

FIRE PROTECTION AND LIFE SAFETY SYSTEMS

such openings, the story shall be equipped throughout with an approved automatic sprinkler system, or openings as specified above shall be provided on at least two sides of the story.

903.2.11.1.3 Basements. Where any portion of a basement is located more than 75 feet (22 860 mm) from openings required by 780 CMR 903.2.10.1, the basement shall be equipped throughout with an approved automatic sprinkler system.

903.2.11.2 Rubbish and Linen Chutes. An automatic sprinkler system shall be installed at or above the topmost service opening of rubbish and linen chutes and in their terminal rooms. Chutes extending through three or more floors shall have additional sprinkler heads installed within such chutes at alternate floors. Chute sprinklers shall be accessible for servicing.

903.2.11.3 Buildings over 55 Feet in Height. An automatic sprinkler system shall be installed throughout buildings with a floor level having an occupant load of 30 or more that is located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access.

Exceptions:

1. Airport control towers.
2. Open parking structures.

903.2.12 Other Required Suppression Systems. In addition to the requirements of 780 CMR 903.2, the provisions indicated in Table 903.2.12 also require the installation of a suppression system for certain buildings and areas.

TABLE 903.2.12 ADDITIONAL REQUIRED OR POTENTIALLY REQUIRED SUPPRESSION/EXTINGUISHING SYSTEMS

SECTION	SUBJECT
Table 302.1.1	Incidental Use Areas
402.8	Covered malls
403.2	High-rise buildings
404.3	Atriums
405.3	Underground structures
407.5	Group I-2
410.6	Stages
411.4	Special amusement buildings
412.2.5, 412.2.6	Aircraft hangars
415.7.2.4	Group H-2*
416.4	Flammable finishes
417.4	Drying rooms
422.4.6, 422.5.2	Day care centers
422.5.3	Day care centers
424.5	Bulk Merchandising Retail Buildings
425.3.5	Limited Group Residence
426.9.1	Detoxification Facilities
427.2 as applicable	Group Dwelling Units
507	Unlimited area buildings
IMC	Commercial cooking operations
IMC	Ducts conveying hazardous exhausts
IFC-Section 903,	Numerous
IFC-Section 904	Numerous

SECTION SUBJECT

M.G.L. c. 148, § 26A	High-rise
M.G.L. c. 148, § 26A½	High-rise
M.G.L. c. 148, § 26G	Buildings over 7,500 ft ² (local option law)
M.G.L. c. 148, § 26G½	Nightclubs
M.G.L. c. 148, § 26H	Lodging Houses (local option law)
M.G.L. c. 148, § 26I	four or more residential units (local option law)

*Review all H USES for possible sprinklering requirements.

903.3 Installation Requirements. Automatic sprinkler systems shall be designed and installed in accordance with 780 CMR 903.3.1 through 903.3.7.

903.3.1 Standards. Sprinkler systems shall be designed and installed in accordance with 780 CMR 903.3.1.1, 903.3.1.2 or 903.3.1.3.

903.3.1.1 NFPA 13 Sprinkler Systems. Where the provisions of 780 CMR require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with 780 CMR 903.3.1.1, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in 780 CMR 903.3.1.1.1.

903.3.1.1.1 Exempt Locations. Automatic sprinklers shall not be required in the rooms or areas noted in 780 CMR 903.2, *Exceptions.*

903.3.1.2 NFPA 13R Sprinkler Systems. Where allowed in buildings of Group R, up to and including four stories in height, automatic sprinkler systems shall be installed throughout in accordance with NFPA 13R.

903.3.1.2.1 Balconies. Sprinkler protection shall be provided for exterior balconies and ground-floor patios of dwelling units where the building is of Type V construction. Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within one inch (25 mm) to six inches (152 mm) below the structural members, and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies that are constructed of open wood joist construction.

903.3.1.3 NFPA 13D Sprinkler Systems. Where allowed, automatic sprinkler systems shall be installed throughout in accordance with NFPA 13D.

903.3.1.4 Antifreeze. Antifreeze shall not be used in sprinkler systems that protect dwelling units, as defined by NFPA 13, NFPA 13R and NFPA 13D. Such sprinkler systems shall be located within the building thermal envelope or otherwise be protected from freezing.

903.3.2 Fast Response Automatic Sprinklers. Where automatic sprinkler systems are required by 780 CMR, fast response automatic sprinklers shall be installed in the following areas in accordance with 780 CMR 903.3.1 and their listings:

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1. Throughout all spaces within a smoke compartment containing patient sleeping units in Group I-2 in accordance with 780 CMR.
2. In Group R and I-1 occupancies.
3. Light-hazard occupancies as defined in NFPA 13.
4. Residential sprinklers shall be installed in areas where one or more rooms are arranged for the use of one or more individuals living together, as in a single housekeeping unit normally having cooking, living, sanitary or sleeping facilities including but not limited to: hotel rooms, dorm rooms, apartment units, condo units, and sleeping rooms in nursing homes and hospitals.

903.3.3 Obstructed Locations. Automatic sprinklers shall be installed with due regard to obstructions that will delay activation or obstruct the water distribution pattern. Automatic sprinklers shall be installed in or under covered kiosks, displays, booths, concession stands, or equipment that exceeds four feet (1219 mm) in width. Not less than a three-foot (914 mm) clearance shall be maintained between automatic sprinklers and the top of piles of combustible fibers.

Exception. Kitchen equipment under exhaust hoods protected with a fire-extinguishing system in accordance with 780 CMR 904.0.

903.3.4 Actuation. Automatic sprinkler systems shall be automatically actuated unless specifically provided for in 780 CMR.

903.3.5 Water Supplies. Water supplies for automatic sprinkler systems shall comply with 780 CMR 903.3.5 and the standards referenced in 780 CMR 903.3.1. The potable water supply shall be protected against backflow in accordance with 310 CMR 22.22.

903.3.5.1 Domestic Services. Where the domestic service provides the water supply for the automatic sprinkler system, the supply shall be in accordance with 780 CMR 903.3.5.1.

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. 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 780 CMR 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 13R or NFPA 13D.

903.3.5.1.2 Combination Services. A single combination water supply shall be permitted provided that the domestic and/or commercial demand is added to the sprinkler demand as required by NFPA 13, NFPA 13D or NFPA 13R as applicable.

903.3.5.2 Secondary Water Supply. A secondary on-site water supply equal to the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings in Seismic Design Category C, D, E or F as determined by 780 CMR. The secondary water supply shall have a duration not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13.

Exception. Existing buildings.

903.3.6 Hose Threads. Fire hose threads used in connection with automatic sprinkler systems shall be approved and compatible with fire department hose threads.

903.3.7 Fire Department Connections. The location of fire department connections shall be approved by the head of the fire department. Fire department connections shall not be obstructed by fences, bushes, trees, walls, or any other similar object(s).

903.3.7.1 Locking Fire Department Connection (FDC) Caps. The head of the fire department is authorized to require locking FDC caps on fire department connections for water-based fire protection systems where the responding fire department carries appropriate key wrenches for removal.

903.3.7.2 Connections. Fire department connections shall be arranged in such a manner that the attachment to any one water sprinkler connection will serve all sprinklers.

903.4. Alarms. Approved audible and visual alarm devices shall be connected to every water sprinkler system. Such alarm devices shall be activated by water flow and shall be located in an approved location on the exterior of the building and throughout the building in accordance with the requirements of 780 CMR 907.

903.5 Floor Control Valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings.

903.6 Inspection, Testing, and Maintenance. Sprinkler systems shall be inspected, tested and maintained in accordance with 527 CMR and NFPA 25.