



Fire Marshal's Office

1500 Highway 66
Garland, TX 75040
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FIRE SPRINKLERS

Revised 11/02/18

903.1.1 Alternative protection. Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted in addition to automatic sprinkler protection where recognized by the applicable standard, or as approved by the fire code official.

903.3.1.3 NFPA 13D sprinkler systems. Automatic sprinkler systems installed in one- and two-family dwellings; Group R-3; Group R-4 Condition 1 and townhouses shall be permitted to be installed through-out in accordance with NFPA 13D.

903.2 Where required. Automatic sprinklers shall not be installed in elevator machine rooms, elevator machine spaces and elevator hoist ways. Storage shall not be allowed in elevator machine rooms and appropriate signage shall be provided.

Any building, regardless of occupancy class, shall be equipped with an automatic sprinkler system when the enclosed fire area exceeds 5000 square feet. Additional requirement exist by occupancy as described below:

903.2.1.1 Group A-1.

1. The fire area has an occupant load of 300 or more.
2. The fire area is locate on a floor other than the level of exit discharge.
3. The fire area contains a multi-theater complex

903.2.1.2 Group A-2

1. The fire area has an occupant load of 100 or more.
2. The fire is located on a floor other than the level of exit discharge.

903.2.1.3 Group A-3.

1. The fire area has an occupant load of 300 or more.
2. The fire is located on a floor other than the level of exit discharge.

903.2.1.4 Group A-4.

1. The fire area has an occupant load of 300 or more.
2. The fire is located on a floor other than the level of exit discharge.

903.2.1.5 Group A-5. An automatic sprinkler system shall be provided in the following areas:

1. Concession stands



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2. Retail areas
3. Press boxes
4. Other accessory areas in excess of 1000 square feet.

903.2.2 Group B ambulatory health care facilities.

1. Four or more care recipients are incapable of self-preservation.
2. One or more care recipients incapable of self-preservation located at other than the level of exit discharge.

903.2.3 Group E.

1. Where a Group E fire area is located below the lowest level of exit discharge.
2. Where a Group E fire area is located more than two stories above grade plane.

903.2.4 Group F-1.

1. Where a Group F-1 fire area is located more than two (2) stories above grade plane.
2. Where a Group F-1 occupancy used for manufacturing of upholstered furniture or mattresses exceeds 2,500 square feet.

903.2.4.1 Woodworking operations. An automatic sprinkler system shall be provided throughout all Group F-1 occupancy fire areas that contain woodworking operations in excess of 2,500 square feet in area (232m²) that generate finely divided combustible waste or use finely divided combustible materials.

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

903.2.5.3 Pyroxylin plastics. An automatic sprinkler system shall be provided in buildings or portions thereof where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled in quantities exceeding 100 pounds.

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

1. A Group M fire area is located more than two stories above grade plane.
2. A Group M occupancy in new construction used for the display and sale of upholstered furniture.

903.2.7.1 High-piled storage. An automatic sprinkler system shall be provided as required in Chapter 32 in all buildings of Group M where storage of merchandise is in high-piled or rack storage arrays.



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

903.2.9 Group S-1.

1. A Group S-1 fire area is located more than two stories above the grade plane.
2. A Group S-1 fire area used for the storage of commercial trucks or buses exceeds 2500 square feet.

903.2.9.1 Repair Garages.

1. Buildings having two or more stories above grade plane with a fire area containing a repair garage exceeding 3500 square feet.
2. Buildings not more than one story above grade plane, with a fire area containing a repair garage exceeding 5,000 square feet.
3. Buildings with repair garages servicing vehicles parked in basements.
4. A Group S-1 fire area used for the repair of commercial trucks or busses where the fire area exceeds 2,500 square feet.

903.2.9.2 Bulk storage of tires. Buildings and structures that contain an area for the storage of tires that exceeds 1,000 square feet shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

903.2.9.3 Self-service storage facility. An automatic sprinkler system shall be installed throughout all self-service storage facilities.

A screen shall be installed at eighteen (18) inches below the level of the sprinkler heads to restrict storage above that level. This screen shall be a mesh of not less than one (1) inch and not greater than six (6) inches in size. The screen and its supports shall be installed such that all elements are at least eighteen (18) inches below any sprinkler heads.

903.2.10 Group S-2 enclosed parking garages. An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages where the enclosed parking garage is located beneath another occupancy group except for Group R-3 occupancies where the R-3 fire area is less than 5000 square feet.

903.2.11 Specific building areas and hazards.

1. Stories without openings
 - i Opening dimensions and access
 - ii Openings on one side only
 - iii Basements
2. Rubbish and linen chutes
3. Buildings 35 feet or more in height, except open parking structures



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4. Ducts conveying hazardous exhausts
5. Commercial cooking operations where used to comply with Section 904.
6. Any building with a clear height exceeding twelve feet.
7. Spray booths and rooms

903.2.11.9 Buildings over 5000 square feet. An automatic sprinkler system shall be installed throughout all buildings with a building area greater than 5,000 square feet and in all existing buildings that are enlarged to be greater than 5,000 square feet. For the purpose of this provision, fire walls, fire barriers, or horizontal assemblies shall not define separate buildings.

Exceptions:

1. Open parking garages
2. When of non-combustible construction, the area of awning extension of free standing canopies not used for display, storage or parking of vehicles shall not require sprinkler protection unless otherwise required by this code.
3. Except for H and I occupancies, an addition with less than 1,000 square feet may be separated from the existing building without causing either the addition or the existing building to be sprinklered. The separation shall be a two (2) hour fire barrier for Types II and V construction and a three (3) hour fire barrier for other types of construction.

903.2.11.10. Expanded Tenant Spaces. Fire sprinklers shall be installed in all tenant spaces where the total fire area exceeds 5,000 square feet. For the purpose of fire sprinklers, fire walls, fire barriers, or horizontal assemblies shall not be used to separate single tenant fire areas.

903.3.1.1.1 Exempt locations. When approved by the fire code official, automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from a room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the code official.
3. Generator and transformer rooms, under the direct control of a public utility, separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
4. Elevator machine rooms, machinery spaces, and hoist ways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.



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903.3.1.2.3 Attics and Storage Units. Sprinkler systems installed in accordance with NFPA 13R shall include sprinkler protection in combustible attics of buildings two (2) or more stories in height and in storage units located in the path of egress.

901.4.6.1 Pump and Riser Room. When located on the ground level, the fire pump or sprinkler riser room shall be located at an exterior wall and provided with an exterior fire department access door that is not less than three (3) feet in width and six feet, eight inches (6' 8") in height, regardless of any interior doors that are provided. A key box shall be provided at this door, as required by Section 506.1. The exterior door shall be marked "FIRE RISER ROOM" or "FIRE PUMP ROOM" in accordance with Section 509.1.2.

Exception: When it is necessary to locate the fire sprinkler riser room on other levels, the corridor leading to the fire sprinkler riser room access from the exterior of the building shall be provided with a minimum one hour fire resistance, or as approved by the Building Code Official. Access keys shall be provided in the key box as required by Section 506.1.

903.3.5 Water supplies. Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with the requirements of this section and the International Plumbing Code. For connections to public waterworks systems, the water supply test used for design of fire protection systems shall be adjusted to account for seasonal and daily pressure fluctuations based on information from the water supply authority and as approved by the fire code official. Water supply as required for such systems shall be provided in conformance with the supply requirements of the respective standards; however, every water-based fire protection system shall be designed with a 10 psi safety factor. Reference Section 507.4 for additional design requirements.

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 this section.

903.3.5.2 Residential combination services. A single combination water supply shall be allowed provided that the domestic demand is added to the sprinkler demand as required by NFPA 13R.

903.3.1.3.1 Garages. When fire sprinkler systems are required, garages with living space above shall have fire sprinkler protection.

903.4 Sprinkler system supervision and alarms. Valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures and water flow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit.



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For items not listed refer to 2015 IFC Chapter 9, NFPA 13 (13R 13D), local amendments, and any material deemed applicable by the Fire Marshal.

<http://www.garlandtx.gov/312/Fire-Prevention>

This list is provided as an aid for submittals only, and is not intended to cover every code requirement.