

NFPA 13D -2002

- ***Standard For The Installation Of Sprinkler Systems In One- And Two Family Dwellings And Manufactured Homes.***

Presented by:

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Scope

This standard shall cover the design and installation of automatic sprinkler systems for protection against the fire hazards in one- and two-family dwellings and manufactured homes.

PURPOSE

The purpose of this standard shall be to provide a sprinkler system that aids in the detection and control of residential fires and thus provides improved protection against injury, life loss, and property damage. A sprinkler system designed and installed in accordance with this standard shall be expected to prevent flashover (total involvement) in the room of fire origin, where sprinklered, and to improve the chance for occupants to escape or be evacuated. The layout, calculation, and installation of systems installed in accordance with this standard shall only be performed by people knowledgeable and trained in such systems.

SPRINKLERS

3.3.8.1 Automatic Sprinkler.

A fire suppression or control device that operates automatically when its heat-actuated element is heated to its thermal rating or above, allowing water to discharge over a specific area.

3.3.8.2 Residential Sprinkler.

A type of fast-response sprinkler that meets the criteria of NFPA 13, Standard for the Installation of Sprinkler Systems, that has been specifically investigated for its ability to enhance survivability in the room of fire origin and is listed for use in the protection of dwelling units.

4.4.1 Sprinklers having a temperature rating of 135°F to 170°F (57°C to 77°C) shall be classified as ordinary temperature-rated sprinklers.

4.4.2 Sprinklers having a temperature rating of 175°F to 225°F (79°C to 107°C) shall be classified as intermediate temperature-rated sprinklers.

3.3.9 Systems.

3.3.9.1 Antifreeze System.

An antifreeze system is an automatic sprinkler system containing an antifreeze solution and connected to a water supply. The antifreeze solution, followed by water, discharges immediately from sprinklers opened by a fire.

3.3.9.2 Dry Pipe Sprinkler System.

A sprinkler system employing automatic sprinklers that are attached to a piping system containing air or nitrogen under pressure, the release of which (as from the opening of a sprinkler) permits the water pressure to open a valve known as a dry pipe valve, and the water then flows into the piping system and out the opened sprinkler.

3.3.9.3 Multipurpose Piping System.

A piping system within a residential occupancy intended to serve both domestic and fire protection needs.

3.3.9.4 Network System.

A type of multipurpose system utilizing a common piping system supplying domestic fixtures and fire sprinklers where each sprinkler is supplied by a minimum of three separate paths.

3.3.9.6 Preengineered System.

A packaged sprinkler system including all components connected to the water supply and designed to be installed according to pretested limitations.

3.3.9.7 Sprinkler System.

For fire protection purposes, an integrated system of underground and overhead piping designed in accordance with fire protection engineering standards. The installation includes one or more automatic water supplies. The portion of the sprinkler system aboveground is a network of specially sized or hydraulically designed piping installed in a building, structure, or area, generally overhead, and to which sprinklers are attached in a systematic pattern. The system is usually activated by heat from a fire and discharges water over the fire area.

3.3.9.8 Wet Pipe Sprinkler System.

A sprinkler system employing automatic sprinklers attached to a piping system containing water and connected to a water supply so that water discharges immediately from sprinklers opened by heat from a fire.

Chapter 6 Water Supply

6.1 General Provisions.

6.1.1

Every automatic sprinkler system shall have at least one automatic water supply.

6.1.2

Where stored water is used as the sole source of supply, the minimum quantity shall equal the water demand rate times 10 minutes unless permitted otherwise by 6.1.3.

6.1.3

Where stored water is used as the sole source of supply, the minimum quantity shall be permitted to equal the two-sprinkler water demand rate times 7 minutes where dwelling units meet the following criteria:

- (1) One story in height
- (2) Less than 2000 ft² (186 m²) in area

Chapter 7 Installation

7.5.6* Painting and Ornamental Finishes.

Sprinklers shall not be painted or enameled unless applied by the manufacturer and the sprinkler has been listed with such finishes.

7.5.7 Escutcheon Plates.

Where escutcheons plates or recessed escutcheons are used, they shall be part of a listed sprinkler assembly.

7.5.8 Solvent Cement.

Where solvent cement is used as the pipe and fittings bonding agent, sprinklers shall not be installed in the fittings prior to the fittings being cemented in place.

7.6* Alarms.

Local waterflow alarms shall be provided on all sprinkler systems in homes not equipped with smoke detectors in accordance with NFPA 72, National Fire Alarm Code.

8.6 Location of Sprinklers.

8.6.1 Sprinklers shall be installed in all areas except where omission is permitted by **8.6.2** through **8.6.6**.

8.6.2 Sprinklers shall not be required in bathrooms of 55 ft² (5.1 m²) and less.

8.6.3 Sprinklers shall not be required in clothes closets, linen closets, and pantries that meet all of the following conditions:

- (1) The area of the space does not exceed 24 ft² (2.2 m²).
- (2) The least dimension does not exceed 3 ft (0.9 m).
- (3) The walls and ceilings are surfaced with noncombustible or limited-combustible materials as defined in NFPA 220, Standard on Types of Building Construction.

8.6.4* Sprinklers shall not be required in garages, open attached porches, carports, and similar structures.

8.6.5 Sprinklers shall not be required in attics, crawl spaces, and other concealed spaces that are not used or intended for living purposes.

8.6.6 Sprinklers shall not be required in covered unheated projections of the building at entrances/exits as long as there is another means of egress from the dwelling unit.





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