PROSPER FIRE RESCUE

FIRE MARSHAL'S OFFICE

PO Box 307
911 Safety Way
Prosper, Texas 75078
Phone (972) 346-9469 Fax (972) 347-3010 www.prosperfire.com

A Sprinkler Suppression Contractor's Guide to Success

A sprinkler system cannot be defined by a single component, but the totality of composition. The following information has been assembled to assist contractors in the successful installation of a compliant sprinkler suppression system. Regardless of perceived responsibilities, either directly or delegated to another contractor, the sprinkler suppression contractor of record must certify the full compliance and functionality of the entire system. This includes supporting features provided by the structure according to locally adopted ordinances, national codes & standards, and regulatory licensing commission.

Texas Insurance Code Chapter 6003 (formerly Article 5.43-3)
Fire Protection Sprinkler System Service and Installation and 28 TAC §§ 34.700
The Fire Sprinkler Rules Summer 2016.

§34.718. Installation Tags.

(a) On completion of the installation of a fire protection sprinkler system, all information for an installation tag must be completed in detail to indicate the water supply test data obtained during the time of installation. The tag must be securely attached by a durable method to the riser of each system. The fire protection system must not be tagged until the system complies with the applicable NFPA installation standard, including freeze protection methods.

(b) On completion of the installation of a fire protection sprinkler system and after performing the required initial tests and inspections, an ITM tag, in addition to an installation tag, must also be attached to each riser in accordance with the procedures in this subchapter for completing and attaching ITM tags.

Texas Insurance Code Chapter 6003, Fire Protection Sprinkler System Service and Installation Re-codified with non-substantive changes HB2636, 80th Leg.; Added by Acts 2007, 80th Leg., R.S., Ch. 730, Sec. 1J.001, eff. April 1, 2009. Re-codified with non-substantive changes to clarify and simplify the statutes and to make the statutes more accessible, understandable and usable, per Government Code, Sec. 323.007. Substantive Sections Amended June 23, 2016, Are Marked with a Vertical Line in the Margin.

2015 International Fire Code®

Chapter 9 Fire Protection Systems

Section 901 General

901.1 Scope. The provisions of this chapter shall specify where *fire protection systems* are required and shall apply to the design, installation, inspection, operation, testing, and maintenance of all *fire protection systems.*

901.2 Construction documents. The *fire code official* shall have the authority to require *construction documents* and calculations for all *fire protection systems* and to require permits be issued for the installation, rehabilitation or modification of any *fire protection system. Construction documents* for *fire protection systems* shall be submitted for review and approval prior to system installation.

901.2.1 Statement of compliance. Before requesting final approval of the installation, where required by the *fire code official,* the installing contractor shall furnish a written statement to the *fire code official* that the subject *fire protection system* has been installed in accordance with *approved* plans and has been tested in accordance with the manufacturer's specifications and the appropriate installation standard. Any deviations from the design standards shall be noted and copies of the approvals for such deviations shall be attached to the written statement.

901.5 Installation acceptance testing. Fire detection and alarm systems, fire-extinguishing systems, fire hydrant systems, fire standpipe systems, fire pump systems, private fire service mains, and all other *fire protection systems* and appurtenances thereto shall be subject to acceptance tests as contained in the installation standards and as *approved* by the *fire code official.* The *fire code official* shall be notified before any required acceptance testing.

903.4 Sprinkler system supervision and alarms. All 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.

NFPA® 13 Standard for the Installation of Sprinkler Systems 2019 Edition

The following is a representative sample of the minimum standards which the contractor of record must ensure are in place, functional & compliant before affixing the Installation and Blue ITM Tag to the riser. Under no circumstance is this the limitation of the contractor of record responsibilities.

1.2* Purpose.

1.2.1 The purpose of this standard shall be to provide a reasonable degree of protection for life and property from fire through standardization of design, installation, and testing requirements for sprinkler systems, including private fire service mains, based on sound engineering principles, test data, and field experience.

1.2.2 Sprinkler systems and private fire service mains are specialized fire protection systems and shall require design and installation by knowledgeable and experienced personnel.

1.3 Application.

1.3.1 This standard shall apply to the following:

(1) Character and adequacy of water supplies
(2) Sprinklers
(3) Fittings
(4) Piping
(5) Valves
(6) All materials and accessories, including the installation of private fire service mains

1.3.3 This standard shall also apply to “combined service mains” used to carry water for both fire service and other uses as well as to mains for fire service use only.

7.2.5.2* Sprinklers shall only be painted by the sprinkler manufacturer.

16.2.3 Painting.

16.2.3.1 Where sprinklers have had paint applied by other than the sprinkler manufacturer, they shall be replaced with new, listed sprinklers of the same characteristics, including K-factor, thermal response, and water distribution.

16.2.3.2 Where cover plates on concealed sprinklers have been painted by other than the sprinkler manufacturer, the cover plate shall be replaced.

16.2.7 Stock of Spare Sprinklers

16.2.7.1* A supply of at least six spare sprinklers shall be maintained on the premises so that any sprinklers that have operated or been damaged in any way can be promptly replaced.

16.2.7.2 The sprinklers shall correspond to the types and temperature ratings of the sprinklers in the property.

16.2.7.3 The sprinklers shall be kept in a cabinet located where the temperature to which they are subjected will at no time exceed 100°F (38°C).

16.2.7.6* One sprinkler wrench as specified by the sprinkler manufacturer shall be provided in the cabinet for each type of sprinkler installed to be used for the removal and installation of sprinklers in the system.

16.2.7.7 A list of the sprinklers installed in the property shall be posted in the sprinkler cabinet.

7.7 Waterflow Alarm Devices Waterflow alarm devices shall be listed for the service and so constructed and installed that any flow of water from a sprinkler system equal to or greater than that from a single automatic sprinkler of the smallest K-factor installed on the system will result in an audible alarm on the premises within 5 minutes after such flow begins and until such flow stops.

16.11.7* Attachments — Electrically Operated.

16.11.7.1 Electrically operated alarm attachments forming part of an auxiliary, central station, local protective, proprietary, or remote station signaling system shall be installed in accordance with *NFPA 72*.

8.3.1.8 Location and Protection of System Water Control Valves.

8.3.1.8.1 System water control valves and supply pipes shall be protected against freezing and mechanical injury.

8.3.1.8.2 Valve Rooms.

8.3.1.8.2.1 Valve rooms shall be lighted and heated.

8.3.1.8.2.2 The source of heat shall be of a permanently installed type.

9.5.2.1 Determination of Protection Area of Coverage.

9.5.2.1.1 The protection area of coverage per sprinkler (*As*) shall be determined as follows:

(1) Along branch lines as follows:

(a) Determine the distance between sprinklers (or to wall or obstruction in the case of the end sprinkler on the branch line) upstream and downstream

(b) Choose the larger of either twice the distance to the wall or the distance to the next sprinkler

(c) Define dimension as *S*

(2) Between branch lines, as follows:

(a) Determine perpendicular distance to the sprinkler on the adjacent branch line (or to a wall or obstruction in the case of the last branch line) on each side of the branch line on which the subject sprinkler is positioned

(b) Choose the larger of either twice the distance to the wall or obstruction or the distance to the next sprinkler

(c) Define dimension as *L*

9.5.4.1.3 For ceilings that have insulation installed directly against the underside of the ceiling or roof structure, the deflector distance shall be measured from the bottom of the insulation and shall be in accordance with 9.5.4.1.3.1, 9.5.4.1.3.2, and 9.5.4.1.3.3.

9.5.5.2 Obstructions to Sprinkler Discharge Pattern Development.

9.5.5.2.1 Continuous or non-continuous obstructions less than or equal to 18 in. (457 mm) below the sprinkler deflector that prevents the pattern from fully developing shall comply with 8.6.5.2.

10.2.7.2.1.3* Minimum Distance from Obstructions. (Known as the 3-Times Rule)

(A**)** Unless the requirements of 8.6.5.2.1.4 through 8.6.5.2.1.9 are met, sprinklers shall be positioned away from obstructions a minimum distance of three times the maximum dimension of the obstruction (e.g., structural members, pipe, columns, and fixtures).

(B) The maximum clear distance required shall be 24 in. (609 mm) in accordance with Figure 8.6.5.2.1.3(B).

16.9.3.3* Supervision.

16.9.3.3.1 Valves on connections to water supplies, sectional control and isolation valves, and other valves in supply pipes to sprinklers and other fixed water-based fire suppression systems shall be supervised by one of the following methods:

(1) Central station, proprietary, or remote station signaling service.

16.11.2.1 Local Waterflow Alarms. A local water flow alarm shall be provided on every sprinkler system having more than 20 sprinklers.