

Village of Northbrook

ARTICLE VII. FIRE PREVENTION CODE

Sec. 6-101 Adoption of the International Fire Code.

There is hereby adopted by the Village the 2012 International Fire Code, as hereinafter amended (hereinafter the "Fire Code"). At least one copy of the International Fire Code has been on file in the office of the village clerk for a period of at least thirty (30) days prior to the adoption of these provisions and now are and remain on file in the office of the Village Clerk, and the same are hereby adopted and incorporated as fully as if set out at length herein. The provisions of the International Fire Code, 2012 edition, published by the International Code Council, Inc. are hereby adopted by this reference, subject only to the additions, deletions and modifications specifically set forth in section 6-102 of this code.

Sec. 6-102 Additions, deletions and modifications of the International Fire Code.

The following sections of the aforesaid International Fire Code 2012 edition are hereby amended, deleted or modified as hereinafter set forth:

1 Subsection 101.1 Title.

Insert "the Village of Northbrook, Cook County, Illinois" for [name of jurisdiction]."

2 Subsection 102.7.1 Conflicts. Delete the entire subsection and replace with the following:

102.7.1 Conflicts. Where differences occur between the provisions of this code and the referenced standards, the most stringent provision shall apply.

3 Section 108 Board of appeals. Delete this section in its entirety.

4 Subsection 109.3 Violation penalties. Delete this section in its entirety.

5 Subsection 111.4 Failure to comply. Modify the last sentence so the subsection reads as follows:

111.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine, as established in this Code.

6 Subsection 102.7.3 Adopted Standards. Add a new subsection to read as follows:

102.7.3 Adopted Standards. The following NFPA Standards are to be adopted in their entirety. The appendixes of all adopted NFPA standards are to be considered as a part of each standard and are considered a 'shall' requirement and not 'should' information". This will require all system installations to be installed per NFPA requirements and NFPA recommendations for good engineering practices and installations.

- a) NFPA 10 Portable Fire Extinguishers, 2010 edition
- b) NFPA 13 Automatic Sprinkler Systems, 2010 edition
- c) NFPA 13R Sprinkler Systems in Residential Occupancies, 2010 edition
- d) NFPA 13D Installation of Sprinklers in One and Two-Family Dwellings, 2010 edition
- e) NFPA 14 Standpipe and Hose Systems, 2010 edition
- f) NFPA 15 Water Spray Fixed Systems, 2012 edition
- g) NFPA 16 Installation of Foam Water Sprinkler and Foam Water Spray Systems, 2011 edition
- h) NFPA 20 Installation of Centrifugal Pumps, 2010 edition
- i) NFPA 24 Installation of Private Fire Service Mains and their Maintenance, 2010 edition

- j) NFPA 25 Inspection, Testing and Maintenance of Water Based Fire Protection Systems, 2011 edition
- k) NFPA 70 National Electrical Code, 2011 edition
- l) NFPA 72 National Fire Alarm Code, 2010 edition
- m) NFPA 96 Installation of Equipment for the Removal of Smoke and Grease Laden Vapors for Commercial Cooking Equipment, 2011 edition
- n) NFPA 101 The Life Safety Code, as adopted by the OSFM
- o) NFPA 1123 Fireworks Display, 2010 edition
- p) NFPA 1124 Manufacture, Transportation, Storage and retail sales of fireworks and pyrotechnics, 2012 edition

7. Subsection 307.4 Location. Delete exception 2 so this subsection reads as follows:

307.4 Location. The location for open burning shall not be less than 50 feet (15 240 mm) from any structure, and provisions shall be made to prevent the fire from spreading to within 50 feet (15 240 mm) of any structure.

Exceptions:

1. Fires in approved containers that are not less than 15 feet (4572 mm) from a structure.

8. Subsection 307.4.1 Bonfires. Add language after the last sentence of this subsection so it reads as follows:

307.4.1 Bonfires. A bonfire shall not be conducted within 50 feet (15 240 mm) of a structure or combustible material unless the fire is contained in a barbecue pit. Conditions which could cause a fire to spread within 50 feet (15 240 mm) of a structure shall be eliminated prior to ignition. Bonfires shall not exceed 4 feet in diameter and/or 16 square feet. Bonfires may only contain cut, natural wood.

9. Subsection 307.4.2 Recreational fires. Delete this section in its entirety.

10. Subsection 307.5 Attendance. Add language at the end of this subsection so it reads as follows:

307.5 Attendance. Open burning, bonfires, recreational fires and use of portable outdoor fireplaces shall be constantly attended until the fire is extinguished. A minimum of one portable fire extinguisher complying with Section 906 with a minimum 4-A rating or other approved on-site fire-extinguishing equipment, such as dirt, sand, water barrel, garden hose or water truck, shall be available for immediate utilization. The fire code official may require a fire watch consisting of a fully manned fire suppression apparatus, if in his/her opinion the conditions of the permit request deem it necessary. The cost of this fire watch shall become the responsibility of the applicant.

11. Subsection 503.2.1 Dimensions. Add language after the last sentence so this subsection reads as follows:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm). The road shall be constructed with the capability to handle 80,000 pounds (weight of fully loaded fire apparatus).

12. Subsection 506.3 Electric shunt switch. Add a new subsection to read as follows:

506.3 Electric shunt switch. An electric Knox shunt/shut off switch shall be required in buildings of all use groups with multiple electric services. The switch will be mounted next to main Knox box or at a location specified by the fire code official.

- a) Switch should be mounted at a height of 6 (six) feet from the finished floor.
- b) The Knox box shall be clearly identified as EMERGENCY ELECTRICAL SHUT OFF.
- c) A sign indicating the address range the emergency electrical shut off powers down shall be affixed near the box with a permanent weather proof sign.

13. Subsection 505.3 Wood truss warning sign. Add a new subsection to read as follows:

505.3 Wood truss warning sign. The owner of any commercial, industrial-structure which has a wooden truss roof assembly shall be required to mount warning signs meeting the following minimum requirements:

- a) Size and Construction: A four (4") red metallic letter 'T' sign located on the front and rear entrances (preferably under the building address), or in a location to be determined by the fire code official.
- b) Property owner responsibility: It shall be the responsibility of each property owner to mount, maintain, and prevent obstruction of any warning signs required to be mounted on the building or structure.

14. Subsection 507.5.1.1 Hydrant for Fire Department connections. Delete this subsection in its entirety and insert a new title and language so it reads as follows:

507.5.1.1 Hydrant for Fire Department connections. Hydrants shall be located within 100 feet to any fire department sprinkler or standpipe connection as determined by the fire code official.

15. Subsection 509.2.1 Access to fire equipment. Add a new subsection to read as follows:

509.2.1 Access to fire equipment. In other than 13D sprinkler systems, where there is no common area, fire alarm panels and sprinkler system valves shall be located in a room accessible only to fire personnel from the exterior of the building. The fire department shall have access at any time to such equipment without entering an individual dwelling unit or private space.

16. Subsection 607.1.1 Automatic elevators for Fire Department use. Add new subsection as follows:

607.1.1 Automatic elevators for Fire Department use. Where elevators are provided in buildings that are: (1) three or more stories above grade plane; (2) three or more stories below grade plane; or (3) are use groups I, R-1 or R-2, at least one elevator shall be provided for fire department emergency access to all floors. The power supply for these elevators shall be normally provided by the premises' electrical supply. In the event of a power supply failure, an emergency electrical system shall automatically provide power for a duration of not less than 24 hours, installed per section 604. Elevators designated as emergency access shall be measured on the inside face of the car and shall be not less than 6'-0" X 7'-0 (1830mm X 2135mm) nominal and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoist way door frame.

17. Subsection 901.2.3. Fire alarm design credentials. Add a new subsection as follows:

901.2.3. Fire alarm design credentials. Fire alarm designers must be either NICET Level III certified or a State certified Physical Engineer (PE).

18. Subsection 903.2.1.1 Group A-1. Delete the entire subsection and replace with the following:

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided throughout all Group A-1 occupancies.

19. Subsection 903.2.1.2. Group A-2. Delete the entire subsection and replace with the following:

903.2.1.2. Group A-2. An automatic sprinkler system shall be provided throughout all Group A-2 occupancies.

20. Subsection 903.2.1.3. Group A-3. Delete the entire subsection and replace with the following:

903.2.1.3. Group A-3. An automatic sprinkler system shall be provided throughout all Group A-3 occupancies.

21. Subsection 903.2.1.4. Group A-4. Delete the entire subsection and replace with the following:

903.2.1.4. Group A-4. An automatic sprinkler system shall be provided throughout all Group A-4 occupancies.

22. Subsection 903.2.1.5. Group A-5. Delete the entire subsection and replace with the following:

903.2.1.5. Group A-5. An automatic sprinkler system shall be provided throughout all Group A-5 occupancies.

23. Subsection 903.2.1.6. Group B. Add a new subsection as follows:

903.2.1.6. Group B. An automatic sprinkler system shall be provided throughout all Group B occupancies.

24. Subsection 903.2.2. Ambulatory care facilities. Delete the entire subsection and replace with the following:

903.2.2 Ambulatory care facilities. An automatic sprinkler system shall be installed throughout the entire floor containing an ambulatory care facility.

25. Subsection 903.2.3 Group E. Delete the entire subsection and replace with the following:

903.2.3. Group E. An automatic sprinkler system shall be provided throughout all Group E occupancies.

26. Subsection 903.2.4. Group F-1. Delete the language in this subsection and the related subsection 903.2.4.1 within it and replace it with the following:

903.2.4. Group F-1. An automatic sprinkler system shall be provided throughout all Group F-1 occupancies.

27. Subsection 903.2.5. Group H. Delete the entire subsection and replace with the following:

903.2.5. Group H. An automatic sprinkler system shall be installed in all Group H occupancies.

28. Subsection 903.2.6. Group I. Delete the entire subsection and replace with the following:

903.2.6. Group I. An automatic sprinkler system shall be installed in all Group I occupancies.

29. Subsection 903.2.7. Group M. Delete the entire subsection and replace with the following:

903.2.7. Group M. An automatic sprinkler system shall be installed in all Group M occupancies.

30. Subsection 903.2.8. Group R. Delete the language in this subsection and the related subsections within it and replace it with the following:

903.2.8. Group R. An automatic fire sprinkler system shall be installed in all Group R occupancies.

- 31. Subsection 903.2.9. Group S-1. Delete the entire subsection and replace with the following:**
903.2.9. Group S-1. An automatic sprinkler system shall be installed in all Group S-1 occupancies.
- 32. Subsection 903.2.9.1. Repair garages. Delete the entire subsection and replace with the following:**
903.2.9.1. Repair garages. An automatic sprinkler system shall be installed in all buildings used as repair garages.
- 33. Subsection 903.2.9.2. Bulk storage of tires. Delete the entire subsection and replace with the following:**
903.2.9.2. Bulk storage of tires. An automatic sprinkler system shall be installed in all buildings used for the bulk storage of tires.
- 34. Subsection 903.2.10. Group S-2. Delete the entire subsection and replace with the following:**
903.2.10. Group S-2. An automatic sprinkler system shall be provided throughout all buildings classified as an enclosed parking garage.
- 35. Subsection 903.2.10.1. Commercial parking garages. Delete the entire subsection and replace with the following:**
903.2.10.1. Commercial parking garages. An automatic sprinkler system shall be provided throughout all buildings used for storage of commercial trucks, trailers, transport container units or buses.
- 36. Subsection 903.2.11.1. Stories without openings. Delete the exception in this subsection so it reads as follows:**
- 37. Subsection 903.2.11.1.3. Basements. Delete the entire subsection and replace with the following:**
903.2.11.1.3. Basements. An automatic sprinkler system shall be installed in all stories and basements without openings."
- 38. Subsection 903.2.10.1.2. Openings on one side only. Delete the entire subsection and replace with the following:**
903.2.10.1.2. Openings on one side only. Where openings in a story are provided on only one side and the opposite wall of such story, the story shall be equipped throughout with an automatic sprinkler system.
- 39. Subsection 903.2.10.1.3. Basements. Delete the entire subsection and replace with the following:**
903.2.10.1.3. Basements. All basements shall be equipped throughout with and approved automatic sprinkler system.
- 40. Subsection 903.3.1.1.1. Exempt locations. Delete this section in its entirety.**
- 41. Subsection 903.3.5.1.1. Limited area sprinkler systems. Add language at the end of the first sentence of this subsection so it reads as follows:**
903.3.5.1.1 Limited area sprinkler systems. Limited area sprinkler systems serving fewer than 20 sprinklers on any single connection are permitted to be connected to the domestic service where a wet automatic standpipe is not available for commercial buildings seven hundred fifty (750) square feet or less per the discretion of the Northbrook Fire Department. Limited area sprinkler systems connected to domestic water supplies shall comply with each of the following requirements:

1. Valves shall not be installed between the domestic water riser control valve and the sprinklers.

Exception: An approved indicating control valve supervised in the open position in accordance with Section 903.4.

2. The domestic service shall be capable of supplying the simultaneous domestic demand and the sprinkler demand required to be hydraulically calculated by NFPA 13, NFPA 13D or NFPA 13R.

42. Subsection 903.3.5.3. Safety factor. Add new subsection as follows:

903.3.5.3. Safety factor. Hydraulically calculated sprinkler systems shall maintain a minimum of 10% or five (5) pounds per square inch cushion (whichever is greater) between the seasonal low water supply and the total sprinkler demand. The total sprinkler demand shall include the sprinkler demand and the hose stream demand.

43. Subsection 903.3.5.4. Multi-tenant occupancy. Add new subsection as follows:

903.3.5.4. Multi-tenant occupancy. When an automatic fire suppression system is installed in a new multi tenant building, each tenant shall have its own sprinkler supply line off the main or riser with its own water flow switch and control valve. A strobe light shall be mounted on the exterior front of that tenant space and as indicated in Section 903.4. The strobe light shall activate upon water flow and/or fire alarm activation within the individual unit

44. Subsection 903.3.7. Fire Department connections. Add new subsection as follows:

903.3.7. Fire Department connections. The fire department connection shall be located on the front of the building or at a location approved by the fire code official. The fire department connection shall consist of one four-inch Storz coupling on a 30-degree elbow mounted between 36 inches and 48 inches above the finished floor.

45. Subsection 903.4.2. Alarms. Add language after the second sentence of this subsection so it reads as follows:

903.4.2 Alarms. An approved audible device, located on the exterior of the building in an approved location, shall be connected to each automatic sprinkler system. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. An exterior audio/visual device shall be located over the fire department connection in addition to the alarm bell. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

46. Subsection 903.4.3. Floor control valves. Delete the entire subsection and replace with the following:

903.4.3. Floor control valves. Approved supervised indicating control valves and waterflow devices shall be provided at the point of connection to the riser on each floor in any buildings over two stores above or below grade.

47. Subsection 903.4 Where required. Add new subsection as follows:

903.4 Where required: automatic fire suppression sprinkler systems shall be installed where required by this Code throughout existing commercial buildings and structures when there is a 2,000 square foot or greater aggregate increase in the footprint of the building or structure, or a change in use group classification which increases the recognized fire hazard for the building or structure.

However, in no case shall the increase cause an un-sprinkled building to be greater than 4,000 square feet gross floor area.

48. Subsection 905.3.1. Building height. Delete the first sentence of the subsection and substitute a new sentence so it reads as follows:

905.3.1 Height. Class III standpipe systems shall be installed throughout buildings where the floor level is greater than two stories in height or more than one story below grade.

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 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.
3. 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. Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.
5. In determining the lowest level of fire department vehicle access, it shall not be required to consider:
 - 5.1. Recessed loading docks for four vehicles or less, and
 - 5.2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

49. Subsection 905.5 Location of Class II standpipe hose connections. Delete the entire subsection and replace with the following:

905.5 Location of Class II standpipe hose connections. Class II systems are not permitted. Any requirement for standpipes shall be achieved by Class I or III systems.

50. Subsection 907.1.3.1 Addressable systems. Add new subsection as follows:

907.1.3.1 Addressable systems. All fire alarm systems shall be of point addressable type."

51. Subsection 907.2 Where required in new buildings and structures. Delete subsection and substitute:

907.2 Where required in new buildings and structures. An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.23, including buildings with a fire alarm control unit required to monitor a required sprinkler system and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

A minimum of one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or water-flow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

52. Subsection 907.21. Radio transmission. Add new subsection as follows:

907.21. Radio transmission. All fire protective signaling systems required by this Code or voluntarily installed by the owner of the building or structure shall be equipped with a wireless system operating on radio transmissions and shall be fully compatible with the receiving equipment at the owner's selected private central station or the fire department's emergency signal receiving equipment at its central answering point, as applicable. Any such system shall comply with the requirements of this Section 917 and such other technical standards as are necessary and required by the code official. The requirements of this section shall apply only to new fire protective signaling systems for which a building permit is issued after August 25, 2001, unless otherwise provided by this Code.

53. Subsection 909.20.6 Fan shut down. Add new subsection as follows:

909.20.6 Fan shut down. In a garage setting in which a carbon monoxide detection controls the activation of an exhaust system the exhaust system must shut down upon the activation the fire detection and/or suppression systems. There shall be a manual override control device installed at the direction of the Fire Code Official.

54. Subsection 913.4 Valve supervision. Delete subparagraphs 3 and 4 of this subsection so it reads as follows:

913.4 Valve supervision. Where provided, the fire pump suction, discharge and bypass valves, and the isolation valves on the backflow prevention device or assembly shall be supervised open by one of the following methods.

1. Central-station, proprietary or remote-station signaling service.
2. Local signaling service that will cause the sounding of an audible signal at a constantly attended location.

55. Subsection 913.6 Sprinkler-Fire pump room. Add new subsection as follows:

913.6 Sprinkler-Fire pump room. Provide a minimum 2 hour rated enclosure with an automatic fire suppression system with both an outside door at grade and an interior door access". When below grade, the room shall be accessed by a two-hour rated corridor immediate adjacent to a rated stairwell enclosure.

56. Subsection 914.2.1. Automatic sprinkler system. Delete the exception so this subsection reads as follows:

914.2.1 Automatic sprinkler system. Covered and open mall buildings and buildings connected shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, which shall comply with the all of the following:

1. The automatic sprinkler system shall be complete and operative throughout occupied space in the mall building prior to occupancy of any of the tenant spaces. Unoccupied tenant spaces shall be similarly protected unless provided with approved alternative protection.
2. Sprinkler protection for the mall of a covered mall building shall be independent from that provided for tenant spaces or anchor buildings.
3. Sprinkler protection for the tenant spaces of an open mall building shall be independent from that provided for anchor buildings.
4. Sprinkler protection shall be provided beneath exterior circulation balconies located adjacent to an open mall.
5. Where tenant spaces are supplied by the same system, they shall be independently controlled.

57. Subsection 914.3.1. Automatic sprinkler system. Delete the exception so this subsection reads as follows:

914.3.1 Automatic sprinkler system. Buildings and structures shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and a secondary water supply where required by Section 903.3.5.2.

58. Subsection 914.7.1. Automatic sprinkler system. Delete the exception so this subsection reads as follows.

914.7.1 Automatic sprinkler system. Special amusement buildings shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where the special amusement building is temporary, the sprinkler water supply shall be of an approved temporary means.

59. Subsection 1104.5. Illumination emergency power. Delete the exceptions to subparagraphs 1, 4 and 6 so this subsection reads as follows:

1104.5 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for the following occupancies where such occupancies require two or more means of egress:

1. Group A having 50 or more occupants.
2. Group B buildings three or more stories in height, buildings with 100 or more occupants above or below a level of exit discharge serving the occupants or buildings with 1,000 or more total occupants.
3. Group E in interior stairs, corridors, windowless areas with student occupancy, shops and laboratories.
4. Group F having more than 100 occupants.
5. Group I.
6. Group M.
7. Group R-1.

Exception: Where each sleeping unit has direct access to the outside of the building at grade.

8. Group R-2.

Exception: Where each dwelling unit or sleeping unit has direct access to the outside of the building at grade.

9. Group R-4.

60. Subsection 3104.14.1. Occupant Load Sign. Add new subsection as follows:

3104.14.1. Occupant Load Sign. A village fire department sign with maximum occupant load must be prominently posted at the main entrance at all times.

61. Subsection 5608.8.1. Fire department supervision of displays. Add new subsection as follows:

5608.8.1. Fire department supervision of displays. All outside public fireworks displays are required to have a fire department standby, to be determined by the fire chief or his/her designee. Fire

department expenses incurred by this standby will be billed to the host of the display. Local governmental agencies may be exempt from this fee.

62. Subsection 5704.2.9. Above-ground tanks. Delete the language in this subsection in its entirety and replace it so it reads as follows:

5704.2.9 Above-ground tanks. Above-ground storage of combustible liquids in tanks shall comply with Section 5704.2 and Sections 5704.2.9.1 through 5704.2.9.7.10. Above-ground storage of flammable and Class I liquid in tanks is prohibited. Above-ground storage of combustible and Class II or IIIA liquids in tanks is permitted only if the above-ground tank is located in compliance with Section 5704.2.9.6.1. The use of above-ground tanks to dispense fuel is prohibited, except that:

1. An above-ground tank may be used for the purpose of storing and dispensing Class II or IIIA liquids used to fuel the operation of an emergency generator system, provided that:
 - a. the above-ground tank has a fuel storage capacity of not more than 2,000 gallons;
 - b. the above-ground tank is located in compliance with Section 5704.2.9.6.1 and is located not less than 100 feet from any adjoining property line and not less than 25 feet from any building or structure; and
 - c. the above-ground tank is equipped with secondary containment in accordance with Section 5704.2 and Section 5704.2.9.6.4 that provides capacity in the amount of no less than 150 percent of the capacity of the above-ground tank; and
2. An above-ground tank may be used for the purpose of temporarily storing and dispensing Class II or IIIA liquids used to fuel the operation of equipment at an active construction site, provided that:
 - a. the above-ground tank has a fuel storage of capacity of not more than 500 gallons;
 - b. the above-ground tank is located in compliance with Section 5704.2.9.6.1 and is located not less than 100 feet from any adjoining property line and not less than 25 feet from any existing or partially-constructed building or structure;
 - c. the above-ground tank is a portable tank and is not permanently installed at the site; and
 - d. the above-ground tank is present at the construction site for no more than 365 days.

63. Subsection 5704.2.9.2.1. Required foam fire protection systems. In subparagraph 1, delete reference to Class I liquids so the subsection now reads as follows:

5704.2.9.2.1 Required foam fire protection systems. When required by the fire code official, foam fire protection shall be provided for above-ground tanks, other than pressure tanks operating at or above 1 pound per square inch gauge (psig) (6.89 kPa) when such tank, or group of tanks spaced less than 50 feet (15 240 mm) apart measured shell to shell, has a liquid surface area in excess of 1,500 square feet (139 m²), and is in accordance with one of the following:

1. Used for the storage of Class II liquids.
2. Used for the storage of crude oil.
3. Used for in-process products and is located within 100 feet (30 480 mm) of a fired still, heater, related fractioning or processing apparatus or similar device at a processing plant or petroleum refinery as herein defined.
4. Considered by the fire code official as posing an unusual exposure hazard because of topographical conditions; nature of occupancy, proximity on the same or adjoining property, and height and character of liquids to be stored; degree of private fire protection to be provided; and facilities of the fire department to cope with flammable liquid fires.

64. Subsection 5704.2.9.2.3. Fire protection of supports. In first sentence, delete reference to Class I liquids so the subsection now reads as follows:

5704.2.9.2.3 Fire protection of supports. Supports or pilings for above-ground tanks storing Class II or IIIA liquids elevated more than 12 inches (305 mm) above grade shall have a fire-resistance rating of not less than 2 hours in accordance with the fire exposure criteria specified in ASTM E 1529.

Exceptions:

1. Structural supports tested as part of a protected above-ground tank in accordance with UL 2085.
2. Stationary tanks located outside of buildings when protected by an approved water-spray system designed in accordance with Chapter 9 and NFPA 15.
3. Stationary tanks located inside of buildings equipped throughout with an approved automatic sprinkler system designed in accordance with Section 903.3.1.1.

65. Subsection 5704.2.9.5.1 Overfill prevention. In first sentence, delete reference to Class I liquids so the subsection now reads as follows:

Above-ground tanks storing II and IIIA liquids inside buildings shall be equipped with a device or other means to prevent overflow into the building including, but not limited to: a float valve; a preset meter on the fill line; a valve actuated by the weight of the tank's contents; a low-head pump that is incapable of producing overflow; or a liquid-tight overflow pipe at least one pipe size larger than the fill pipe and discharging by gravity back to the outside source of liquid or to an approved location. Tanks containing Class IIIB liquids and connected to fuel-burning equipment shall be provided with a means to prevent overflow into buildings in accordance with Section 5704.2.7.5.8.

66. Subsection 5704.2.9.5.2 Fill pipe connections. Delete reference to Class I liquids so the subsection now reads as follows:

5704.2.9.5.2 Fill pipe connections. Fill pipe connections for tanks storing II and IIIA liquids and Class IIIB liquids connected to fuel-burning equipment shall be in accordance with Section 5704.2.9.7.7.

67. Subsection 5704.2.9.5.1 Locations where above-ground tanks are prohibited. Delete entire subsection and substitute:

5704.2.9.5.1 Locations where above-ground tanks are prohibited. Storage of Class I liquids in above-ground tanks is prohibited in all locations within the Village. Storage of Class II and IIIA liquids in above-ground tanks is prohibited in all residential zoning districts within the Village and within 300 feet of any residential zoning district within the Village. Storage of Class II and IIIA liquids in above-ground tanks for the purpose of dispensing fuel is prohibited except in zoning districts not zoned for residential uses and in the locations specified in Exceptions 1.b and 2.b to Section 5704.2.9, provided that the above-ground tanks fulfill all other requirements of Exceptions 1 and 2 to Section 5704.2.9.

68. Subsection 5704.2.9.6.1.1. Location of tanks with pressures 2.5 psig or less. Delete all references to Class I liquids and add language at the end of exception 1 and 3 so the subsection reads as follows:

5704.2.9.6.1.1 Location of tanks with pressures 2.5 psig or less. Above-ground tanks operating at pressures not exceeding 2.5 psig (17.2 kPa) for storage of Class II or IIIA liquids, which are designed with a floating roof, a weak roof-to-shell seam or equipped with emergency venting devices limiting pressure to 2.5 psig (17.2 kPa), shall be located in accordance with Table 22.4.1.1(a) of NFPA 30.

Exceptions:

1. Vertical tanks having a weak roof-to-shell seam and storing Class IIIA liquids are allowed to be located at one-half the distances specified in Table 22.4.1.1(a) of NFPA 30, provided the tanks are not within a diked area or drainage path for a tank storing Class II liquids and are not in a location prohibited under Section 5704.2.9.6.1.
2. Liquids with boilover characteristics and unstable liquids in accordance with Sections 5704.2.9.6.1.3 and 5704.2.9.6.1.4.
3. For protected above-ground tanks in accordance with Section 5704.2.9.7 and tanks in at-grade or above-grade vaults in accordance with Section 5704.2.8, the distances in Table 22.4.1.1(b) of NFPA 30 shall apply and shall be reduced by one-half, but not to less than 5 feet (1524 mm) provided that no above-ground tank may be located in a location prohibited under Section 5704.2.9.6.1 .

69. Subsection 5704.2.9.6.1.2. Location of tanks with pressures exceeding 2.5 psig. Delete all references to Class I liquids and add language at the end of first sentence so the subsection reads as follows:

5704.2.9.6.1.2 Location of tanks with pressures exceeding 2.5 psig. Above-ground tanks for the storage of Class II or IIIA liquids operating at pressures exceeding 2.5 psig (17.2 kPa) or equipped with emergency venting allowing pressures to exceed 2.5 psig (17.2 kPa) shall be located in accordance with Table 22.4.1.3 of NFPA 30 and Section 5704.2.9.6.1.

Exception: Liquids with boilover characteristics and unstable liquids in accordance with Sections 5704.2.9.6.1.4 and 5704.2.9.6.1.5.

70. Subsection 5704.2.9.6.1.3. Location of tanks for boil over liquids. Add language at the end of first sentence so the subsection reads as follows:

5704.2.9.6.1.3 Location of tanks storing boilover liquids. Above-ground tanks for storage of liquids with boilover characteristics shall be located in accordance with Table 22.4.1.4 of NFPA 30 and Section 5704.2.9.6.1.

71. Subsection 5704.2.9.6.1.4. Location of tanks for unstable liquids. Add language at the end of first sentence so the subsection reads as follows:

5704.2.9.6.1.4 Location of tanks storing unstable liquids. Above-ground tanks for the storage of unstable liquids shall be located in accordance with Table 22.4.1.5 of NFPA 30 and Section 5704.2.9.6.1.

72. Subsection 5704.2.6.1.5. Location of tanks for Class IIIB liquids. Delete the language in this section in its entirety and replace it with new language so it reads as follows:

5704.2.9.6.1.5 Location of tanks storing Class IIIB liquids. Above-ground tanks for the storage of Class IIIB liquids, excluding unstable liquids, shall be located in accordance with Table 22.4.1.6 of NFPA 30 and Section 5704.2.9.6.1, except when located within a diked area or drainage path for a tank or tanks storing Class II liquids. Where a Class IIIB liquid storage tank is within the diked area or drainage path for a Class II liquid, distances required by Section 5704.2.9.6.1.1 shall apply.

73. Subsection 5704.2.9.6.2. Separation between adjacent stable or unstable liquid tanks. Delete all references to Class I liquids and add language at the end of the first sentence so the subsection reads as follows:

5704.2.9.6.2 Separation between adjacent stable or unstable liquid tanks. The separation between tanks containing stable liquids shall be in accordance with Table 22.4.2.1 of NFPA 30 and Section 5704.2.9.6.1. Where tanks are in a diked area containing Class II liquids, or in the drainage path of

Class II liquids, and are compacted in three or more rows or in an irregular pattern, the fire code official is authorized to require greater separation than specified in Table 22.4.2.1 of NFPA 30 or other means to make tanks in the interior of the pattern accessible for fire-fighting purposes.

Exception: Tanks used for storing Class IIIB liquids are allowed to be spaced 3 feet (914 mm) apart unless within a diked area or drainage path for a tank storing Class II liquids.

The separation between tanks containing unstable liquids shall not be less than one-half the sum of their diameters.

74. Subsection 5704.2.9.6.3. Separation between adjacent tanks containing flammable or combustible liquids and LP-gas. Delete all references to Class I liquids and modify the third sentence to delete “flammable or” so the subsection reads as follows:

5704.2.9.6.3 Separation between adjacent tanks containing flammable or combustible liquids and LP-gas. The minimum horizontal separation between an LP-gas container and a Class II or IIIA liquid storage tank shall be 20 feet (6096 mm) except in the case of Class II or IIIA liquid tanks operating at pressures exceeding 2.5 psig (17.2 kPa) or equipped with emergency venting allowing pressures to exceed 2.5 psig (17.2 kPa), in which case the provisions of Section 5704.2.9.6.2 shall apply. An approved means shall be provided to prevent the accumulation of Class I, II or IIIA liquids under adjacent LP-gas containers such as by dikes, diversion curbs or grading. When combustible liquid storage tanks are within a diked area, the LP-gas containers shall be outside the diked area and at least 10 feet (3048 mm) away from the centerline of the wall of the diked area.

Exceptions:

1. Liquefied petroleum gas containers of 125 gallons (473 L) or less in capacity installed adjacent to fuel-oil supply tanks of 660 gallons (2498 L) or less in capacity.
2. Horizontal separation is not required between above-ground LP-gas containers and underground flammable and combustible liquid tanks.

75. Subsection 5704.3. Container and portable tank storage. Delete the language in this subsection in its entirety and replace it with new language so it reads as follows

5704.3 Container and portable tank storage. Storage of flammable and combustible liquids in closed containers that do not exceed 60 gallons (227 L) in individual capacity and the storage of combustible liquids in portable tanks that do not exceed 500 gallons (1892L) in individual capacity, and limited transfers incidental thereto, shall comply with Sections 5704.3.1 through 5704.3.8.5.

76. Subsection 5704.4. Outdoor storage of containers and portable tanks. Delete all of the code references cited in this subsection and replace them so it reads as follows:

5704.4 Outdoor storage of containers and portable tanks. Storage of flammable and combustible liquids in closed containers and portable tanks outside of buildings shall be in accordance with Section 5703, Section 5704.2.9, and Sections 5704.1 through 5704.4.8. Capacity limits for containers and portable tanks shall be in accordance with Section 5704.2.9 and Section 5704.3.

77. Subsection 5706.2. Storage and dispensing of flammable and combustible liquids on farms and construction sites. Delete all references to Class I liquids so the subsection reads as follows:

5706.2 Storage and dispensing of flammable and combustible liquids on farms and construction sites. Permanent and temporary storage and dispensing of Class II liquids for private use on farms and rural areas and at construction sites, earth-moving projects, gravel pits or borrow pits shall be in accordance with Sections 5706.2.1 through 5706.2.8.1.

Exception: Storage and use of fuel oil and containers connected with oil-burning equipment regulated by Section 603 and the International Mechanical Code.

78. Subsection 5706.2.4. Permanent and temporary tanks. Delete all references to Class I liquids and replace the reference to 10,000 gallons with 500 gallons so the subsection reads as follows:

5706.2.4 Permanent and temporary tanks. The capacity of permanent above-ground tanks containing Class II liquids shall not exceed 1,100 gallons (4164 L). The capacity of temporary above-ground tanks containing Class II liquids shall not exceed 500 gallons (1892L). Tanks shall be of the single-compartment design.

Exception: Permanent above-ground tanks of greater capacity which meet the requirements of Section 5704.2.

79. Subsection 5706.2.4.3. Location. Delete all references to Class I liquids and add language at the end of the subsection so it reads as follows:

5706.2.4.3 Location. Tanks containing Class II liquids shall be kept outside and at least 50 feet (15 240 mm) from buildings and combustible storage. Additional distance shall be provided when necessary to ensure that vehicles, equipment and containers being filled directly from such tanks will not be less than 50 feet (15 240 mm) from structures, haystacks or other combustible storage. An above-ground tank may be used for the purpose of temporarily storing and dispensing Class II or IIIA liquids used to fuel the operation of equipment at an active construction site, provided that:

1. The above-ground tank is located in compliance with Section 5704.2.9.6.1 and is located not less than 100 feet from any adjoining property line and not less than 25 feet from any existing or partially-constructed building or structure;
2. The above-ground tank is a portable tank and is not permanently installed at the site; and
3. The above-ground tank is present at the construction site for no more than 365 days

80. Subsection 5706.2.4.4. Locations where above-ground tanks are prohibited. Delete the subsection and replace it with the following:

5706.2.4.4. Locations where above-ground tanks are prohibited. Storage of Class I liquids in above-ground tanks is prohibited in all locations within the Village. Storage of Class II and IIIA liquids in above-ground tanks is prohibited in all residential zoning districts within the Village and within 300 feet of any residential zoning district within the Village. Storage of Class II and IIIA liquids in above-ground tanks for the purpose of dispensing fuel at active construction sites is prohibited except in zoning districts not zoned for residential uses and in the locations specified in Section 5706.2.4.3, provided that the above-ground tanks fulfill all other requirements of Section 5706.2.4.3.

81. Subsection 5903.3. Building Construction Requirements. Add a new subsection as follows:

5903.3. Building Construction Requirements. All areas containing magnesium shall be equipped with automatic actuating roof vents equal to not less than five (5) percent of the ceiling area of the fire containment area.

82. Subsection 5906.3.1. Indoor storage. Delete the subsection in its entirety and replace it with the following:

5906.3.1. Indoor storage. Indoor storage of magnesium shall be in accordance with the following:

1. Storage of raw material shall be limited to no more than 30,000 pounds of magnesium per fire containment area;

2. Storage of finished goods shall be limited to no more than 20,000 pounds of magnesium per fire containment area;
3. Storage of scrap magnesium shall be limited to no more than 20,000 pounds of magnesium per fire containment area;
4. All magnesium raw material storage, scrap storage and processing must be contained within a fire containment area with a fire resistance rating of not less than four (4) hours;
5. All magnesium storage and processing shall be in building of resistive or non-combustible construction; and
6. Storage of raw material, finished goods and scrap shall be in separate and distinct fire containment areas.

83. Subsection 5906.4.4. Mixed storage. Add a new subsection as follows:

5906.4.4. Mixed storage. Raw material storage areas shall contain only unprocessed (raw) materials stored on pallets. Scrap material storage areas shall contain clean scrap magnesium only, which shall be held in approved storage containers.

84. Subsection 5906.5.5.1. Emergency Disconnects. Add a new subsection as follows:

5906.5.5.1. Emergency Disconnects. Emergency electrical disconnects for all electrical equipment, apparatus and fixtures shall be provided at the principle exit from the die casting room.

85. Subsection 5906.5.9. Signage. Add a new subsection as follows:

5906.5.9. Signage. All entrances to any area containing magnesium must be provided with a signage to alert plant and emergency service personnel to the presence of magnesium in the area. Such signage shall consist of contracting letter not less than three (3) feet in height, with a stroke width not less than 3/4 inch, containing essentially the following message: Danger! Magnesium is stored or processed in this area. In the event of a fire "DO NOT USE WATER".