit discharge serving the Group A occupancy

2020 FCNYS Significant Changes

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided ~~for fire areas~~ **throughout stories containing Group A-1 occupancies** and ~~intervening floors~~ **throughout all stories from the Group A-1 occupancy to** and including the levels of ~~the building~~ **exit discharge serving that occupancy** where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).

2. The fire area has an occupant load of 300 or more.

3.The fire area is located on a floor other than a level of exit discharge serving such occupancies.

4. The fire area contains a multiple-theater complex.

2020 FCNYS Significant Changes

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided ~~for fire areas~~ **throughout stories** containing Group A-2 occupancies and ~~intervening floors~~ **throughout all stories from the Group A-2 occupancy to and including the levels** of ~~the building~~ **exit discharge serving that occupancy** where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464 m2).

2. The fire area has an occupant load of 100 or more.

3.The fire area is located on a floor other than a level of exit discharge serving such occupancies.

2020 FCNYS Significant Changes

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided ~~for fire areas~~ **throughout stories containing Group A-3 occupancies** and ~~intervening floors~~ **throughout all stories from the Group A-3 occupancy to** and including the levels of ~~the building~~ **exit discharge serving that occupancy** where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).

2. The fire area has an occupant load of 300 or more.

3.The fire area is located on a floor other than a level of exit discharge serving such occupancies.

4. The fire area contains a multiple-theater complex.

2020 FCNYS Significant Changes

903.2.1.4 Group A-4. An automatic sprinkler system shall be provided ~~for fire areas~~ **throughout stories containing Group A-4 occupancies** and ~~intervening floors~~ **throughout all stories from the Group A-4 occupancy to** and including the levels of ~~the building~~ **exit discharge serving that occupancy** where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).

2. The fire area has an occupant load of 300 or more.

3.The fire area is located on a floor other than a level of exit discharge serving such occupancies.

4. The fire area contains a multiple-theater complex.

2020 FCNYS Significant Changes

903.2.1.5 Group A-5. An automatic sprinkler system shall be provided for **all enclosed** Group A-5 occupancies in the following areas: ~~concession stands, retail areas, press boxes and other~~ accessory use areas in excess of 1,000 square feet (93 m2).

2020 FCNYS Significant Changes

903.2.1.5.1 Spaces under grandstands or bleachers. Enclosed spaces under *grandstands* or *bleachers* shall be equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1 where either of the following exist:

1. The enclosed area is 1,000 square feet (93 m2) or less and is not constructed in accordance with Section 1029.1.1.1.

2. The enclosed area exceeds 1,000 square feet (93 m2).

2020 FCNYS Significant Changes

903.2.3 Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 12,000 square feet (1115 m2) in area.

2. **The Group E fire area is located on a floor other than a level of exit discharge serving such occupancies.**

   Exception: In buildings where every classroom has not fewer than one exterior exit door at ground level, an automatic sprinkler system is not required in any area below the lowest level of exit discharge serving that area.

~~2.Throughout every portion of educational buildings below the lowest level of exit discharge serving that portion of the building:~~

~~Exception. An automatic sprinkler system is not required in any area below the lowest level of exit discharge serving that area where every classroom throughout the building has not fewer than one exterior exit door at ground level~~

3. **The Group E fire area has an occupant load of 300 or more.**

2020 FCNYS Significant Changes

903.3.1.1.2 Bathrooms. In Group R occupancies, ~~other than Group R4 occupancies~~, sprinklers shall not be required in bathrooms that do not exceed 55 square feet (5 m2) in area and are located within individual dwelling units or sleeping units, provided that walls and ceilings, including the walls and ceilings behind a shower enclosure or tub, are of noncombustible or limited-combustible materials with a 15-minute thermal barrier rating.

2020 FCNYS Significant Changes

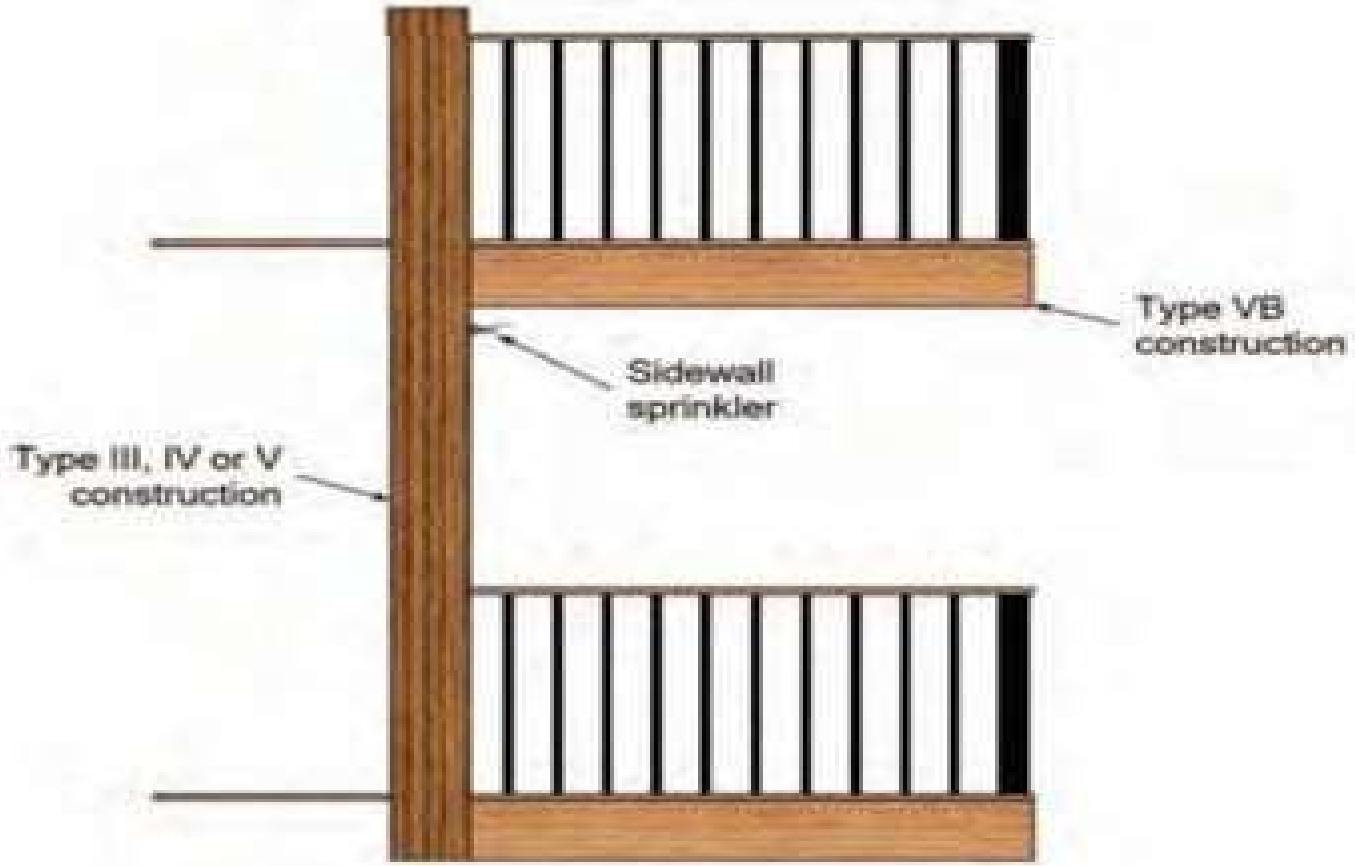
903.3.1.2.1 Balconies and decks. Sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of dwelling units and sleeping units where **either of** the **following conditions exists:**

1. **The** building is of Type V construction, provided that there is a roof or deck above.

2. **Exterior balconies, decks and ground floor patios of dwelling units and sleeping units are constructed in accordance with Section 705.2.3.1, Exception 3 of the International Building Code.**

Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch (25 mm) to 6 inches (152 mm) below the structural members and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies and decks that are constructed of open wood joist construction.

2020 FCNYS Significant Changes



In buildings of Type III, IV or V construction, the exterior balcony can be Type V construction with no fire-resistance-rating if sprinklers are installed to protect the balcony.

2020 FCNYS Significant Changes

903.3.1.2.3 Attics. Attic protection shall be provided as follows:

1. Attics that are used or intended for living purposes or storage shall be protected by an automatic sprinkler system.

2. Where fuel-fired equipment is installed in an unsprinklered attic, not fewer than one quick-response intermediate temperature sprinkler shall be installed above the equipment.

3. Where located in a building of Type III, Type IV or Type V construction designed in accordance with Section 510.2 or 510.4 of the International Building Code, attics not required by Item 1 to have sprinklers shall comply with one of the following if the roof assembly is located more than 55 feet (16 764 mm) above the lowest level of required fire department vehicle access:

    1. Provide automatic sprinkler system protection.
    2. Construct the attic using noncombustible materials.
    3. Construct the attic using fire-retardant-treated wood complying with Section 2303.2 of the International Building Code.
    4. Fill the attic with noncombustible insulation.

2020 FCNYS Significant Changes

The height of the roof assembly shall be determined by measuring the distance from the lowest required fire vehicle access road surface adjacent to the building to the eave of the highest pitched roof, the intersection of the highest roof to the exterior wall, or the top of the highest parapet, whichever yields the greatest distance.

For the purpose of this measurement, required fire vehicle access roads shall include only those roads that are necessary for compliance with Section 503.

4. Group R-4, Condition 2 occupancy attics not required by Item 1 to have sprinklers shall comply with one of the following:

1. Provide automatic sprinkler system protection.
2. Provide a heat detection system throughout the attic that is arranged to activate the building fire alarm system.
3. Construct the attic using noncombustible materials.
4. Construct the attic using fire-retardant-treated wood complying with Section 2303.2 of the International Building Code.
5. Fill the attic with noncombustible insulation.

2020 FCNYS Significant Changes

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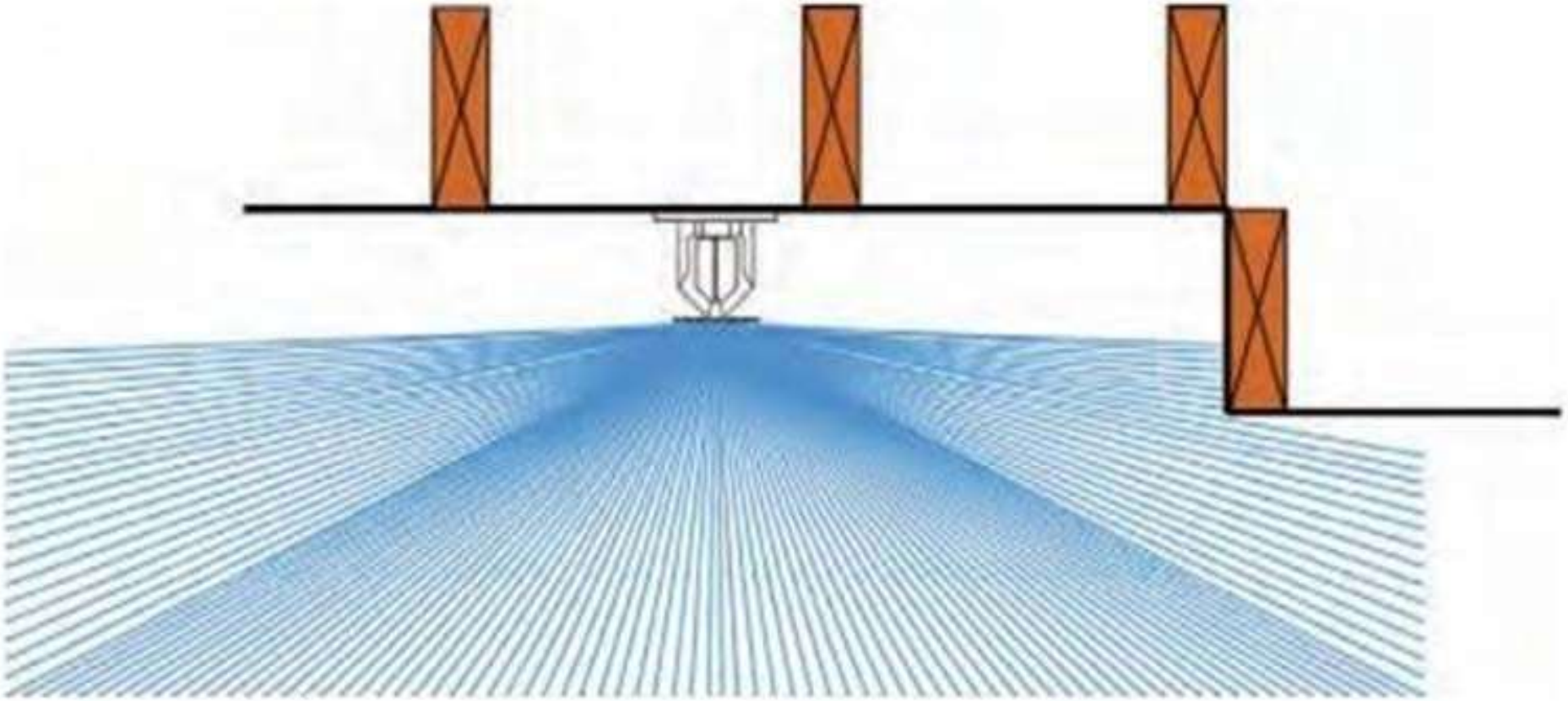
The upper portion of this building is Group R-2 and can be protected by an NFPA 13R sprinkler system, but when the building exceeds 55 feet in height the attic must be protected by one of four options.

2020 FCNYS Significant Changes

903.3.3 Obstructed locations. Automatic sprinklers shall be installed with due regard to obstructions that will delay activation or obstruct the water distribution pattern and **shall be in accordance with the applicable automatic sprinkler system standard that is being used.** Automatic sprinklers shall be installed in or under covered kiosks, displays, booths, concession stands or equipment that exceeds 4 feet (1219 mm) in width. Not less than a 3-foot (914 mm) clearance shall be maintained between automatic sprinklers and the top of piles of combustible fibers.

Exception: Kitchen equipment under exhaust hoods protected with a fire-extinguishing system in accordance with Section 904.

2020 FCNYS Significant Changes



Fire sprinklers must be installed to either avoid obstructions, or adjusted so that the obstructions do not negatively impact the spray pattern.

2020 FCNYS Significant Changes

904.12 Commercial cooking systems. The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Preengineered automatic dry- and wet-chemical extinguishing systems shall be tested in accordance with UL 300 and listed and labeled for the intended application. Other types of automatic fire-extinguishing systems shall be listed and labeled for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this code, **NFPA 96**, its listing and the manufacturer's installation instructions. Automatic fire-extinguishng systems of the following types shall be installed in accordance with the referenced standard indicated, as follows:

1. Carbon dioxide extinguishing systems, NFPA 12.
2. Automatic sprinkler systems, NFPA 13.
3. **Automatic water mist systems, NFPA 750.**
3.**4.** Foam-water sprinkler system or foam-water spray systems, NFPA16.
4-**5.** Dry-chemical extinguishing systems, NFPA 17.
5,**6.** Wet-chemical extinguishing systems, NFPA 17A.

Exception: Factory-built commercial cooking recirculating systems that are tested in accordance with UL 710B and listed, labeled and installed in accordance with Section 304.1 of the International Mechanical Code.

2020 FCNYS Significant Changes

904.13 Domestic cooking systems~~, in Group 1-2 Condition 1. In Group +2 Condition occupancies where cooking facilities are installed in accordance with Seetion 107.2.6 of the International Building Code, the domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Pre-engineered automatic extinguishing systems shall be tested in accordance with HL-3004 and listed and tabeled for the interdict-application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions:~~ **Cooktops and ranges installed in the following occupancies shall be protected in accordance with Section 904.13.1:.**

1.In Group I-1 occupancies where domestic cooking facilities are installed in accordance with Section 420.8 of the International Building Code.

2.In Group 1-2, Condition 1 occupancies where domestic cooking facilities are installed in accordance with Section 407.2.6 of the International Building Code.

3.In Group R-2 college dormitories where domestic cooking facilities are installed in accordance with Section 420.10 of the International Building Code.

~~904.13.1- Manual system operation and interconnection. Manual actuation and system interconnection for the hood suppression system stall be in accordance with Sections-904.12.1 and 904.12.2, respectively.~~

2020 FCNYS Significant Changes

904.13.1 Protection from fire. Cooktops and ranges shall be protected in accordance with Section 904.13.1.1 or 904.13.1.2.

2020 FCNYS Significant Changes

1. Automatic fire-extinguishing system. The domestic recirculating or exterior vented cooking hood provided over the cooktop or range shall be equipped with an approved automatic fire-extinguishing system complying with the following:

    1. The automatic fire-extinguishing system shall be of a type recognized for protection of domestic cooking equipment. Preengineered automatic fire-extinguishing systems shall be listed and labeled in accordance with UL 300A and installed in accordance with the manufacturer's instructions.

    2. Manual actuation of the fire-extinguishing system shall be provided in accordance with Section 904.12.1.

    3. Interconnection of the fuel and electric power supply shall be in accordance with Section 904.12.2.

2020 FCNYS Significant Changes

904.13.1.2 Ignition prevention. Cooktops and ranges shall include burners that have been tested and listed to prevent ignition of cooking oil with burners turned on to their maximum heat settings and allowed to operate for 30 minutes.

~~904.13.2 Portable fire extinguishers for domestic-cooking equipment in Group-2 Condition 1. A portable fire extinguisher complying with Section 906 shall be installed within a 30-foot (9144 mm) distance of travel from domestic cooking appliances~~

SMART BURNER

2020 FCNYS Significant Changes

904.14 Aerosol fire-extinguishing systems. Aerosol fire extinguishing systems shall be installed, periodically inspected, tested and maintained in accordance with Sections 901 and 904.4, NFPA 2010, and in accordance with their listing. Such devices and appurtenances shall be listed and installed in conformance with manufacturer's instructions.

2020 FCNYS Significant Changes

904.14.1 Maintenance. Not less than semiannually, an inspection shall be conducted by a trained person to assess whether the system is in working order. Not less than annually, a certified fire suppression contractor trained and having knowledge of the installation, operation and maintenance of the specific fire-extinguishing system shall inspect, test, service and maintain such system in accordance with this section and the manufacturer's specifications and servicing manuals.

2020 FCNYS Significant Changes

TABLE 901.6.1 Fire Protection System Maintenance Standards

SYSTEM	STANDARD
Portable fire extinguishers	NFPA 10
Carbon dioxide fire-extinguishing system	NFPA 12
Halon 1301 fire-extinguishing systems	NFPA 12A
Dry-chemical extinguishing systems	NFPA 17
Wet-chemical extinguishing systems	NFPA 17A
Water-based fire protection systems	NFPA 25
Fire alarm systems	NFPA 72
Smoke and heat vents	NFPA 204
Water-mist systems	NFPA 750
Clean-agent extinguishing systems	NFPA 2001
Aerosol fire-extinguishing systems	NFPA 2010

2020 FCNYS Significant Changes

905.3.1 Height. Class III standpipe systems shall be installed throughout buildings where **any of the following conditions exist:**

1. **Four or more stories are above or below grade plane.**
2. **The** floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of the fire department vehicle access., or where the
3. **The** floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.

Exceptions:

1.Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. Class 1 standpipes are allowed in Group B and E occupancies.

~~2.~~ **3.** Class I manual standpipes are allowed in open parking garages where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.

2020 FCNYS Significant Changes

~~3.~~ **4.** Class I manual dry standpipes are allowed in open parking garages that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.

~~4~~ **5.** Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.

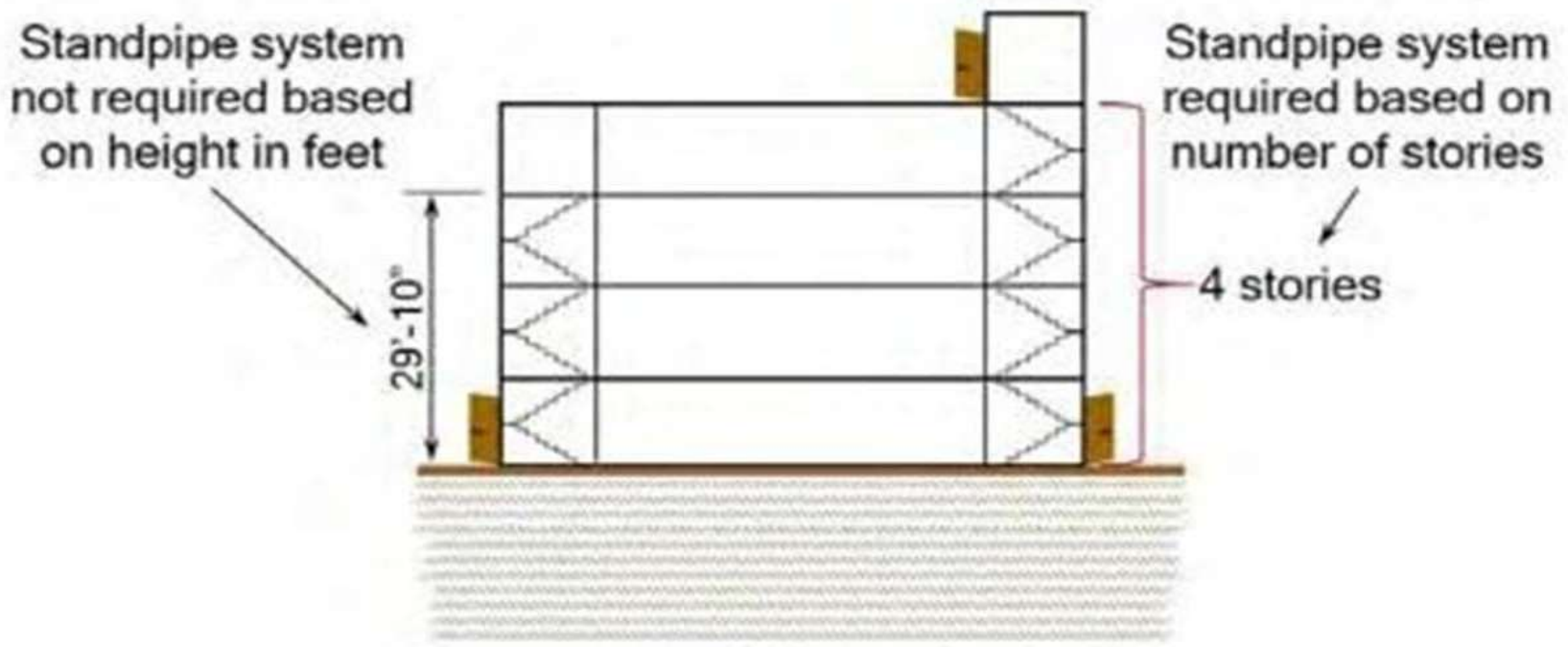
6. Class I standpipes are allowed in buildings where occupant use hose lines will not be utilized by trained personnel or the fire department.

~~5~~-**7.** In determining the lowest level of fire department vehicle access, it shall not be required to consider either of the following:

1. Recessed loading docks for four vehicles or less.

2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

2020 FCNYS Significant Changes



Even though the highest floor level is less than 30 feet above fire department vehicle access, the building requires a standpipe system because it is four stories or more.

2020 FCNYS Significant Changes

905.11 Locking standpipe outlet caps. The fire code official is authorized to require locking caps on the outlets on dry standpipes where the responding fire department carries key wrenches for the removal that are compatible with locking FDC connection caps.

2020 FCNYS Significant Changes

906.1 Where required. Portable fire extinguishers shall be installed in all of the following locations:

In new and existing Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies. Exceptions:

1. In Group R-2 occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each dwelling unit is provided with a portable fire extinguisher having a minimum rating of 1-A:10-B:C.

2. **In Group E occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each classroom is provided with a portable fire extinguisher having a minimum rating of 2-A:20-B:C.**

2. Within 30 feet (9144 mm) distance of travel from commercial cooking equipment and from domestic cooking equipment in Group 1-1; 1-2. Condition 1; and R-2 college dormitory occupancies.

2020 FCNYS Significant Changes

3.In areas where flammable or combustible liquids are stored, used or dispensed.

4.On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 3315.1.

5.Where required by the sections indicated in Table 906.1.

6.Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official

2020 FCNYS Significant Changes

907.1.2 Fire alarm shop drawings. Shop drawings for fire alarm systems shall be **prepared in accordance with NFPA 72** and submitted for review and approval prior to system installation., ~~and shall include, but not be limited to, all of the following where applicable to the system being installed:~~

~~1. A floor plan that indicates the use of all rooms~~

~~2. Locations of alarm-initiating devices:~~

~~3. Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances~~

~~4. Design minimum audibility level for occupant notification:~~

~~5. Location of fire alarm control tinit, transponders and notificattion power supplies.~~

~~6. Annunciators:~~

~~7. Power connection.~~

~~8. Battery cateulations~~

~~9. Conductor type and sizes.~~

~~10. Voltage drop cateulations.~~

~~11. Manufaeturers' data sheets indicating model numbers and list ing information for equipment, devices and materials:~~

~~12. Details of ceiling height and construction~~

~~13. The interface of fire safety control functions.~~

~~14. Classification of the supervising station~~

2020 FCNYS Significant Changes

907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more, **or where the Group A occupant load is more than 100 persons above or below the lowest level of exit discharge**. Group A occupancies not separated from one another in accordance with Section 707.3.10 of the International Building Code shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

2020 FCNYS Significant Changes

907.5.2.2.4 Emergency voice/alarm communication captions. Where stadiums, arenas and grandstands ~~are required to caption~~ **have 15,000 fixed seats or more and provide** audible public announcements, in accordance with Section 1108.2.7.3, the emergency voice/alarm communication system shall ~~be captioned~~ **provide pre-recorded or realtime captions.** Prerecorded or live emergency captions shall be from anapproved location constantly attended by personnel trained to respond to an emergency.

2020 FCNYS Significant Changes

910.5 Maintenance **and testing**. ~~Smoke~~ **Maintenance and testing** of smoke and heat vents and mechanical smoke removal systems shall be ~~maintained in an operative condition~~ in accordance with Sections 910.5.1 ~~or~~ **and** 910.5.2, **respectively. A written record of inspection, testing and maintenance that includes the date, identification of personnel involved, any unsatisfactory result, corrective action taken and replaced parts shall be maintained on the premises.**

2020 FCNYS Significant Changes

910.5.1 Smoke and heat vents. Smoke and heat vents shall be maintained in an operative condition. **Inspection, testing and maintenance shall be** in accordance with NFPA 204 and ~~Section~~ 910.5.1.1 **except as follows:**

1. **Mechanically operated smoke and heat vents shall be inspected annually and operationally tested not less than every 5 years.**
2. **Gravity dropout smoke and heat vents shall be inspected annually.**
3. **Fused, damaged or painted fusible links shall be replaced.**

~~910.5.1.1 Fusible links. Fusible links for smoke and heat rents shall be replaced whenever fused, damaged or painted.~~

2020 FCNYS Significant Changes

910.5.2 Mechanical smoke removal systems. Mechanical smoke removal systems shall be maintained in accordance with **NFPA 204 and** the equipment manufacturer's ~~maintenance~~ instructions and ~~Sections 910.5.2.1 through 910.5.2.4~~ **except as follows:**

1. **Systems shall be inspected and operationally tested annually.**

2. **Testing shall include the operation of all system components, controls and ancillary equipment, such as makeup air openings.**

3. **A written schedule for routine maintenance and operational testing shall be established and testing shall be conducted in accordance with the schedule**.

2020 FCNYS Significant Changes

1. Frequency. Systems shall be operationally tested not less than onee per year. Testing shall include the operation of all system components, including control elements.

2. Testing. Operational testing of the mechanical smoke removal system shall include all equipment such as fans, controls and make-up air openings

3. Schedule. A routine maintenance and operational testing program shall be initiated and a written schedule for routine maintenance and operational testing shall be established.

4. Written record. A written record of mechanical smoke exhaust system testing and maintenance shall be maintained on the premises. The written record shall include the date of the maintenance, identification of the servicing personnel and notification of any unsatisfactory condition and the corrective action taken, including parts replaced.

2020 FCNYS Significant Changes

SECTION 916 GAS DETECTION SYSTEMS

916.1 Gas detection systems. Gas detection systems required by this code shall comply with Sections 916.2 through 916.11.

2020 FCNYS Significant Changes

SECTION 202 DEFINITIONS

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DETECTION SYSTEM. ~~A gas detection system where the analytical instrument is maintained in continuous operation and sampling is performed without interruption. Analysis is allowed to be performed on a eyetical basis at intervals not to exceed 30 minutes:~~ **A system or portion of a combination system that utilizes one or more stationary sensors to detect the presence of a specified gas at a specified concentration and initiate one or more responses required by this code, such as notifying a responsible person, activating an alarm signal, or activating or deactivating equipment. A self-contained gas detection and alarm device is not classified as a gas detection system.**

2020 FCNYS Significant Changes

916.2.1 Construction documents. Documentation of the gas detection system design and equipment to be used that demonstrates compliance with the requirements of this code shall be provided with the application for permit.

2020 FCNYS Significant Changes

916.3 Equipment. Gas detection system equipment shall be designed for use with the gases being detected and shall be installed in accordance with manufacturer's instructions.

2020 FCNYS Significant Changes

916.4 Power connections. Gas detection systems shall be permanently connected to the building electrical power supply or shall be permitted to be cord connected to an unswitched receptacle using an *approved* restraining means that secures the plug to the receptacle.

2020 FCNYS Significant Changes

916.5 Emergency and standby power. Standby or emergency power shall be provided or the gas detection system shall initiate a trouble signal at an *approved* location if the power supply is interrupted.

2020 FCNYS Significant Changes

916.6 Sensor locations. Sensors shall be installed in approved locations where leaking gases are expected to accumulate.

2020 FCNYS Significant Changes

7. Gas sampling. Gas sampling shall be performed continuously. Sample analysis shall be processed immediately after sampling, except as follows:

1. For HPM gases, sample analysis shall be performed at intervals not exceeding 30 minutes.
2. For toxic gases that are not HPM, sample analysis shall be performed at intervals not exceeding 5 minutes, in accordance with Section 6004.2.2.7.
3. Where a less frequent or delayed sampling interval is approved.

2020 FCNYS Significant Changes

8. System activation. A gas detection alarm shall be initiated where any sensor detects a concentration of gas exceeding the following thresholds:

    1. For flammable gases, a gas concentration exceeding 25 percent of the lower flammable limit (LFL)..

    2. For nonflammable gases, a gas concentration exceeding one-half of the IDLH, unless a different threshold is specified by the section of this code requiring a gas detection system.

Upon activation of a gas detection alarm, alarm signals or other required responses shall be as specified by the section of this code requiring a gas detection system. Audible and visible alarm signals associated with a gas detection alarm shall be distinct from fire alarm and carbon monoxide alarm signals.

2020 FCNYS Significant Changes

916.9 Signage. Signs shall be provided adjacent to gas detection system alarm signaling devices that advise occupants of the nature of the signals and actions to take in response to the signal.

2020 FCNYS Significant Changes

916.10 Fire alarm system connections. Gas sensors and gas detection systems shall not be connected to fire alarm systems unless approved and connected in accordance with the fire alarm equipment manufacturer's instructions.

2020 FCNYS Significant Changes

916.11 Inspection, testing and sensor calibration. Inspection and testing of gas detection systems shall be conducted not less than annually. Sensor calibration shall be confirmed at the time of sensor installation and calibration shall be performed at the frequency specified by the sensor manufacturer

2020 FCNYS Significant Changes