

7511.0903 SECTION 903, AUTOMATIC SPRINKLER SYSTEMS.

Subpart 1. [Renumbered subp 1a]

Subpart 1. **IFC section 903.2.3.** IFC section 903.2.3 is amended to read as follows:

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

1. Throughout all Group E fire areas greater than 12,000 square feet (1,115 m²) in area.
2. Whenever the Group E fire area is located on a floor other than a level of exit discharge serving such occupancies.

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

3. Whenever the Group E fire area has an occupant load of 300 or more.

Subp. 1a. **IFC section 903.2.8.** IFC section 903.2.8 and its subsections are amended to read as follows:

903.2.8 Group R. An automatic sprinkler system shall be installed throughout all buildings with a Group R fire area in accordance with Section 903.3.

Exceptions:

1. A Group R-1, R-2, or combined R-1 and R-2 building where less than 4,500 square feet of the building area consists of R-1 fire area, R-2 fire area, or a combination of R-1 and R-2 fire areas.
2. A Group R-3 dwelling unit with less than 4,500 square feet of building area, excluding garages, unless the Group R-3 dwelling unit contains a state licensed care facility that is required to be provided with an automatic sprinkler system as a condition of the license.
3. An automatic fire sprinkler system shall not be required if additions or alterations are made to existing Group R-3 or R-4 buildings or a portion thereof that do not have an automatic sprinkler system installed, unless required by a Minnesota license.
4. Group R-1 multiunit resort buildings, as defined in Minnesota Statutes, section 157.15, and licensed by the Department of Health, with less than 9,250 square feet of building area.

903.2.8.1 Group R-3. Where required by Section 903.2.8, Group R-3 occupancies shall be provided with an automatic sprinkler system that complies with Section 903.3.1.1, 903.3.1.2, or 903.3.1.3.

903.2.8.2 Group R-4. Where required by Section 903.2.8, Group R-4 occupancies shall be provided with an automatic sprinkler system that complies with Section 903.3.1.1 or 903.3.1.2.

Exception: Group R-4 Condition 1 occupancies equipped with an automatic sprinkler system that complies with Section 903.3.1.3.

903.2.8.3 State licensed facilities. Group R-3 or R-4 occupancies containing facilities licensed by Minnesota shall be provided with an automatic sprinkler system as required by the applicable licensing provisions or this section, whichever is more restrictive.

903.2.8.4 Residential hospice facilities. An automatic sprinkler system installed in accordance with NFPA 13 shall be provided throughout all buildings with a Group R-3 or R-4 fire area containing a residential hospice facility.

Exception: An automatic sprinkler system installed in accordance with Section 903.3.1.2 or 903.3.1.3 is permitted if all habitable spaces and closets are protected by an automatic sprinkler system.

Subp. 1b. **IFC section 903.2.9.** IFC section 903.2.9 is amended and a subsection added to read as follows:

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

1. A Group S-1 fire area exceeds 12,000 square feet (1,115 m²).
2. A Group S-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2,230 m²).
4. A Group S-1 fire area is used for the storage of commercial motor vehicles where the fire area exceeds 5,000 square feet (464 m²).

(Subsections 903.2.9.1 and 903.2.9.2 remain unchanged.)

903.2.9.3 Group S-1 upholstered furniture and mattresses. An automatic sprinkler system shall be provided throughout a Group S-1 fire area used for the storage of upholstered furniture or mattresses that exceeds 2,500 square feet (232 m²).

Exception: Self-service storage facilities (mini-storage) no greater than one story above grade plane where all storage spaces can be accessed directly from the exterior.

Subp. 2. **IFC section 903.2.11.4.** IFC section 903.2.11.4 is amended by deleting the section in its entirety and replacing it with the following:

903.2.11.4 Fire protection for exhaust systems. Where required by the Minnesota Mechanical Code, automatic sprinklers shall be provided in ducts having a cross-sectional area of 75 square inches (480 cm²) or more and that: (1) convey flammable or combustible components; or (2) have the potential for combustible residue buildup on the inside. When sprinkler protection is installed, means shall be provided to prevent water accumulation in the duct and the flow of water back to a process where the application of water constitutes a serious life or fire hazard.

Subp. 2a. **IFC section 903.3.1.** IFC section 903.3.1 is amended as follows:

903.3.1 Standards. Sprinkler systems shall be designed and installed in accordance with Section 903.3.1.1, unless otherwise permitted by Sections 903.3.1.2 and 903.3.1.3 and other chapters of this code, as applicable. Automatic sprinkler systems installed in state-licensed or state-registered facilities shall be installed in accordance with this code and the applicable licensing or registration provisions of other Minnesota state agencies.

Subp. 2b. **IFC section 903.3.1.1.1.** IFC section 903.3.1.1.1 is amended by adding a new item 7 to the list of exempt locations to read as follows:

7. Sprinkler protection shall not be installed in elevator shafts, elevator pits, or elevator machine rooms.

Exception to #7: Health care occupancies that: (1) are required to have NFPA 13 systems; (2) are licensed by the Minnesota Department of Health; and (3) participate in Title XVIII (Medicare) or Title XIX (Medicaid) of the Social Security Act.

Subp. 3. **IFC Section 903.3.1.2.1.** IFC Section 903.3.1.2.1 is amended to read:

903.3.1.2.1 Protection of decks and balconies. Decks and balconies greater than 6 feet (1.8 m) above grade, greater than 4 feet (1.2 m) deep, with an area greater than 40 square feet (3.72 m²), and attached to new Group R-1 or R-2 occupancy buildings protected in accordance with Section 903.3.1.2 that are three or more stories in height and with 30 or more units, shall be protected with sprinklers under the balcony or deck framing and under attic eaves when both of the following two conditions exist:

1. the building has an unsprinklered attic; and
2. the building has combustible siding.

Subp. 4. **IFC section 903.3.1.** IFC section 903.3.1 is amended by adding sections to read:

903.3.1.4 Buildings of undetermined use. When fire sprinkler systems are required in buildings of undetermined use, they shall be designed and installed to have a sprinkler density of not less than that required for an Ordinary Hazard Group 2 use with a minimum design area of 3,000 square feet (279 m²). Use is considered undetermined if not specified at the time a permit is issued. Where a subsequent occupancy requires a system with greater capability, it shall be the responsibility of the owner to upgrade the system to the required density for the new hazard, use or occupancy.

903.3.1.5 Special sprinkler design criteria. When fire sprinkler systems are required in areas containing the following uses, they shall be designed and installed to have a sprinkler density of not less than that required for an Ordinary Hazard Group 2 use:

1. chemistry labs; or
2. wrestling rooms or gymnastic rooms.

903.3.1.6 Modifications to sprinkler standards. The sprinkler installation standards as referenced in Sections 903.3.1.1, 903.3.1.2, and 903.3.1.3 are modified as follows:

903.3.1.6.1 Hose stream requirements. When, in the opinion of the fire chief, an adequate alternate water supply for hose stream requirements is provided or available, the water supply requirements for the sprinkler system hose stream demands may be modified.

903.3.1.6.2 Elevator shafts and equipment. Sprinkler protection shall not be installed in elevator shafts, elevator pits, or elevator machine rooms.

Exception: Health care occupancies that: (1) are required to have NFPA 13 systems; (2) are licensed by the Minnesota Department of Health; and (3) participate in Title XVIII (Medicare) or Title XIX (Medicaid) of the Social Security Act.

903.3.1.6.3 Swimming pools. Sprinkler protection need not be provided on the ceiling of rooms containing swimming pools when the pool area is used exclusively for swimming purposes and when sprinklers are provided around the perimeter of the pool area.

903.3.1.6.4 NFPA 13 modifications. Sections 8.15.8.2, 8.17.2.5, and 23.2.1.1 of NFPA 13 are amended to read:

8.15.8.2 Linen closets and pantries. Sprinklers are not required in linen closets and pantries within dwelling units that meet the following conditions:

1. the area of the space does not exceed 12 square feet (1.1 m²);
2. the least dimension does not exceed 3 feet (0.9 m);
3. the walls and materials are surfaced with noncombustible or limited combustible materials; and
4. the closet or pantry contains no mechanical equipment, electrical equipment, or electrical appliances.

8.17.2.5 Valves.

8.17.2.5.1 Fire department connection. A listed check valve shall be installed in each fire department connection.

8.17.2.5.1.1 Maximum pipe length. There shall be a maximum of 25 feet (7.6 m) of pipe between the check valve and the fire department connection inlet.

Exception: This maximum shall not apply to the check valve serving a free-standing fire department connection.

8.17.2.5.1.2 Check valve location. The check valve shall be located to minimize freezing potential.

23.2.1.1 Water supply capacity information. Where a waterflow test is used for the purposes of system design, the test shall be conducted no more than 36 months prior to the working plan submittal.

903.3.1.6.5 Vestibules. Sprinkler protection is not required in vestibules that meet all of the following conditions:

1. the vestibule is 225 square feet or less in floor area;
2. the vestibule is of noncombustible or limited combustible construction;
3. the vestibule has glazing allowing vision into vestibule;
4. the vestibule's only purpose is ingress and egress; and
5. the vestibule contains no fueled equipment, flammable or combustible liquids, or furniture. Incidental combustible storage in the vestibule is limited to five cubic feet of material.

903.3.1.6.6 NFPA 13D sprinkler systems. Automatic sprinkler systems installed in townhouses and Groups R-3 and R-4, Condition 1 occupancies shall be permitted to be installed throughout in accordance with NFPA 13D. Attached garages in townhouse buildings are required to have one dry head sprinkler located within 5 linear feet of each door installed in the common wall separating the dwelling unit and the attached garage.

Subp. 4a. **IFC section 903.3.9.** IFC section 903.3 is amended by adding a section to read:

903.3.9 Sprinkler system design pressure safety margin. For new sprinkler systems or additions to existing sprinkler systems, the available water supply shall exceed the sprinkler system demand, including the hose stream requirements, by 5 psi (0.34 bars) or more.

Exception: NFPA 13D systems installed in accordance with Section 903.3.1.3.

Subp. 5. [Repealed, 44 SR 610]

Subp. 6. **IFC Section 903.4.** IFC Section 903.4 is amended by adding an exception to read:

8. For existing sprinkler systems, monitoring is required when the number of sprinklers is 100 or more.

Subp. 6a. **IFC section 903.4.2.** IFC section 903.4.2 is amended to read as follows:

903.4.2 Alarms. An approved audible alarm and an approved visible alarm are required on the exterior of the building in an approved location. These alarms can be part of the same device or separate devices. The alarms shall be connected to each automatic sprinkler system. The alarms shall be located above the fire department connection and visible from the street or nearest point of fire department vehicle access, or as otherwise approved by the fire code official. Such sprinkler water-flow alarms shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system

is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

Subp. 7. **IFC Section 903.4.4.** IFC Section 903.4 is amended by adding a section to read:

903.4.4 Valve security. All valves controlling water supplies for automatic sprinklers shall be locked or secured in the open position.

Exception: Valves located in a room or space when access is limited to essential personnel only.

Subp. 8. [Repealed, 40 SR 1437]

Statutory Authority: *MS s 299F.011; 326B.02*

History: *32 SR 10; 36 SR 1479; 40 SR 1437; 44 SR 610*

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