

FIRE PROTECTION: CODE REVISIONS

May 6, 2022

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PRESENTATION DESCRIPTION

This presentation will review significant changes in the 2022 Building Code Chapter 7 (Fire and Smoke Protection Features) including fire-resistance ratings of walls at exit, ceilings and floors, Chapter 9 (Fire Protection Systems) including associated Appendix Q, and Chapter 27 with respect to emergency, standby and voluntary back-up electrical generators.

BC CHAPTER 9

Fire Protection Systems

BC 903.2.1.6



Occupied roof Source: [metmuseum](https://www.metmuseum.org)

Analysis:

This new requirement, based on IBC, adds continuous sprinkler protection along the exit path from all Assembly Occupancy Roofs to the Level of Exit Discharge.

- Assembly occupancies on roofs. Where an occupied roof has an assembly occupancy with an occupant load exceeding 100 for Group A-2 and 300 for other Group A occupancies, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

EXCEPTION: Open parking garages of Type I or Type II construction

BC 903.2.1.7



Automatic sprinkler system Source: [flickr](#)

Multiple fire areas. An automatic sprinkler system shall be provided where multiple fire areas of Group A-1, A-2, A-3 or A-4 occupancies share exit or exit access components and the combined occupant load of these fire areas is 300 or more.

Analysis:

This **new** section requires additional sprinkler protection along the shared common egress paths of multiple fire areas in certain assembly occupancies.

BC 903.2.2.1



Ambulatory Health care facility Source: [nyulangone](http://nyulangone.org)

Ambulatory health care facilities. An automatic sprinkler system shall be installed throughout all fire areas containing a Group B ambulatory health care facility occupancy. In buildings where ambulatory care is provided on levels other than the level of exit discharge, an automatic

sprinkler system shall be installed throughout the entire floor where such care is provided as well as all floors below, and all floors between the level of ambulatory care and the nearest level of exit discharge, including the level of exit discharge.

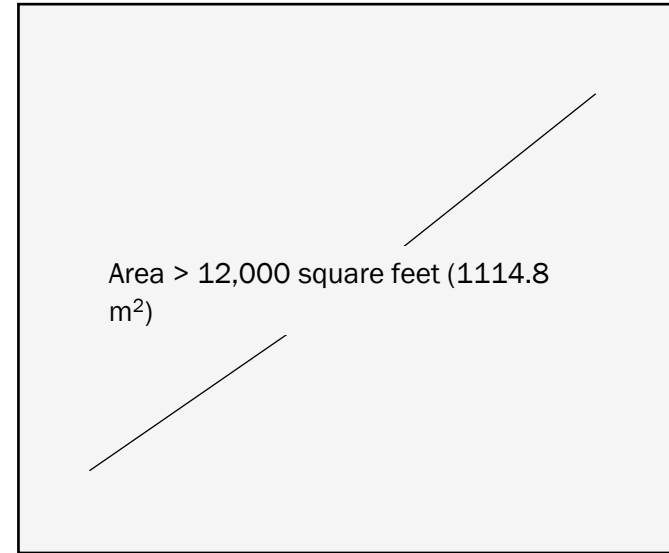
Analysis:

- This **new** text, based on IBC, requires sprinklers to be throughout an entire floor if an Occupancy Group B Ambulatory Care Facility is located on any part of such floor
- In addition, continuous sprinkler coverage is now required between the ambulatory care facility and the level of exit discharge.

BC 903.2.3



Group E Occupancy Source: [Angel Franco for The New York Times](#)



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 (1114.8 m²) in area.

Analysis:

As required for increased safety, this section has been modified to lower the square footage threshold trigger for sprinklers in in Group E occupancies.

BC 903.2.4



Manufacturer of highly flammable product Source: [Andrea Morales for TWSJ](#)

Group F. An automatic sprinkler system shall be provided throughout all buildings containing a Group F occupancy where any one of the following conditions exists:

...

5. Where a Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232.3 m²).

Analysis:

This new requirement was added to increase safety in occupancy Group F (factory) facilities with upholstered furniture or mattresses, which are or a potentially highly flammable products.

BC 903.2.6

Group I. An automatic sprinkler system shall be provided in Group I occupancies. An automatic sprinkler system shall be installed throughout buildings with a main use or dominant occupancy of Group I.

EXCEPTIONS:

An automatic sprinkler system installed in accordance with Section 903.3.1.2 or 903.3.1.3 shall be allowed in Group I-1 facilities if located in an I-1 occupancy building or a residential building, provided such building is six stories or less in height.

An automatic sprinkler system is not required where Group I-4 daycare facilities are at the level of exit discharge and where every room where care is provided has not fewer than one exterior exit door.

In buildings where Group I-4 daycare is provided on levels other than the level of exit discharge, an automatic sprinkler system in accordance with Section 903.3.1.1 shall be installed on the entire floor where care is provided, all floors between the level of care and the level of exit discharge, and all floors below the level of exit discharge other than areas classified as an open parking garage.

Analysis:

Two additional exceptions, regarding sprinkler coverage of I-4 daycare facilities, were added

BC 903.2.7



Display and sale of highly flammable product Source: [Mattress store](#)

Group M. An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

...

A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464.5 m²).

Analysis:

This new requirement was added to increase safety in Occupancy Group M (retail) facilities with upholstered furniture or mattresses, which are or a potentially highly flammable products.

BC 903.2.9

Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where any one of the following conditions exists:

...

A Group S-1 fire area used for the storage of commercial motor vehicles where the fire area exceeds 5,000 square feet (464.5 m²).

A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232.3 m²).

Analysis:

- Item 5 is new requirement that was added to increase safety in Occupancy Group S-1 (storage) facilities with stored commercial vehicles, which are potentially highly flammable.
- Item 6 is a new requirement that was added to increase safety in Occupancy Group S-1 (storage) facilities with upholstered furniture or mattresses, which are potentially highly flammable products.

BC 903.2.9.3



High-piled storage Source: [firesmarts](#)

High-piled storage. An automatic sprinkler system shall be provided in accordance with the New York City Fire Code in all buildings or portions thereof in Group S-1 occupancies where the storage of merchandise is in high-piled or rack storage arrays.

Analysis:

- New section that explicitly calls out FDNY Fire Code requirements for automatic sprinkler system requirements in facilities with high-piled storage.
 - ✓ Expands on previous NFPA 13 sprinkler system requirements regarding high piled storage

BC 903.2.10.4

High-piled storage. An automatic sprinkler system shall be provided in all buildings or portions thereof of Group S-2 occupancies in accordance with the New York City Fire Code.

Analysis:

- New section that explicitly calls out FDNY Fire Code requirements for automatic sprinkler system requirements in facilities with high-piled storage.
 - ✓ Expands on previous NFPA 13 sprinkler system requirements regarding high piled storage

BC 903.2.13



Cross Laminated Timber (CLT)

Type IV construction with cross-laminated timber (CLT) or structural composite lumber (SCL). Automatic sprinkler systems in accordance with NFPA 13 shall be required throughout buildings utilizing Type IV construction with CLT or SCL as follows:

1. In all occupancies where the building is more than three stories above grade plane.
2. In Group B occupancies, where a floor exceeds 28,500 square feet (2647.7 m²).



Analysis:

SCL and CLT materials are now allowed. As a result, this section was added to address such materials and mandate that a sprinkler system be provided in accordance with NFPA 13

BC 903.3.1.1.1



Automatic sprinkler system Source: [flickr](#)



Exempt locations protected by other means. When approved by the Fire Department, automatic sprinklers shall not be required in the following:

...

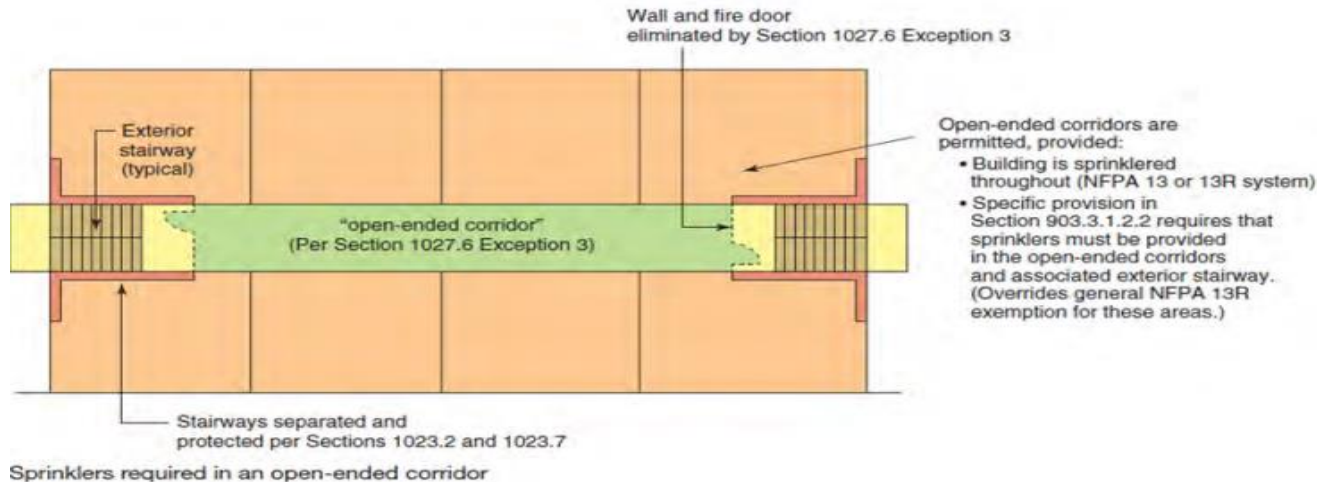
Machine rooms, machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008.

Analysis:

This section added that, subject to FDNY approval, automatic sprinklers shall not be required in machine rooms, machinery spaces, control rooms and control spaces, when such rooms/spaces are associated with occupant evacuation elevators

BC 903.3.1.2.2

Open-ended corridors. [When applying NFPA 13R,] sprinkler protection and freeze protection shall be provided in open-ended corridors and associated exterior stairways and ramps as specified in Section 1027.6, Exception 3.



Source: 2015 International Code Council

Analysis:

This section coordinates with 2022 BC 1027.6, Exception 3 and adds sprinkler and freeze protection requirements for open-ended corridors, i.e., corridors exposed to outside environment.

BC 903.3.2

Quick-response and residential sprinklers. Where automatic sprinkler systems are required by this Code, quick-response or residential automatic sprinklers shall be installed in all of the following areas in accordance with Section 903.3.1 and their listings:

- Throughout all spaces within a smoke compartment containing care recipient sleeping units in Group I-2 in accordance with this Code.
- Throughout all spaces within a smoke compartment containing treatment rooms in ambulatory care facilities.
- Dwelling units and sleeping units in Group I-1 and R occupancies.
- Light-hazard occupancies as defined in NFPA.

Analysis:

This section adds **new** requirement for quick response and residential type sprinklers in,

- Treatment rooms in ambulatory care facilities
- Sleeping Units in Group I-2 and R occupancies.

BC 903.3.8

Limited area sprinkler systems. Limited area sprinkler systems shall be in accordance with the standards listed in Section 903.3.1 except as provided in Sections 903.3.8.1 through 903.3.8.5.

903.3.8.1 Number of sprinklers. Limited area sprinkler systems shall not exceed six sprinklers in any single fire area.

Analysis:

- This section reduces the number of sprinklers for **limited area sprinkler systems**, i.e., those sprinkler systems tapped-off of domestic water line.
- Reduction of sprinkler count from 20 to 6 aligns with IBC; R-3 construction will utilize NFPA 13D sprinkler requirements.

BC 904.3.2

Actuation. Automatic fire-extinguishing systems shall be automatically actuated and provided with a manual means of actuation in accordance with Section 904.12.1. Where more than one hazard could be simultaneously involved in fire due to their proximity, all hazards shall be protected by a single system designed to protect all hazards that could become involved.

EXCEPTION: Multiple systems shall be permitted to be installed if they are designed to operate simultaneously.

Analysis:

Multiple fire hazards must be protected by a common fire protection system

- **New Alternative** added to allow multiple systems to operate simultaneously.

BC 904.11



Source: [AITO Firework](#)

Automatic water mist systems. Automatic water mist systems shall be permitted in applications that are consistent with the applicable listing or approvals and shall comply with Sections 904.11.1 through 904.11.3.

Analysis:

This section was modified by adding additional subsections to explain the following requirements:

- Automatic activation
- System Monitoring, associated alarms, controls and control valves
- Water supply; and
- Testing, maintenance , and operation in accordance with NYC FC

Based on IBC Sections 904.11 through 904.11.3 relating to automatic water mist systems

BC 904.12

... Only automatic fire-extinguishing systems of the following types shall be installed in accordance with the New York City Fire Code:

1. Foam water sprinkler system or foam water spray systems.
2. Wet-chemical extinguishing systems

Automatic sprinkler systems, dry-chemical fire-extinguishing systems, and carbon dioxide fire-extinguishing systems shall not be installed to protect commercial cooking equipment and exhaust systems.

Analysis:

- This section was modified to align with Fire Code
- Eliminates use of CO₂ systems in commercial cooking areas.
- Clarifies which fire protection systems are not permissible to protect commercial kitchen range hoods.

BC 904.13

Domestic cooking systems in Group I-2. In Group I-2 occupancies where cooking facilities are installed in accordance with Section 407.2.6 of this 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 UL 300A and listed and labeled for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.

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

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

Analysis:

Clarifies use of domestic cooking equipment in Occupancy Group I-2 facilities (nursing-homes and assisted-living facilities)

BC 905.3.8



Source: [nycgovparks](https://nycgovparks.org)

Buildings with a rooftop garden, landscaped roof, green roof, or roof used for any purpose other than weather protection or maintenance that are equipped with a standpipe system shall extend the standpipe system to the roof level on which the rooftop garden, landscaped roof, green roof, or roof used for any purpose other than weather protection or maintenance is located.

Analysis:

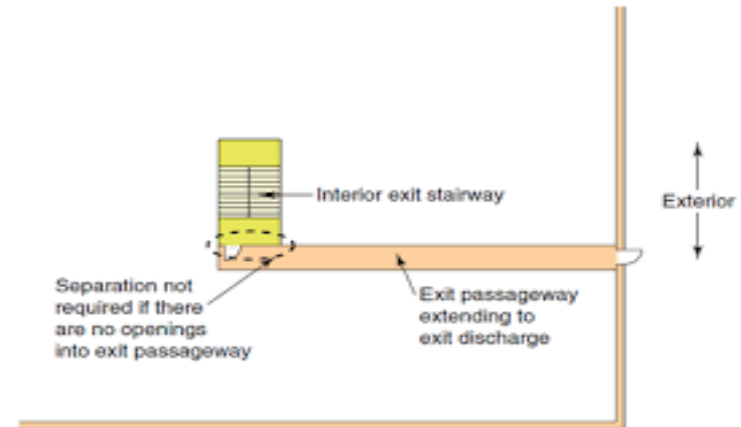
New Section added to ensure protection of all roofs that have an additional purpose beyond weather protection and maintenance, i.e., rooftop gardens and green roofs

BC 905.3.9

High-piled stock or rack storage. Where exit passageways are required in accordance with Chapter 10 of this Code, a standpipe system shall be provided in accordance with the New York City Fire Code in all buildings containing high-piled stock or rack storage.



High-piled storage Source: [Colorado Springs Fire Dept](#)



Exit Passageway Source: [ICC Exit Systems](#)

Analysis:

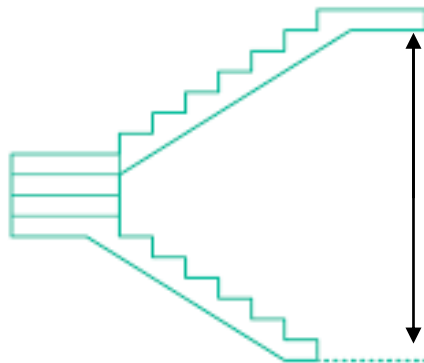
This added Code section **explicitly** describes standpipe requirements for high-piled storage where exit passageways are present and refers to additional Fire Code requirements.

BC 905.4

Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:

...

7. In any staircase where the change in elevation between floor landings is more than 25 feet (7620 mm), in addition to the hose connections required by Item 1, a hose connection shall be installed at the first intermediate stair landing below the higher floor level.



Source: dimensions.com



Source: nfp.org

Analysis:

New Requirement - Item #7 added to increase quantity of locations of Class I standpipe hose connections, thereby increasing building safety.

BC 905.6



Source: nfpa.org

Location of Class III standpipe hose connections. Class III standpipe systems shall have 2½-inch (63.5 mm) hose connections located as required for Class I standpipes in Section 905.4. At each hose connection, there shall be a hose station. The hose stations shall be equipped with a minimum of 125 feet (38 100 mm) but not more than a maximum of 150 feet (45 720 mm) of 1½-inch (38.1 mm) fire hose connected to an adjustable fog nozzle. The hose shall be attached to the 2½-inch (63.5 mm) hose connection by a 2½-inch(63.5 mm) by 1½-inch (38.1 mm) non-swivel reducing coupling. The hose shall be mounted on a rack and may be located in a cabinet, in accordance with Section 905.7. A pressure restricting device shall be installed when required by NFPA 14. Such pressure restricting device and reducing coupling shall be installed in such a manner that they are readily removable by the Fire Department

Analysis:

- This section was modified to provide a more detailed description of Class III standpipe hose connections.
- Pressure Restricting Devices must all be readily removable by FDNY

BC 905.7.1



Source: potterroemer.com

Cabinet equipment identification. Cabinets shall be identified in an approved manner by a permanently attached sign with white letters not less than 2 inches (50.8 mm) high and a red background color, indicating the equipment contained therein.

EXCEPTIONS:

1. Doors not large enough to accommodate a written sign with 2-inch lettering shall be marked with a permanently attached pictogram indicating the equipment contained therein, in addition to corresponding smaller white lettering on a red background adjacent to such pictogram.

Analysis:

New Requirement provides identification requirements for small fire protection equipment cabinets and associated doors

BC 907.2.3

A manual and automatic fire alarm system shall be installed in Group E occupancies. An emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies.

EXCEPTION: Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual and automatic fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.



Source: [Angel Franco for The New York Times](#)

Analysis:

One-way voice communication is now required for all Group E (Education) occupancies with cumulative occupant loads greater than 100 persons.

BC 907.2.9

A fire alarm system without alarm notification appliances and smoke alarms shall be installed in accordance with this section in Group R-2 occupancies, other than student apartments, where such occupancy satisfies any one of the following conditions:

1. Any dwelling unit is located three or more stories above the lowest level of exit discharge, including dwelling units in penthouses of any area;
2. Any dwelling unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit; or
3. The building contains more than 16 dwelling units. Actuation of smoke detectors shall not initiate a signal to alarm notification appliances. The activation of any detector required by this section shall initiate a signal at a central station or a constantly attended location.

Smoke detectors shall be located as follows:

1. In each mechanical equipment, electrical, transformer, telephone equipment or similar room.
2. In air distribution systems in accordance with Section 606 of the New York City Mechanical Code.
3. In elevator machine rooms and in elevator lobbies

BC 907.2.9



Source: [tecservuk](#)

Analysis:

Now mandates, regardless of square footage, that smoke detection is provided in mechanical equipment, electrical transformer, telephone equipment or similar rooms.

Previous 2014 Code had a square foot minimum requirement, which is elimination

BC 907.2.10

A manual and automatic fire alarm system shall be installed in Group S occupancies where any one of the following conditions exists:

1. Group S fire area has an occupant load of 300 occupants or more;
2. The combined occupant load of all Group S fire areas on all floors, including mezzanines, is 300 or more.

907.2.10.1 Group S occupancies having a total gross area exceeding 500,000 square feet (46 451.5 m²) located in buildings, where the highest occupied floor is 75 feet (22 860) or less above the lowest level of Fire Department vehicle access, shall be provided with automatic smoke detection connected to an automatic fire alarm system in accordance with Section 907.2.13.1 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2 that initiates a total evacuation signal.

BC 907.2.10



Analysis - New Requirement

A fire alarm system is now required in Group S (storage) occupancies if such occupancy fire area has an occupant load of 300 persons or more.

Regardless of occupant load, if the Group S occupancy has a total gross area exceeding 500,000 square feet, then a high-rise type of fire alarm system including voice communication is required.

BC 907.2.12

An automatic smoke detection system shall be provided in special amusement buildings in accordance with Sections 907.2.12.1 through 907.2.12.3.

EXCEPTION: In areas where ambient conditions will cause a smoke detection system to alarm, an approved alternative type of automatic detector shall be installed.

907.2.12.1 Alarm. Actuation of a single smoke detector, automatic sprinkler system or other automatic fire detection system shall initiate a pre-signal system in accordance with NFPA 72 at a constantly attended location from which the Fire Department shall be notified and live voice evacuation instructions shall be initiated using an emergency voice/alarm communications system in accordance with Section 907.5.2.2.



Source: [The Blue Dispatch](#)



Source: [MISTRAS](#)

Analysis – Clarification

Coordinated with Fire Code Requirements

Only persons with FDNY issued Certificates of Fitness are allowed to make **live voice evacuation instructions**. Pre-recorded announcements are not permitted

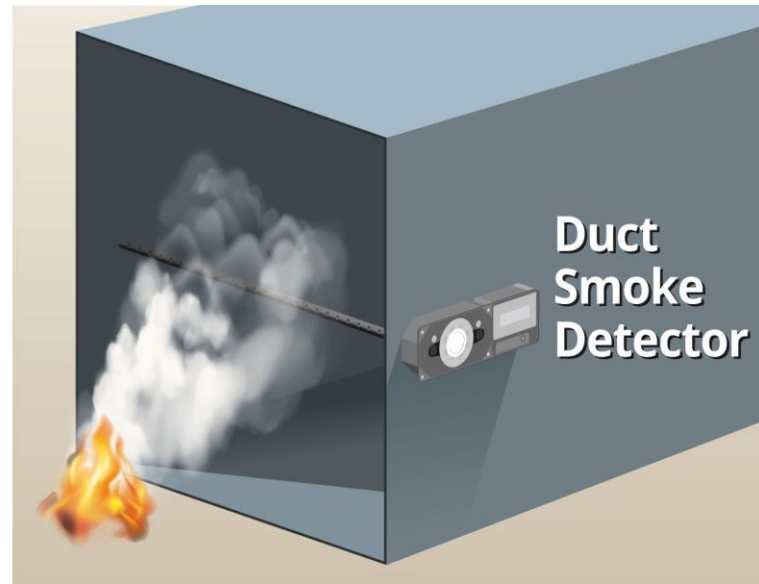
BC 907.3.1

Smoke detectors installed in ducts shall be listed for the air velocity, temperature and humidity present in the duct. Duct smoke detectors shall be connected to the building's fire alarm control unit when a fire alarm system is required by Section 907.2. Activation of a duct smoke detector shall initiate a visible and audible alarm signal at a constantly attended location and shall perform the intended fire safety function in accordance with this code and the New York City Mechanical Code. Duct smoke detectors shall not be used as a substitute for required open area detection.

ALARM SIGNAL. A signal indicating an emergency requiring immediate action, such as a signal indicative of fire

SUPERVISORY SIGNAL. A signal indicating the need for action in connection with the supervision of guard tours, fire suppression systems or equipment, fire alarm systems, or the maintenance features of related systems.

BC 907.3.1



Analysis – Modified Requirement

New Duct Detectors must now report as an alarm signal at the fire alarm control panel (FACP), which then activates the FDNY approved central station triggering a response from FDNY.

In 2014 BC duct detectors had the option of reporting at FACP as either a supervisory or alarm signal. This option is now eliminated.

BC 907.5.2.2.4



Source: nypost.com



Source: NY Red Bull Arena

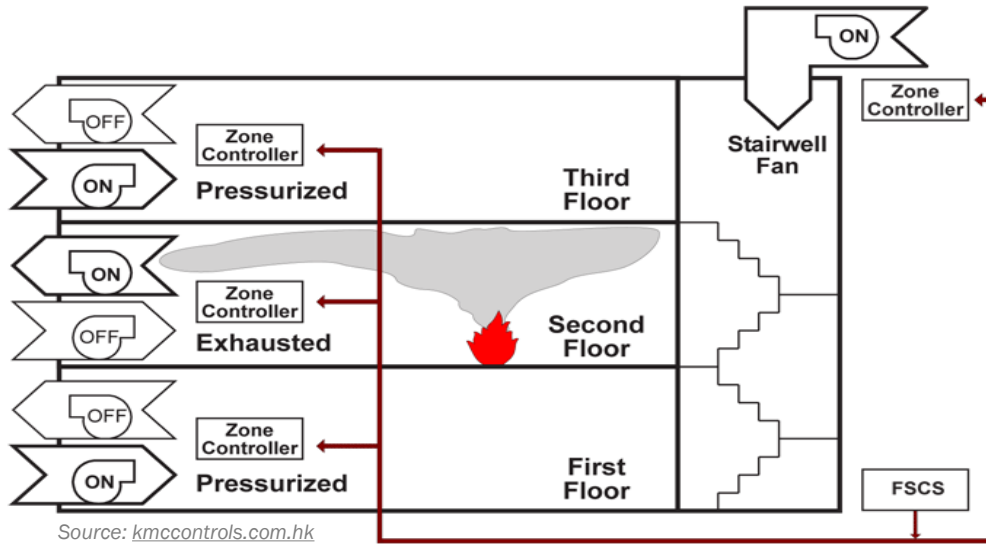
Where stadiums, arenas and grandstands provide audible public announcements, the emergency/voice alarm communication system shall be captioned. Emergency captions shall be approved by the Fire Department.

Analysis – Modified Requirement

This section modifies requirement of emergency captions for public announcements in stadiums, arenas, etc.

Coordinated with BC 1108.2.7.3
(Accessibility)

BC 909.4.7



The design shall consider the interaction effects of the operation of multiple smoke control systems for all design scenarios.

Analysis:

New section added to advise designers to consider the possibility of different scenarios for activation of multiple smoke control systems, and their impact on efficient and effective smoke removal. For example, the interaction between the smoke control systems relevant to elevator pressurization, stairway pressurization, and an atrium within the building needs to be analyzed.

BC 909.5.3

Openings in smoke barriers shall be protected by automatic-closing devices actuated by the required controls for the mechanical smoke control system. Door openings shall be protected by fire door assemblies complying with Section 716.5.3.

EXCEPTIONS:

...

3. In Group I-1, Group I-2, and Group B ambulatory care facilities, where a pair of opposite-swinging doors are installed across a corridor in accordance with Section 909.5.3.1, the doors shall not be required to be protected in accordance with Section 716. The doors shall be close-fitting within operational tolerances and shall not have a center mullion, louvers, grilles, or door undercuts in excess of $\frac{3}{4}$ inch (19.1 mm). The doors shall have head and jamb stops and astragals or rabbets at meeting edges If allowed by the door manufacturer's listing, positive-latching devices are not required. 4. In Group I-1, Group I-2 and Group B ambulatory care facilities, where such doors are special-purpose horizontal sliding, accordion or folding door assemblies installed in accordance with Section 1010.1.4.3 and are automatic closing by smoke detection in accordance with Section 716.5.9.3.

...

BC 909.5.3



Source: gilgendoorsystems.com

Analysis:

This section was clarified to require that all “doors” in the fire barriers be “fire door assemblies.” However, there are exceptions. Per modified Exception #3, such opening protection is now also not needed in Occupancy Group I-1, and Occupancy Group B Ambulatory Care Facilities. However, a pair of opposite-swinging doors must be installed across a corridor in accordance specific specifications provided in this exception and Section 909.5.3.1

New Exception #4 added to allow, as an alternate to such opening protection, special purpose doors (horizontal sliding, accordion, etc.) that are automatic closing by smoke detection provided sections 1010.1.4.3 and 716.5.9.3 are also applied.

BC 909.5.3.1



Source: doorsincontrol.com

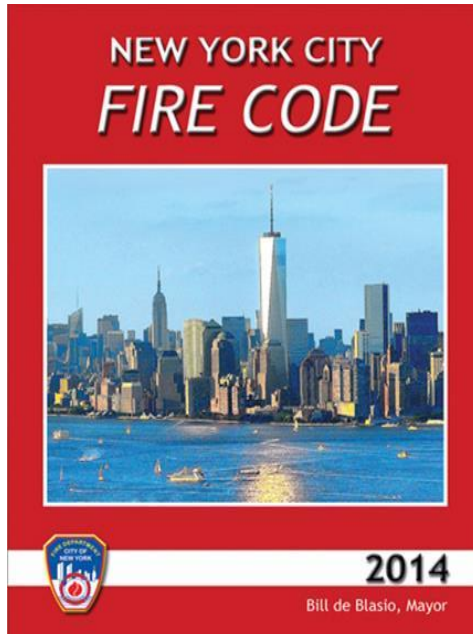
In Group I-2 and Group B ambulatory care facilities, where doors are installed across a corridor, the doors shall be automatic closing by smoke detection in accordance with Section 716.5.9.3 and shall have a vision panel with fire protection-rated glazing materials in fire protection-rated frames, the area of which shall not exceed that tested.

Analysis:

This new section was added as a result of modified Exception 3 of Section 909.5.3.

Where doors in such facilities are installed across a corridor. requires such doors to automatically close by activated smoke detector and have fire rated vision panels.

BC 909.6.3



Where stairways or elevator hoistways are pressurized, such pressurization systems shall comply with Section 909 of this code as smoke control systems, in addition to the requirements of Sections 909.20 and 909.21 of this code and the New York City Fire Code.

Analysis - New Section

Coordinates with 2022 BC Sections 909.20 (Smokeproof Enclosures), 909.21 (Alternate to Elevator Hoistway Pressurization) and the NYC Fire Code

BC 909.11.1



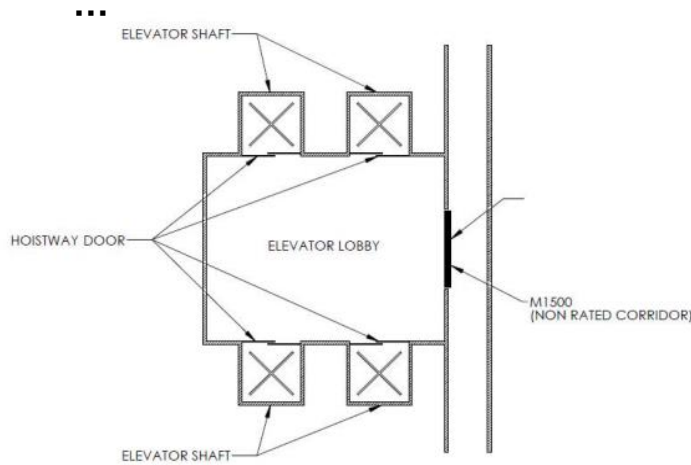
The standby power source shall be located in a room separate from the normal power transformers and switch gears and ventilated directly to and from the exterior. The room shall be enclosed with not less than 2-hour fire barriers constructed in accordance with Section 707, or with not less than 2-hour fire-resistance-rated horizontal assemblies constructed in accordance with Section 711, or both.

Analysis:

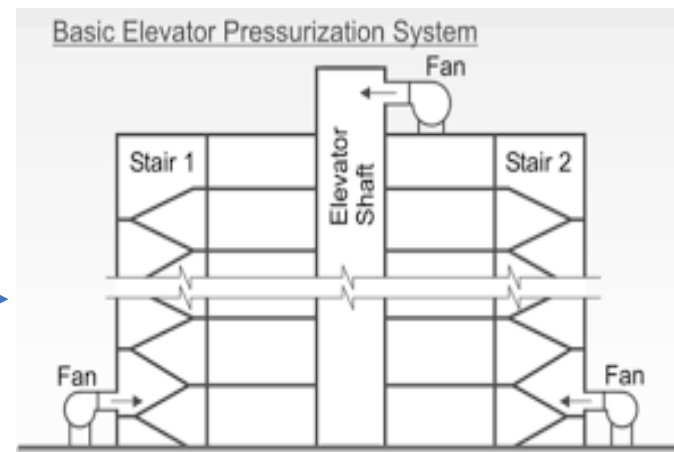
- NEW section; consistent with revisions to 2022 MC 513
- Increases fire resistance rating of separate Standby Generator Room to 2 hours

BC 909.21

Where elevator hoistway pressurization is provided in lieu of required enclosed elevator lobbies, the pressurization system shall comply with Sections 909.21.1 through 909.21.11.



Source: assets.smokeguard.com



Source: afaa-ne.org

Analysis:

- New section and its subsections
- Clarifies and Expands Requirements for Hoistway Pressurization, when used as alternative to enclosed (fire rated & smokeproof) elevator lobbies,
- Based on IBC

BC 909.21.6

The elevator pressurization system shall be activated upon activation of either the building fire alarm system or the elevator landing smoke detectors. Where both a building fire alarm system and elevator landing smoke detectors are present, each shall be independently capable of activating the pressurization system.

Analysis:

Clarifies requirements for activation of pressurization systems serving elevator hoistways

In general, tall buildings require longer evacuation times and deploy many methods for mitigating the transmission of smoke to maintain a tenable environment for evacuation purposes. One method is elevator shaft pressurization, which prevents smoke migration from a fire. Such hoistway's elevator is a possible means of egress for occupants with accessibility needs, who may not be able to safely use the stairwells

BC 910

Changes to smoke and heat vent or mechanical smoke removal systems

Analysis – Modified Requirement

This section modifies requirement of emergency captions for public announcements in stadiums, arenas, etc.

Coordinated with BC 1108.2.7.3 (Accessibility)

BC 910.1 & BC 910.2

General. Where required by this Code, smoke and heat vents or mechanical smoke removal systems shall conform to the requirements of this section.

BC 910.2 Smoke and heat vents or a mechanical smoke removal system shall be installed as required by Sections 910.2.1 and 910.2.2.

EXCEPTION:

1. Frozen-food warehouses used solely for storage of Class I and II commodities where protected by an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Smoke and heat removal shall not be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers.
3. Smoke and heat removal shall not be required in areas of buildings equipped with control mode special application sprinklers with a response time index of 50 (m.s)^{1/2} or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers.

Analysis:

2022 BC “Mechanical Smoke Removal Systems” replaces previous use of 2104 BC “draft curtains”

New BC 910.2 Exception #3 - recognizes alternative automatic fast response type sprinklers in lieu of smoke and heat vents in certain situations

BC 910.2.1 & BC 910.2.2

Group F-1 or S-1. Smoke and heat vents installed in accordance with Section 910.3 or a mechanical smoke removal system installed in accordance with Section 910.4 shall be installed in buildings and portions thereof used as a Group F-1 or S-1 occupancy having more than 50,000 square feet (4645.2 m²) of undivided area. In occupied portions of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.

BC 910.2.2 High-piled combustible storage. Smoke and heat removal for buildings and portions thereof containing high-piled combustible storage shall be installed in accordance with the New York City Fire Code and Section 413 of this code. Installation shall also be in conformance with Section 910.3 in unsprinklered buildings and portions thereof.

In buildings and portions thereof containing high-piled combustible storage equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a smoke and heat removal system shall be installed in accordance with Section 910.3 or 910.4. In occupied portions of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.

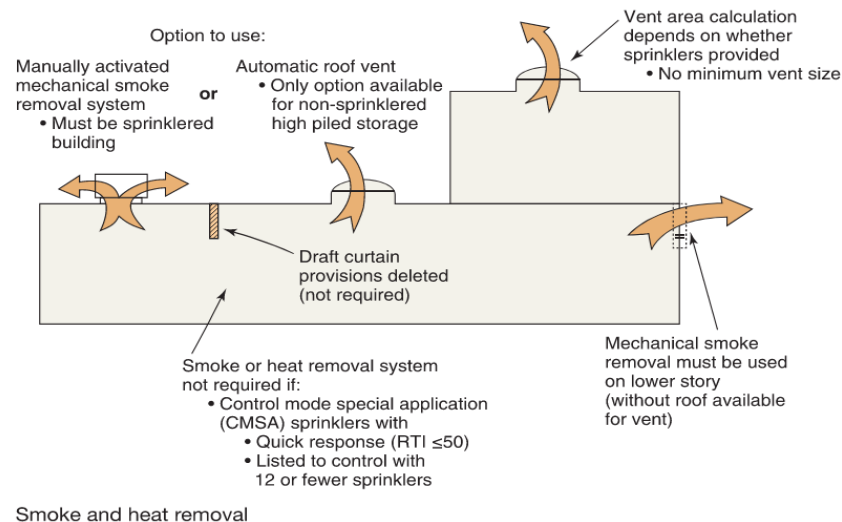
Analysis:

New requirement for fully sprinklered factory and storage occupancy buildings - Only a smoke removal system is allowed on those stories where the upper surface is NOT a roof assembly

BC 910.3

The design and installation of smoke and heat vents [and draft curtains] shall be in accordance with Sections 910.3.1 through 910.3.3.

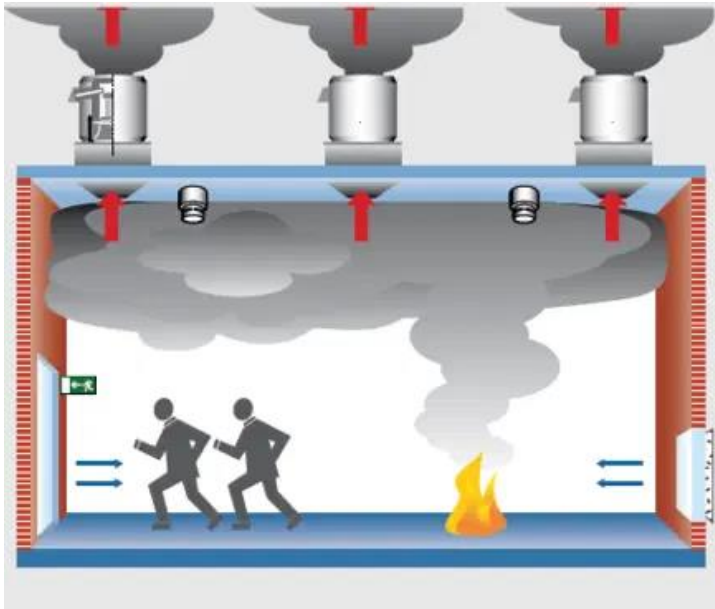
...



Analysis:

- **Draft curtains** were eliminated because of their possible adverse impact on the operation of smoke and heat removal systems.
- 2014 BC Table 910.3 was deleted and replaced with 2022 BC 910.3 subsection text containing equations on smoke & heat vent sizing

BC 910.4



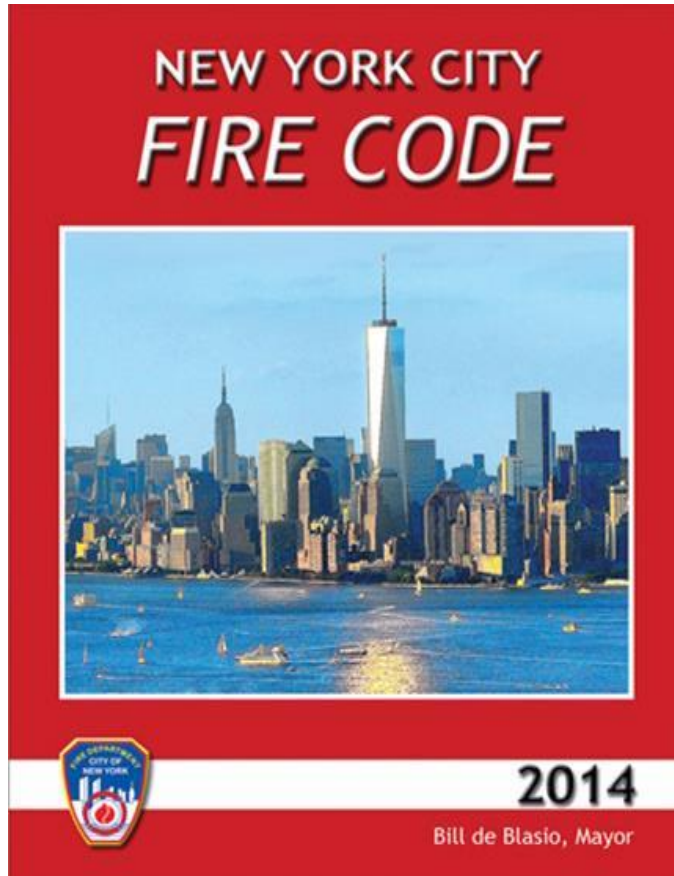
Source: [TROX GmbH](#)

Mechanical smoke removal systems shall be designed and installed in accordance with Sections 910.4.1 through 910.4.7. ...

Analysis:

Modifies requirements for smoke removal systems, including sprinkler requirements, exhaust fan construction, size and location of make-up air locations, and FDNY approved manual control location

CHAPTER 9: BC 910.5



Smoke and heat vents and mechanical smoke removal systems shall be maintained in accordance with the **New York City Fire Code**.

Analysis:

New section clarifies that maintenance coordination with the **Fire Code (“FC”)** is necessary, such as FC sections 909, 107, and 910

BC 911.2



Source: *Fire Alarms Certified*

Where required in locations described in Appendix G (Flood Requirements) of this Code, a secondary fire command center shall be provided subject to the approval of the Fire Department. Design and installation requirements shall be in accordance with NFPA 72. This is to assure that the fire alarm system is in proper working order in the event of a flood in the building which renders the main FCC to be inoperable.

Analysis:

Upgraded previous 2014 BC Appendix G requirements (Indicator Panel) and relocated to 2022 BC 911.2

When building is in a flood zone, a secondary (back-up) FCC is required; such FCC's design is per NFPA 72, which is reviewed and approved by FDNY

BC 913.2.1

EXCEPTION:

...

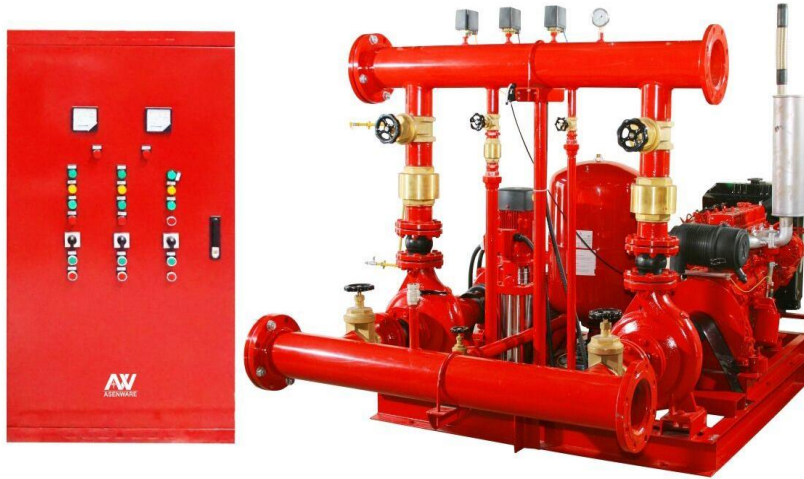
3. [Fire-rated] separation is not required for a fire pump, other than an automatic standpipe fire pump, where such fire pump is located in a mechanical equipment room, as defined by the New York City Mechanical Code, enclosed by 2-hour fire barriers constructed in accordance with Section 707 or 2-hour horizontal assemblies constructed in accordance with Section 711, or both. Refrigerants, gas piping, gas consumption devices, gas meters or any other gas equipment and fuel storage or fuel consuming appliances shall not be installed in any space housing a fire pump.

Analysis:

Exception 3 is modified to allow fire pumps, other than standpipe fire pumps, to be located in the same fire-rated room as other mechanical equipment.

However, fire pumps are not allowed in the same room as refrigerant, gas or fuel storage, fuel consuming appliances, high voltage electrical equipment, etc.

BC 913.2.2



Source: [ny-engineers](#)

Circuits supplying fire pumps. Cables used for survivability of circuits supplying fire pumps shall be in accordance with the New York City Electrical Code. Electrical circuit protective systems shall be installed in accordance with their listing requirements, and the New York City Electrical Code

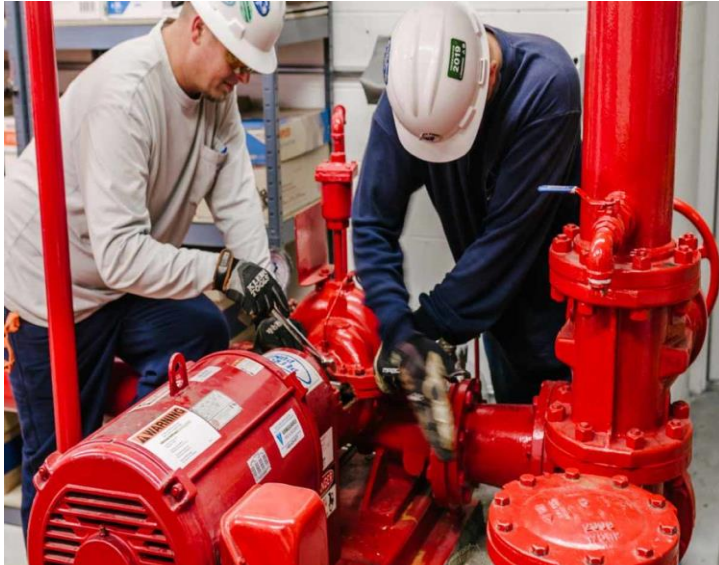
Analysis:

This new section modifies requirements for circuit survivability (Circuit Integrity Cabling “CI”) pertaining to fire pumps.

NYC Electrical Code Article 695, has three different methods for wiring fire pumps, one of these is “CI.”

Coordinated with BC Appendix Q (NFPA 20)

BC 913.5



Source: vanguard-fire.com

Acceptance test. Acceptance testing shall be done in accordance with the requirements of Section 1705.30 of this Code, the New York City Fire Code and NFPA 20. Refurbished or repaired fire pumps shall be tested in accordance with Section 1705.30 of this code, the New York City Fire Code and NFPA 20. All such tests shall be scheduled to include a department representative as a witness, if required.

Analysis:

Coordinate acceptance testing with 2020 BC 1705.30 Special Inspection and NFPA 20 requirements
DOB Representative must be present during such tests.

BC 916.3

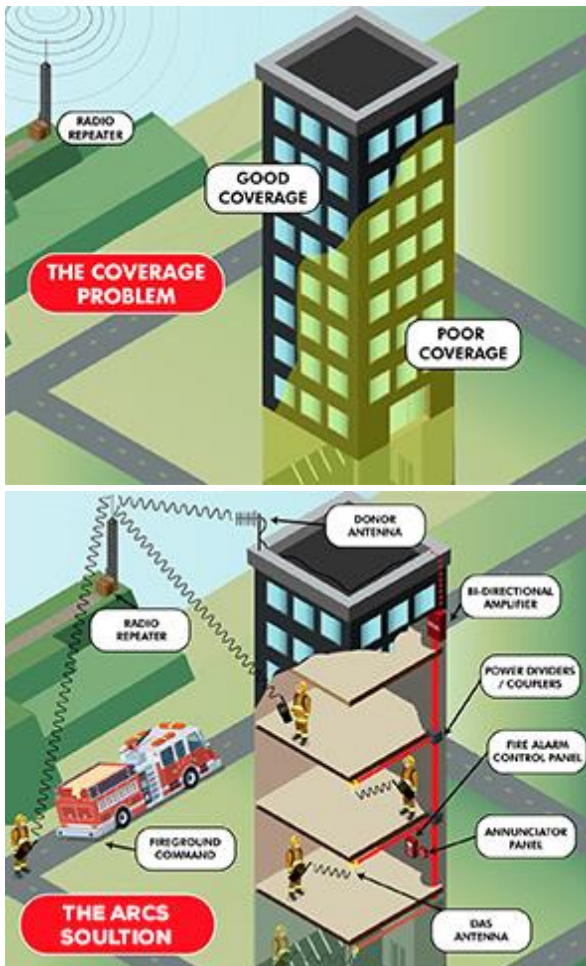
ARCS, which shall be in accordance with this section, shall be required in the following:

1. High-rise buildings constructed in accordance with Section 403.
2. Underground buildings constructed in accordance with Section 405.
3. Buildings having a total gross area exceeding 250,000 square feet (23 225.8 m²).

EXCEPTIONS:

1. Group R-2 buildings that meet all of the following requirements:
 - a. The highest occupied floor is less than 125 feet (38 100 mm) above the lowest level of Fire Department vehicle access;
 - b. The building has no more than 1 story below grade; and
 - c. The floor area of the building does not exceed 250,000 square feet (23 225.8 m²).
2. Where it is determined by the Fire Department that a radio communication system is not required.

BC 916.3



Source: afap.com

Analysis:

New section 916.3 to more clearly identified required installations and added areas where enhanced in-building radio communications are required as determined by FDNY:

Exceptions were added for R-2 buildings which met several conditions or when FDNY determined that ARCS is not required. The first new exception only requires ARCS in group R-2 buildings that are greater than 125', with only 1-story below grade and does not exceed 250,000SF. This represents the trade off with requiring one-way voice communication at 75' in Group R-2 buildings and clarifies where ARCS would still be needed, i.e., where the building has more than 1 story below grade.

BC 916.3



BC 917.2.4



Source: [innodez](#)

Interior exit stairways or ramps or exit passageways in occupancies other than Group R-2. Interior exit stairways or ramps or exit passageways shall not be used as a portion of the post-fire smoke purge system in occupancies other than Group R-2. Doors in interior exit stairways or ramps or exit passageways shall not be permitted to be used as a portion of the post-fire smoke purge system. Air transfer and duct openings associated with the post-fire smoke purge system shall not be permitted in the interior exit stairway or ramp or exit passageway.

Analysis:

This section clarifies that, in all non-R-2 occupancies, exit enclosures (exit stairs, exit passageways, etc.) cannot be used as a path for smoke removal when the post-fire smoke purge system is being operated by the fire department.

BC 918



Source: [coned](#)

Gas detection systems, including systems designed to detect flammable, toxic, asphyxiants and other gases, required by the New York City Construction Codes or the New York City Fire Code, shall comply with Sections 918.2 through 918.10 of this Code.

Analysis:

Section BC 918 is new and covers various types of gas detection systems. It codifies the design and testing requirements for such systems and includes, sensor locations, emergency power requirements, gas sampling, activation thresholds, alarms, shutoffs, and Fire Department connections.

In particular, the need for detection of leaks in hydrogen fuel gas rooms is now required because of other new sections in the NYC Construction Codes that deal with hydrogen fuel gas.

BC APPENDIX Q

*Modified National Standards For
Automatic Sprinkler, Standpipe, Fire
Pump, Fire Alarm & Smoke Control
Systems*

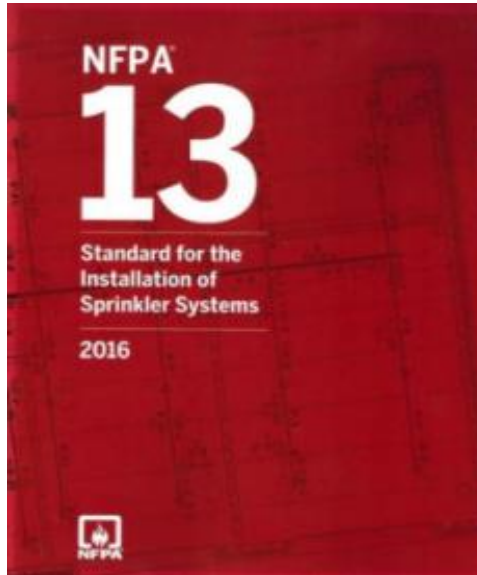
BC Appendix Q

- Q101 was modified to include NFPA 92, Standard for the Installation of Smoke Control Systems (2018 Edition).
- Q102, Q103, Q104, Q105, Q106 and Q107 modified to reference 2016 editions of NFPA 13, 13R, 13D, 14, 20 and 72



Q102 MODIFICATIONS TO NFPA 13

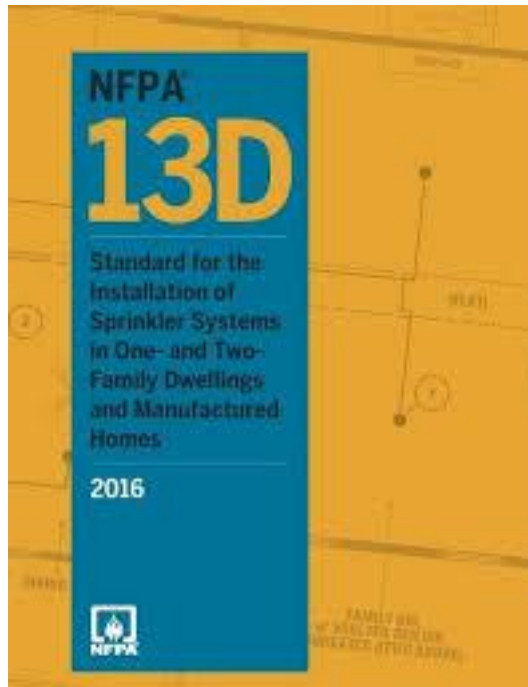
Q102 modifies the NFPA 13 Standard for the Installation of Sprinkler Systems (2016 Edition)



Highlight of NYC Amendments

- Use of nitrogen and other approved gases in dry pipe systems are included – Q102 amendments of the 2016 NFPA 13 were added to address gas supplies, which are now common in other jurisdictions.
- Included 2016 NFPA 13 requirements for interior glazing seeking a fire rating through the use of sprinkler protection, which were modified by Q102 to align with different types of glazing situations, specifically in reference to exterior lot line sprinkler protection.
- Additional text was added to facilitate the installation of pre-action piping
- Added text to address new signage requirements for identifying existing sprinkler systems

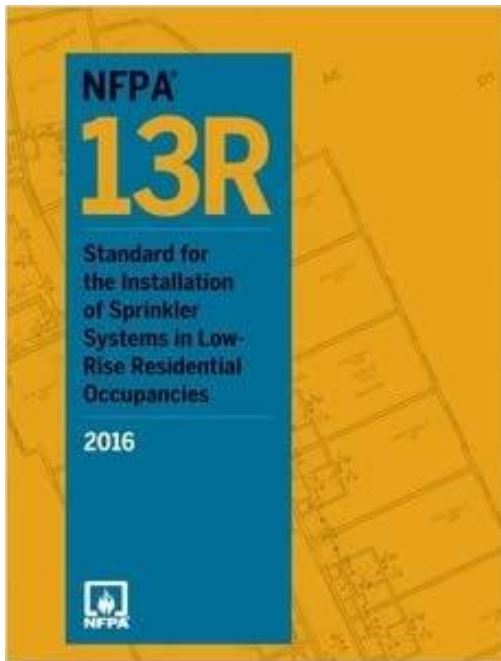
Q103 MODIFICATIONS TO NFPA 13D



Q103 modifies updated NFPA 13D
Standard for the Installation of Sprinkler
Systems in One- and Two-Family Dwellings
and Manufactured Homes (2016 Edition)

Q104 MODIFICATIONS TO NFPA 13R

Q104 modifies updated NFPA 13R Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies (2016 Edition)

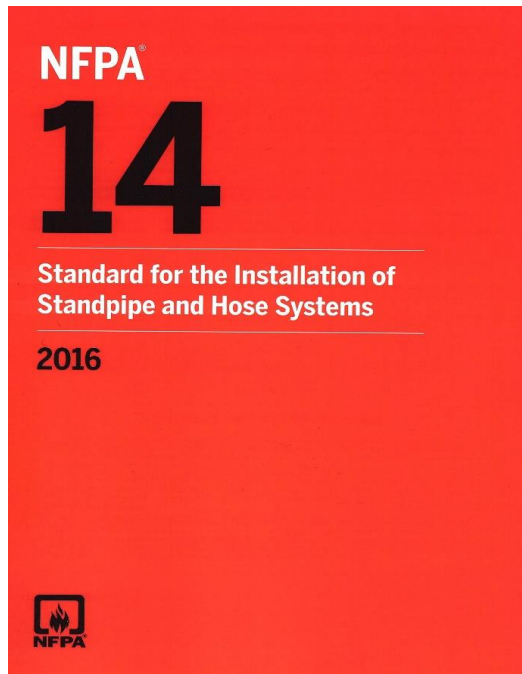


Highlight of NYC Amendments to 2016 NFPA 13R

- Clarifies building height, with respect to number of stories and measured height in feet, need to determine when a building must comply with this standard.
- Includes new NFPA 13R requirements for interior glazing seeking a fire rating through the use of sprinkler protection, which were modified by Q104 to align with different types of glazing situations, such as the fire rating of glazed exterior lot line walls with sprinkler protection

Q105 MODIFICATIONS TO NFPA 14

In general, Q105 now modifies the updated NFPA 14 Standard for the Installation of Standpipe and Hose Systems, **2016 Edition**.



Highlight of NYC Amendments

- Clarifies that pressure reducing valves on fire hose outlets, or when located downstream of hose valves, are NOT permitted, which aligns with FDNY standard operating procedures
- Clarifies that the maximum pressure on a standpipe may be imposed by the FDNY when supplying through a Fire Department Connection (“FDC”), which aligns with the **2019 edition** of NFPA 14.
- Hydrostatic test pressure requirements for acceptance were clarified. In particular, FDNY may need to impose higher test pressures on the system than the system water supply pressure.

Q105 MODIFICATIONS TO NFPA 14

In general, Q105 now modifies the updated NFPA 14 Standard for the Installation of Standpipe and Hose Systems, **2016 Edition**.

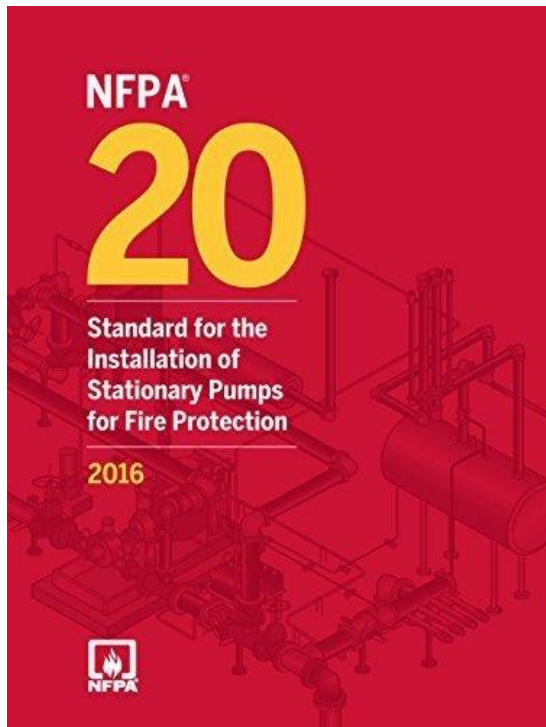


Highlight of NYC Amendments Continued...

- Definitions were added to clearly differentiate “Pressure Restricting Devices” from “Pressure Regulating Devices” and “Pressure Reducing Valves (no amendment to NFPA 14-2016)”
 - Pressure Restricting Devices are at the FDCs
 - Addition of the phrase "..., except for pressure-restricting devices supplying hose outlets" at the end of Sections 5.5.2.1 and 5.5.2.2 for clarity
- Deleted and replaced Section 7.2.4. ‘Master Pressure Reducing Valve (“PRV”) stations’ that are downstream of fire pumps are not permitted in NYC. However, under certain conditions, PRVs could be used, but only if approved by the Building Department Commissioner, likely in consultation with the FDNY.

Q106 MODIFICATIONS TO NFPA 20

Q106 now modifies the updated NFPA 20 Standard for the Installation of Stationary Pumps for Fire Protection, **2016 Edition.**

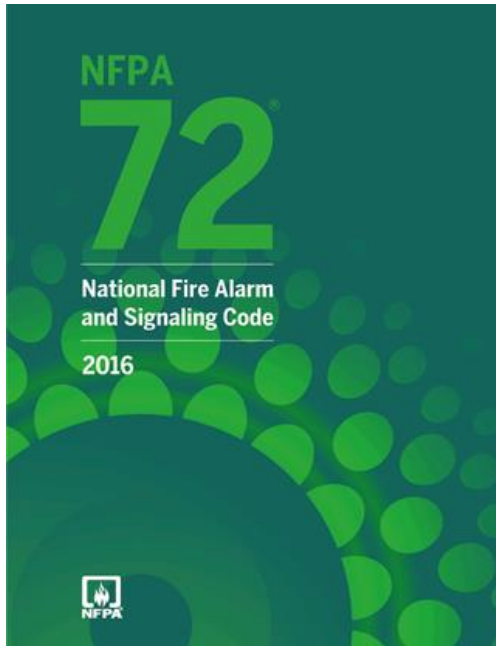


Highlight of NYC Amendments

- Added section 4.6.2.1.2 - Prevents possible contamination of potable water if draining a fire pump system; in particular, prevents draining back into a combination standpipe/domestic water tank during fire pump acceptance testing.
- Revised section 5.4 and added section 14.2.1.3 to clarify fire pump testing
- Section 10.5.4 was added to clarify that fire pump shutdown shall be performed manually by trained authorized personnel

Q107 MODIFICATIONS TO NFPA 72

Q107 now modifies the updated NFPA 72 National Fire Alarm and Signaling Code, **2016 Edition.**



Highlight of NYC Amendments

- New Chapter 7 “Documentation” added –Consists mostly of material contained in section 10.18 of 1RCNY 3616-04, which described NYC amendments to NFPA 72.
- Section 10.6.7.2.1 added - Addresses secondary power for two-way radio communication enhancement systems, to more accurately differentiate these requirements from those of the more general fire alarm system.
- Section 12.3.6.2.1 added – Discusses new technology used for Class-N Circuits; FDNY approval for Class-N circuits will be now be through their TM-4 process.
- Section 14.4.9 was added - ARCS to be inspected and operationally tested in accordance with FDNY operations and rules, thereby also aligning with BC 916.1.2.
- Sections 17.5.3.2.1 & 17.5.3.2.2 were added – Addresses partial & selective coverage smoke detection. Defines “Partial Coverage,” which is used throughout BC 907

Q107 MODIFICATIONS TO NFPA 72

Q107 modifies updated NFPA 72 National Fire Alarm and Signaling Code, **2016 Edition**

Highlight of NYC Amendments Continued...

- **Section 17.10.2.4** now included text from its previous Annex A – Clarifies that an engineering evaluation is to locate gas detection sensors, which is in coordination with new BC 918.
- **Section 21.9.1** was added – Clarifies that electrically locked egress doors, if allowed by other sections of the Code, must be connected fire alarm system.
- **Section 23.8.1.1.3** was added – Updates Event/Non-Event modes of operation for pre-signal systems in accordance with FDNY Bulletins & Variances.
- **Sections 24.5 & 24.6** – In-Building Mass Notification Systems or Wide-Area Mass Notification Systems shall not be installed unless approved by FDNY.
- **Section 26.6.3 added** – Single path transmission, for supervising central office communications, is prohibited.

Q107 MODIFICATIONS TO NFPA 72

Q107 was modified to update NFPA 72, National Fire Alarm and Signaling Code to the 2016 Edition.

Highlight of Changes Continued...

- Section 26.6.4.1.4 was added to update the means of transmission required for central office connection with new technologies.
- As part of the Hydrogen Fuel Gas package, a new section 17.10.2.4 was taken from the Annex and added to clarify the engineering analysis required for gas detection systems.

Q108 MODIFICATIONS TO NFPA 92



This section was modified to include NFPA 92, Standard for the Installation of Smoke Control Systems (2018 Edition).

Highlight of Changes

- The term “smoke barrier” was deleted from NFPA 92 and replaced with “smoke partition” in all instances. The definition of “smoke partition” in the NYC Building Code aligns with the definition of “smoke barrier” in NFPA 92. This change will assist in avoiding confusion and will not inadvertently require 1-hour smoke barriers in instances where they are not required by the Building Code.

BC CHAPTER 27

Electrical

BC 2702.1

Emergency power systems and standby power systems shall be installed in accordance with the New York City Electrical Code, NFPA 110 and NFPA 111.



Source: CAT

Figure 2702.1-1: Emergency Generator

Analysis:

This section was modified to clarify that when referring to emergency and standby power systems, the 2014 BC word **emergency** was replaced by **emergency power systems**.

BC 2702.1.1

Systems relying on fuel supplies shall have an on-premises fuel supply sufficient for not less than 6-hour full-demand operation of the system. However, natural gas from the public utility street main shall be permitted as the sole fuel supply for (i) emergency power systems serving Group R-2 occupancies, (ii) emergency power systems where permitted by Appendix G of this code, and (iii) standby power systems, provided that an outside gas cut-off valve separate from other gas services is installed in accordance with Section E.6 of Appendix E of the New York City Fuel Gas Code.



Source: [CAT](#)

Figure 2702.1.1-2: Natural Gas Generator

Analysis:

This section was modified to allow natural gas as the sole fuel supply for emergency power systems, where permitted by Appendix G of the Building Code.

BC 2702.1.2



Source: [Cummins](#)

Figure 2702.1.2-3: Multiple generators sharing a common room

Multiple generators supplying emergency power system loads only or supplying emergency power system equipment in combination with optional standby power loads as a common system may be located in the same room. Such generators may also share a common room, fuel supply and other common equipment and systems.

Analysis:

Text was added to clarify that multiple generators can share a common room when supplying power systems.

BC 2702.1.7

Automatic transfer devices, emergency generators and emergency or standby power system feeders shall comply with Sections 2702.1.7.1 through 2702.1.7.2.1.

2702.1.7.1 Prohibited location

All automatic transfer devices and power system feeders that serve emergency and required standby power system equipment shall not be located in the same room as the emergency power system equipment or the main or primary electrical service equipment. Where emergency and standby transfer devices are installed in accordance with Articles 700 and 701 of the New York City Electrical Code, automatic transfer devices for optional standby power systems shall not be installed in the same room.

Analysis:

This section has added text to clarify that automatic transfer devices for optional standby system shall not be located within the same room with emergency/standby equipment, including emergency automatic transfer switches.

BC 2702.1.7



Source: [WIKIMEDIA](#)

Figure 2702.1.7.1-4: Dedicated ATS Room for Emergency and Required Standby Systems

BC 2702.2.1.1



Source: [OnlinePower](#)

Figure 2702.2.1.1-5: UPS as an emergency power source for alarm communication system

In Prior Codes, buildings where a stationary generator is not otherwise required, the power source for emergency power to the voice/alarm communication system may be served by a gas generator or an uninterruptable power source (UPS) in accordance with the New York City Electrical Code.

Analysis:

In the past UPS was not allowed to be used in lieu of generators for emergency power. However, this new section allows, in this scenario, voice/alarm communication systems to be supplied from a UPS, or from a gas-powered generator for emergency power.

BC 2702.2.13



Source: [Hudson Yards New York](#)

Figure 2702.2.13-6: Hudson Yards Mall

Emergency power shall be provided for voice/alarm communication systems in covered and open mall buildings in accordance with Section 402.7.4.

Analysis:

This new section requires Emergency Power in both, Open and Covered Malls.

- Standby Power is no longer allowed in Covered Malls.

BC 2702.2.17

Standby power for elevators, including elevators provided to accommodate ambulance stretchers pursuant to Section 3002.4, shall be provided as set forth in Section 3003.1.

Analysis:

Eliminates previous 2014 BC text, *Controls, elevator cab lights, ventilation, and associated equipment required for elevator operation be connected to emergency power.*

Requirement for elevator cab lights to be connected to emergency power is now in Section 2702.2.20.1 for Occupancy Groups B, E and R-1.

In addition, per referenced Section 3003.1.4, where standby power is connected to elevators, machine room ventilation/air conditioning shall also be connected to the standby power source.

BC 2702.2.21

Standby power systems shall be provided for fans or fan systems being designed in accordance with Section 607.5 of the New York City Mechanical Code and Section 717 of this Code.

Analysis:

If an air handling system is installed/designed to provide return air under fire condition (i.e. continuous operation), such air handling system must be served by standby power.

This new section coordinates with MC 607.5.2.2, Exception 4, which states that in Public Corridors,

Smoke dampers shall not be required in ducts where the air continues to move and the air-handling system installed is arranged to prevent recirculation of exhaust or return air under fire emergency conditions or loss of normal power by provision of standby power in accordance with Chapter 27 of the New York City Building Code.

BC 2702.2.21

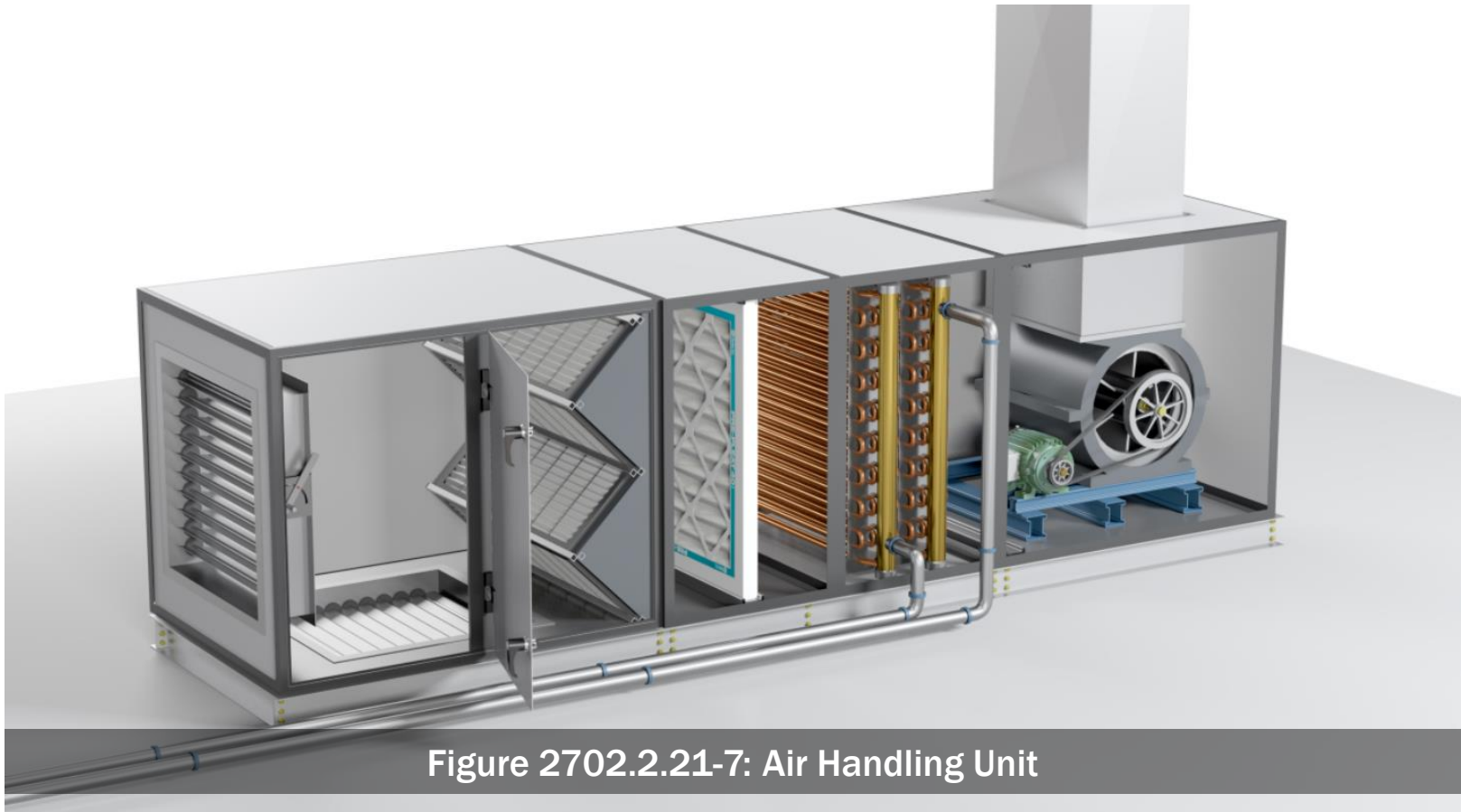


Figure 2702.2.21-7: Air Handling Unit

Source: [Douglas Bowker](#)

BC 2702.2.22

Figure 2702.2.22-8: Gas Detection System



Source: [Sierra Monitor Corp.](#)

Emergency power systems shall be provided for gas detection systems in accordance with **Section 918.5.**

Analysis:

This new section requires that gas detection system be connected to emergency power systems.

BC 2702.4

In addition to any other loads, optional standby power systems shall be capable of providing power to the following standby and emergency power loads upon failure of the normal power supply:

1. Emergency lighting;
2. Fire alarm systems; and
3. Elevators as follows:
 - 3.1. For Group R-2 occupancies in buildings greater than 125 feet (38 100 mm) in height, ...; or
 - 3.2. For all other buildings having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access,

BC 2702.4

EXCEPTION: Backup power systems that provide backup power for non-accessory public telecommunications equipment, such as rooftop telecommunications antennas, cooling equipment, routers, etc., need not provide power to the standby and emergency power loads listed in this section.

Analysis:

This above Exception clarifies that **Backup Power Systems**, which serves non-accessory public telecommunication equipment, such as rooftop antennas, does not need to power the additional loads that listed in this section, based on intent of previously issued **BB 2015-002**.

BC 2702.4



Figure 2702.4-9: Rooftop Antenna

Source: [Landmark Dividend](#)

BC 2702.4.1



Figure 2702.4.1-10: Existing Generator

Source: [Analogue Kid](#)

Where a functioning emergency power system or required standby power system is in place and provides power to all required emergency or required standby power loads, any additional optional standby power system need not supply power to such emergency or required standby power loads.

Analysis:

Clarifies requirements for optional standby power systems, based on previously issued BB 2015-002 (Section C)

BC 2702.4.2

Where an optional standby power system is required to supply emergency or required standby power loads, such power system shall comply with the UL 2200 listing and NFPA 110.



Figure 2702.4.2-12: UL Listed Logo

Source: [UL](#)



Figure 2702.4.2-11: NFPA Logo

Source: [NFPA](#)

Analysis:

Clarifies requirements for optional standby power systems, based on previously issued BB 2015-002 (Section D)

BC 2702.4.3

Where an optional standby power system is required to supply emergency or required standby power loads, such power system shall be subject to special inspection in accordance with Section 1704.31 and the rules of the Department.



Figure 2704.4.3-13: Special Inspection

Source: [Milrose Consultants](#)

Analysis:

Clarifies requirements for optional standby power systems, based on previously issued BB 2015-002 (Section E)

BC CHAPTER 7

Fire & Smoke Protection Features

BC 702.1

All definitions were relocated to BC Chapter 2. New terms were added:

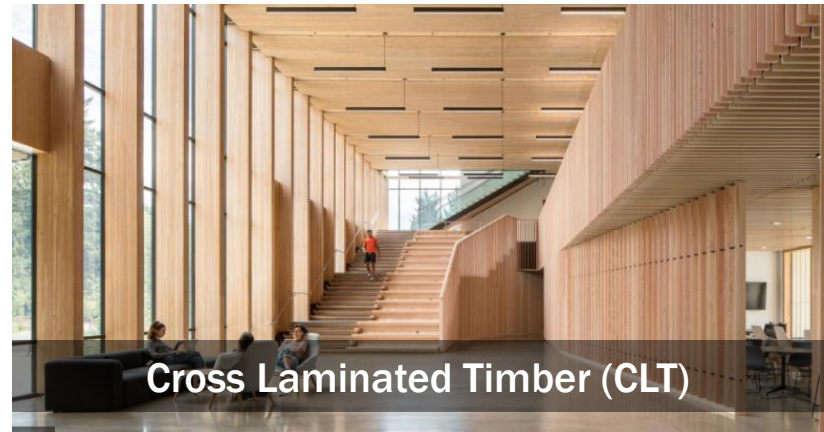
NEW TERMS	DEFINITION
Fire-rated Glazing	Glazing with either a fire protection rating or a fire-resistance rating.
Joint	The opening in or between adjacent assemblies that is created due to building tolerances or is designed to allow independent movement of the building in any plane caused by thermal, seismic, wind or any other loading.
L-rating	The air leakage rating of a through-penetration firestop system or a fire-resistant joint system when tested in accordance with UL 1479 or UL 2079, respectively.
Membrane-Penetration Firestop System	An assemblage consisting of a fire-resistance rated floor-ceiling, roof-ceiling or wall assembly, one or more penetrating items installed into or passing through the breach in one side of the assembly and the materials or devices, or both, installed to resist the spread of fire into the assembly for a prescribed period of time.
Splice	The result of a factory and/or field method of joining or connecting two or more lengths of a fire-resistant joint system into a continuous entity

BC 704.14

Fire retardant or intumescent coatings shall not be used to achieve the required fire-resistance rating on structural elements composed of heavy timber members including, but not limited to, glued-laminated members, cross laminated timber (CLT) or structural composite lumber (SCL).



Structural Composite Lumber (SCL)



Cross Laminated Timber (CLT)

Analysis:

New requirement which prohibits the used of fire retardant or intumescent coating to achieve the required fire resistance rating on mass timber elements.

BC 718.2.6

Architectural trim. Fireblocking shall be installed within concealed spaces of exterior wall coverings and other exterior architectural elements where permitted to be of combustible construction as specified in Section 1406 or where erected with combustible frames, at maximum intervals of 20 feet (6096 mm) so that there will be no open space exceeding 100 square feet (9.3 m²). Where wood furring strips are used, they shall be of approved wood of natural decay resistance or preservative treated wood. If non-continuous, such elements shall have closed ends, with at least 4 inches (101.6 mm) of separation between sections. **For the purposes of this section, fenestration products, and flashing of fenestration products and water-resistive barrier flashing and accessories at other locations, including through wall flashings and attachment accessories, shall not be considered combustible construction.**

Analysis:

As part of larger text changes for combustible exterior wall coverings, added new text to clarify that minor, non-contiguous, combustible components are not considered combustible construction.

BC 718.2.6: EXCEPTIONS

1. Fireblocking of cornices is not required in single-family dwellings. Fireblocking of cornices of a two-family dwelling is required only at the line of dwelling unit separation.
2. Fireblocking shall not be required where the exterior wall covering does not contain plastic or foam plastic insulation, is installed on noncombustible framing and the exterior wall covering is one of the following materials:
 - 2.1. Aluminum siding having a minimum thickness of 0.019 inch (0.5 mm).
 - 2.2. Corrosion-resistant steel siding not less than 0.016 inch (0.4 mm) at any point.
 - 2.3. **Walls in which the water-resistive barrier is the only combustible component, and the exterior wall has a wall covering of brick, concrete, stone, terra cotta, stucco or steel with minimum thicknesses in accordance with Table 1405.2.**
3. **Exterior wall coverings containing plastics, metal composite materials (MCM) or high-pressure decorative exterior-grade compact laminates (HPL) panels shall comply with Section 718.2.6.1.**

Analysis:

As part of larger text changes for combustible exterior wall coverings, modified Exc. 2 and 3 to exempt fireblocking when used with non-combustible exterior wall coverings and direct combustible exterior wall coverings to BC 718.2.6.1.

BC 718.2.6.1 & BC 718.2.6.1.1

Exterior wall coverings containing plastics, metal composite materials (MCM) or high-pressure decorative exterior-grade compact laminates (HPL) panels. Exterior wall coverings containing plastics complying with Chapter 26, metal composite materials (MCM) or high-pressure decorative exterior-grade compact laminates (HPL), shall be fireblocked.

718.2.6.1.1 Locations. Noncombustible fireblocking materials shall be required at all of the following locations to cut off concealed spaces within the exterior wall covering:

1. Around wall openings.
2. In alignment with the slab edge, for a height of not less than 8 inches (203.2 mm), and at maximum intervals of 20 feet (6096 mm) vertically.
3. Between different occupancy groups, horizontally or vertically, as applicable.

Analysis:

As part of larger text changes for combustible exterior wall coverings, new text added to require fireblocking when using combustible exterior wall coverings at specific locations.

BC 718.2.6.1.2

Foam plastic insulation. Foam plastic insulation in the exterior wall covering shall be interrupted with noncombustible materials approved for fireblocking at locations specified in Section 718.2.6.1.1.

EXCEPTIONS:

1. One-story buildings complying with Section 2603.4.1.4.
2. Fireblocking shall not be required at each floor level and interrupt the foam plastic insulation provided the foam plastic insulation has a flame spread index of not more than 25 as determined in accordance with ASTM E 84 or UL 723 and comply with the following conditions:
 - 2.1. Concrete and masonry veneer. Fireblocking material shall not be required at each floor level for concrete or masonry veneer installed less than 75 feet (22 860 mm) above grade as part of an exterior wall covering containing foam plastic insulation, with or without air space, and installed on masonry or concrete backup walls.

BC 718.2.6.1.2 (continued)

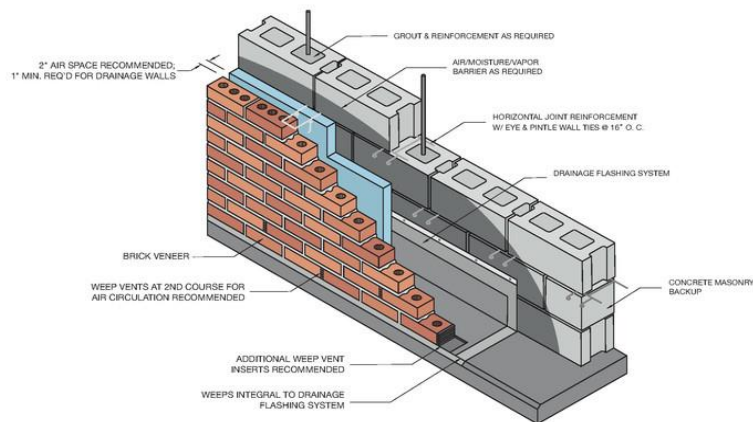
- 2.2. Exterior insulation and finish systems (EIFS). Fireblocking material shall not be required at each floor level for EIFS containing foam plastic insulation installed less than 75 feet (22 860 mm) above grade and installed on masonry or concrete backup walls.
1. Detached one- and two-family dwellings. Fireblocking of foam plastic insulation shall not be required at each floor level in detached one- and two-family dwellings of Type V construction that do not exceed three stories or 40 feet (12 192 mm) in height above grade plane.

BC 718.2.6.1.2

Analysis:

As part of larger text changes for combustible exterior wall coverings, new text added to require that foam plastic insulation used in combustible exterior wall coverings to be interrupted with non-combustible materials, i.e. fireblocking.

Exceptions provided for 1-story buildings and detached 1-/2-family buildings. Also, where concrete/masonry veneer or EIFS is installed on masonry or concrete back-up walls and the building is a non-high-rise building, fireblocking at floor slabs is not required.



Source: archdaily.com



Source: stocorp.com

RELOCATION OF SECTIONS THROUGHOUT BC CHAPTER 7

2014		2022	
SECTION	TITLE	SECTION	TITLE
708	Shaft Enclosures	708	Fire Partitions
709	Fire Partitions	709	Smoke Barriers
710	Smoke Barriers	710	Smoke Partitions
711	Smoke Partitions	711	Horizontal Assemblies
712	Horizontal Assemblies	712	Vertical Openings (NEW)
713	Penetrations	713	Shaft Enclosures
714	Fire-Resistant Joint Systems	714	Penetrations

RELOCATION OF SECTIONS THROUGHOUT BC CHAPTER 7 *(continued)*

2014		2022	
SECTION	TITLE	SECTION	TITLE
715	Opening Protectives	715	Fire- Resistant Joint Systems
716	Ducts and Air Transfer Openings	716	Opening Protectives
717	Concealed Spaces	717	Ducts and Air Transfer Openings
718	Fire-Resistance Requirements for Plaster	718	Concealed Spaces
719	Thermal and Sound Insulating Materials	719	Fire-Resistance Requirements for Plaster
720	Prescriptive Fire Resistance	720	Thermal and Sound Insulating Materials
721	Calculated Fire Resistance	721	Prescriptive Fire Resistance

RELOCATION OF SUBSECTIONS IN HORIZONTAL ASSEMBLIES (2022)

2014		2022	
SECTION	TITLE	SECTION	TITLE
712.2	Materials	711.2.1	Materials
712.3	Fire-resistance rating	711.2.4	Fire-resistance rating
712.3.1	Ceiling panels	711.2.5	Ceiling panels
712.3.2	Access doors	712.2.13.2	Access doors
712.3.3	Unusable space	711.2.6 & 711.2.7	Assigned to two new sections Crawl Spaces & Attic Spaces
712.4	Continuity	711.2 & 711.3.2	Continuity
712.5	Penetrations	Deleted	
712.6	Joints	712.1.5.1	Joints in or between horizontal assemblies
712.7	Ducts and air transfer openings	712.1.6	Ducts and air transfer openings
712.8	Floor Fire Door assemblies	Deleted	
712.9	Smoke Barrier	Deleted	

RELOCATION OF SUBSECTIONS IN VERTICAL OPENINGS (2022)

2014	→	2022
SECTION	SECTION	TITLE
708.2 Exception 1	712.1.2	Individual dwelling unit
708.2 Exception 2	712.1.3	Escalator openings
708.2 Exception 2.1	712.1.3.1	Opening Size
708.2 Exception 2.2	712.1.3.2	Automatic Shutters
708.2 Exception 4	712.1.6	Ducts and air transfer openings
708.2 Exception 5	712.1.7	Atriums
708.2 Exception 6	712.1.8	Masonry Chimney
708.2 Exceptions 7 – 7.7	712.1.9	Two-story Openings
708.2 Exception 8	712.1.10.1	Automobile Ramps
708.2 Exception 14	712.1.10.2	Elevators
708.2 Exception 15	712.1.10.3	Duct Systems
708.2 Exception 9	712.1.11	Mezzanine
708.2 Exception 13	712.1.14	Group I-3
708.2 Exception 16	712.1.16	Openings otherwise permitted

RELOCATION OF SUBSECTIONS IN VERTICAL OPENINGS (2022)

continued

2014		→	2022	
SECTION	TITLE		SECTION	TITLE
712.8	Floor fire door assemblies		712.1.13.1	Horizontal Fire Door Assemblies
712.3.2	Access doors		712.1.13.2	Access Doors
712.4	Continuity		712.1.15	Skylights

RELOCATION OF SUBSECTIONS IN SHAFT ENCLOSURES (2022)

2014			2022	
708.1	General		713.1	General
708.1	Shaft enclosure required		713.2	Construction
708.3	Materials		713.3	Materials
708.4	Fire-resistance rating		713.4	Fire-resistance rating
708.7.1	Prohibited openings		713.7.1	Prohibited openings
708.8	Penetrations		713.8*	Penetrations
708.8.1	Prohibited penetrations		713.8.1	Prohibited penetrations
708.9	Joints		713.9	Joints
708.10	Ducts and air transfer openings		713.10	Ducts and air transfer openings
708.11	Enclosure at the bottom		713.11	Enclosure at the bottom
708.12	Enclosure at the top		713.12	Enclosure at the top
708.12.1	Smoke venting of stair and other closed shafts		713.12.1	Smoke venting of stair and other closed shafts

RELOCATION OF SUBSECTIONS IN SHAFT ENCLOSURES (2022) - *continued*

2014 BC		→	2022 BC
708.13	Refuse and laundry chutes	713.13	Waste and linen chutes, including discharge rooms, and incinerator rooms.
708.13.1	Refuse and laundry chute enclosures	713.13.1	Waste and linen
708.13.2	Materials	713.13.2	Materials
708.13.3	Refuse and laundry chute access rooms	713.13.3	Waste and linen chute access room
708.13.4	Termination room	713.13.4	Chute discharge room
708.13.5	Incinerator room	713.13.5	Incinerator room
708.13.6	Automatic fire sprinkler system	713.13.6	Automatic fire sprinkler system
708.14	Elevator, dumbwaiter and other hoistways	713.14	Elevator, dumbwaiter and other hoistways



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