

TFMO

2015 IFC:BC 105.2.5 / 2015 IBC:BC 105.7 - All required permits and work authorizations are posted (i.e. Building, EWA, HWA, PWA, Fire Alarm, Fire Protection Systems, etc.).

(IFC) Work requiring a permit/work authorization shall not commence until said permit/work authorization is posted in a conspicuous place on the job site and approved plans are available at this location. Where work is commenced prior to obtaining said permit/work authorization, the fees may be increased by 100% as determined by the AHJ, but payment of the increased fee shall not relieve any person from fully complying with the requirements to obtain a permit/work authorization, nor of any other penalties herein. (IBC) The reviewed building plans and building permit/work authorization or copy shall always be kept readily available on the site of the work is being performed until the completion of the project.

2015 IFC:BC 105.2.5 / 2015 IBC:BC 109.4 - Work commencing before permit issuance (Required permit fees are doubled for violation).

(IFC) Work requiring a permit/work authorization shall not commence until said permit/work authorization is posted in a conspicuous place on the job site and approved plans are available at this location. Where work is commenced prior to obtaining said permit/work authorization, the fees may be increased by 100% as determined by the AHJ, but payment of the increased fee shall not relieve any person from fully complying with the requirements to obtain a permit/work authorization, nor of any other penalties herein. (IBC) Any person who commences any work on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits or work authorizations shall be subject to a fee established by the building official that shall be in addition to the required permit fees. No work shall be started at a new construction site or an existing structure without a permit being issued or by approval to begin work by the Fire Marshal or his designee. Both the individual contractor along with the site general contractor will be held liable for



	such actions. Where work is commenced prior to obtaining said permit, the permit fees shall be increased by twice the original permit fee amount, but payment of the increased fee shall not relieve any person from fully complying with the requirements to obtain a permit, nor of any other penalties herein.
2015 IFC:BC 105.4.7 / 2015 IBC:BC 105.7 - Reviewed and stamped set of plans are available on job site.	(IFC) When a permit/work authorization or approved plans are not available upon request by the Fire Marshal or the Fire Marshal's designee, and any further inspections shall not be scheduled or performed until the fee has been paid. (IBC) The reviewed building plans and building permit/work authorization or copy shall always be kept readily available on the site of the work is being performed until the completion of the project.
System Status	
2015 IFC 901.5 - Witness of installation acceptance testing	In Unincorporated Bexar County, all acceptance tests must be witnessed by the BCFMO inspector. 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.
2015 IFC 903.4.1 - Monitoring provided	Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved supervising station or, where approved by the fire code official, shall sound an audible signal at a constantly attended location.
2013 NFPA 72 14.2.4.1 - Notification prior to testing	Before proceeding with any testing, all persons and facilities receiving alarm, supervisory, or trouble signals, and all building occupants shall



	be notified of the testing to prevent unnecessary response.
General Information	
2013 NFPA 13 6.2.9.1 / 6.2.9.5 - Spare sprinklers on premises	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. The stock of spare sprinklers shall include all types and ratings installed and shall be as follows: (1) For protected facilities having under 300 sprinklers-no fewer than six sprinklers (2) For protected facilities having 300 to 1000 sprinklers-no fewer than 12 sprinklers (3) For protected facilities having over 1000 sprinklers-no fewer than 24 sprinklers
2013 NFPA 13 6.2.9.6 - Sprinkler wrench is provided in the cabinet	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.
2013 NFPA 13 8.16.4.1.3 - Riser room maintained above 40 degrees	Where aboveground water-filled supply pipes, risers, system risers, or feed mains pass through open areas, cold rooms, passageways, or other areas exposed to temperatures below 40 degrees Fahrenheit, the pipe shall be permitted to be protected against freezing by insulating coverings, frost proof casings, or other means of maintaining a minimum temperature between 40- and 120-degrees Fahrenheit.
2013 NFPA 13 25.5.1 - Hydraulic design information signage provided	The installing contractor shall identify a hydraulically designed sprinkler system with a permanently marked weatherproof metal or rigid plastic sign secured with corrosion resistant wire, chain, or other approved means. Such signs shall be placed at the alarm valve, dry pipe valve, pre-action valve, or deluge valve supplying the corresponding hydraulically designed area.



Control Valves	
2013 NFPA 13 6.7.4.1 - Permanent identification signage provided	All control, drain, and test connection valves shall be provided with permanently marked weatherproof metal or rigid plastic identification signs.
2013 NFPA 13 6.9.4.2 - Water flow alarm systems are supervised	Sprinkler waterflow alarm systems that are not part of a required protective signaling system shall not be required to be supervised and shall be installed in accordance with NFPA 70, Article 760.
2013 NFPA 13 8.1.2 - Valves and gauges are accessible	System valves and gauges shall be accessible for operation, inspection, tests, and maintenance.
2013 NFPA 25 13.3.1 - Control valves are properly identified	Each control valve shall be identified and have a sign indicating the system or portion of the system it controls.
NFPA 25 13.3.1.3 - Valves are properly locked or electrically supervised	Each normally open valve shall be secured by means of a seal or a lock or shall be electrically supervised in accordance with the applicable NFPA standards.
2013 NFPA 13 7.2.5.2.1 - Valve rooms are lighted and heated	Valve rooms shall be lighted and heated.
2013 NFPA 13 7.2.5.2.2 - Heat source permanently installed	The source of heat shall be of a permanently installed type.
Fire Department Connections	
2015 IFC 912.5 - FDC signage	A metal sign with raised letters not less than 1 inch in size shall be mounted on all fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION or a combination thereof as applicable. Where the fire department connection does not serve the entire building, a sign shall be provided indicating the portions of the building served.

2015 IFC:BC 912.4.1 / 2013 NFPA 13 6.8.2 - FDC equipped with approved plugs or caps	IFC:BC - The fire code official is authorized to require locking KNOX caps on fire department connections for water-based fire protection systems where the responding fire department carries appropriate key wrenches for removal. NFPA 13- Fire department connections shall be equipped with approved plugs or caps, properly secured and arranged for easy removal by fire departments.
2013 NFPA 13 26.2.7.7 - FDC thread is compatible with FD equipment	Fire department connection thread type shall be compatible with fire department equipment.
2015 IFC:BC 912.5.1 - FDC Markings on free standing FDCs.	Free standing FDC shall be marked with a visible sign that meets the requirements indicated in 912.2.2. The fire department connection shall be indicated by an approved sign mounted on the street front or on the side of the building. Such sign shall have the letters "FDC" not less than 6 inches high and words in letters not less than 2 inches high or an arrow to indicate the location. Such signs shall be subject to the approval of the fire code official.

Sprinklers

2013 NFPA 13 6.2.6.2.2 - Sprinklers free of paint or over spray	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.
2013 NFPA 13 6.2.6.2.3 - Escutcheons and cover plates free of paint	Where cover plates on concealed sprinklers have been painted by other than the sprinkler manufacturer, the cover plate shall be replaced.
2013 NFPA 13 6.2.7.1 - Escutcheons and cover plates provided	Plates, escutcheons, or other devices used to cover the annular space around a sprinkler shall be metallic or shall be listed for use around a sprinkler.

2013 NFPA 13 8.3.1.3 - Upright sprinklers properly installed (arms parallel to branch line)	Upright sprinklers shall be installed with the frame arms parallel to the branch line, unless specifically listed for other orientation.
2013 NFPA 13 8.3.1.5.2 - Protective caps and straps are removed	Protective caps and straps shall be removed from all sprinklers prior to the time when the sprinkler system is placed in service.
2013 NFPA 13 8.5.5.2.1 - Proper coverage (18 inches)	<p>Continuous or noncontinuous obstructions less than or equal to 18 in. below the sprinkler deflector that prevent the pattern from fully developing shall comply with 8.5.5.2. 8.5.5.2.2 Sprinklers shall be positioned in accordance with the minimum distances and special requirements of Section 8.6 through Section 8.12 so that they are located sufficiently away from obstructions such as truss webs and chords, pipes, columns, and fixtures. 8.5.5.3 Obstructions that Prevent Sprinkler Discharge from Reaching Hazard. Continuous or noncontinuous obstructions that interrupt the water discharge in a horizontal plane more than 18 in. below the sprinkler deflector in a manner to limit the distribution from reaching the protected hazard shall comply with 8.5.5.3. 8.5.5.3.1 Sprinklers shall be installed under fixed obstructions over 4 ft wide.</p>
2013 NFPA 13 8.6.3.3 - Sprinklers located a minimum of 4 inches from walls	Sprinklers shall be located a minimum of 4 inches from a wall.
Pipe and Fittings	
2013 NFPA 13 26.2.5.1 - Piping is properly supported	<p>(1) Pipe supports shall be designed to provide adequate lateral, longitudinal, and vertical sway bracing. (2) The design shall account for the degree of bracing, which varies with the route and operation of the vessel. (3) Bracing shall be designed to ensure the following: (a) Slamming, heaving, and rolling will not shift sprinkler piping, potentially moving sprinklers above ceilings, bulkheads, or other obstructions. (b) Piping and sprinklers will remain in place at a steady heel angle at least equal to the maximum required damaged survival angle. (4)</p>



	Pipe supports shall be welded to the structure. (5) Hangers that can loosen during ship motion or vibration, such as screw-down-type hangers, shall not be permitted. (6) Hangers that are listed for seismic use shall be permitted to be used in accordance with their listing.
NFPA 25 5.2.2.1 - Pipe and fittings are in good condition	Pipe and fittings shall be in good condition and free of mechanical damage, leakage, and corrosion.
NFPA 25 5.2.2.2 - Sprinkler piping is free from objects	Sprinkler piping shall not be subjected to external loads by materials either resting on the pipe or hung from the pipe.
NFPA 25 5.2.3.1 - Hangers are in good condition	Hangers and seismic braces shall not be damaged, loose, or unattached.
Testing	
2013 NFPA 13 10.10.2.2.1 - Witness of hydro test. Pressure holds at 200 psi for 2 hours.	All piping and attached appurtenances subjected to system working pressure shall be hydrostatically tested at 200 psi or 50 psi more than the system working pressure, whichever is greater, and shall maintain that pressure +/- psi for 2 hours.
2013 NFPA 13 25.2.3.2.1 - Flow test (Inspector's test connection)	A working test of the dry pipe valve alone and with a quick-opening device, if installed, shall be made by opening the inspector's test connection. The test shall measure the time to trip the valve and the time for water to be discharged from the inspector's test connection. All times shall be measured from the time the inspector's test connection is completely opened.
NFPA 25 13.3.3.5.2 - Supervisory / tamper is operating properly	A distinctive signal shall indicate movement from the valves normal position during either the first two revolutions of a hand wheel or when the stem of the valve has moved one-fifth of the distance from its normal position.
2013 NFPA 72 17.12.2 - Flow alarm activation within 90 seconds	Activation of the initiating device shall occur within 90 seconds of waterflow at the alarm-



	initiating device when flow occurs that is equal to or greater than that from a single sprinkler of the smallest orifice size installed in the system.
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Tagging & Certification	
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SFMO 34.717 - Sprinkler System Plans provided	(a) A set of as-built plans and hydraulic calculations, showing details of system piping, calculations, and alarm configurations, must be provided to the building owner or his representative when installation is complete. The firm must also maintain a set of as-built plans for the life of the sprinkler system. (b) Subsequent alterations or additions must be legibly noted on updated plans and provided to the owner. When an alteration consists of 20 sprinklers or less and all floor areas were protected prior to the alteration, updated plans are not required. Updated plans are required for all alterations consisting of more than 20 sprinklers. Updated plans must be maintained by the firm for the life of the sprinkler system. (c) All plans must contain the name and license number of the licensed responsible managing employee, the name, address, phone number, and the certificate of registration number of the registered firm.
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SFMO 34.718 - Installation tags: White	If tag is current, this item should be marked No Violation. If tag is expired or a red or yellow tag is present, this item should be marked Violation and should not pass final inspection. (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
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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. (c) A new installation tag must be attached, in addition to the existing installation tag, each time more than twenty sprinkler heads are added to a system. (d) Installation tags must remain on the system for the life of the system. (e) Installation tags may be printed for a multiple period of years. (f) Installation tags must be white in color, 5 1/4 inches in height, and 2 5/8 inches in width. The tag and attaching mechanism must be sufficiently durable to remain attached to the system for the life of the system.

SFMO 34.720 - State inspection tag on system is current and signed by licensed installer.

If tag is current, this item should be marked No Violation. If tag is expired or a red or yellow tag is present, this item should be marked Violation and should not pass final inspection. (a) After a new installation or a scheduled inspection, testing and maintenance (ITM) service, all portions of an ITM tag must be completed in detail, indicating the ITM service was performed according to the adopted standards, and the tag must be attached to the respective riser of each system. (b) After any ITM service, the inspector must complete and attach an ITM tag, and if impairments are found, the inspector must attach the appropriate yellow or red tag in accordance with the procedures in this sub chapter. (c) A new ITM tag must be attached each time an inspection, testing and maintenance service is performed. (d) ITM tags shall remain on the system for five years after which time they may only be removed by an authorized employee of a registered firm. An employee of the state fire marshal's office or an authorized representative of a governmental agency with appropriate regulatory authority may remove excess tags at any time. (e) ITM tags may be printed for a multiple period of



	years. (f) ITM tags must be light blue in color, 5 1/4 inches in height, and 2 5/8 inches in width.
Other	
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).
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