



# Fire Marshal's Notice

March 2021

**The Texas State Fire Marshal's Office (SFMO) has been notified of several cases of improper installations that fail to protect dry sprinklers on wet pipe systems. Licensees should be aware that they are liable for improper installations.**

Where dry sprinklers are connected to a wet pipe sprinkler system, NFPA 13 (2015 edition) requires the fittings supplying the dry sprinklers, and in some instances a portion of the dry sprinkler barrel (those identified with a length other than 0 in.), to be located in a space having a temperature of 40° F or higher in accordance with Table 8.4.9. 1 (a) or (b). The requirements of NFPA 13, sections 8.4.9.1 and 8.4.9.2 are stated below:

#### 8.4.9.1

*Where dry sprinklers are connected to wet pipe sprinkler systems protecting areas subject to freezing temperatures, the minimum exposed length of barrel of the dry sprinkler shall be in accordance with Table 8.4.9.1(1) or Table 8.4.9.1 (b).*

#### 8.4.9.2

*The minimum barrel length shall be measured from the face of the fitting to which the dry sprinkler is installed to the inside surface of the insulation, wall or ceiling leading to the cold space, whichever is closest to the fitting.*

It is important to note that Section 8.4.9 and the associated tables assume that the required portions of the sprinkler system are exposed to the temperature controlled space so that freezing will not occur by conduction from the cold area to the branch line. Branch lines that run within the insulated space of the exterior wall generally do not meet this requirement. Insulation used for protection of piping shall only be permitted to be installed between the piping and exterior. In no case, will Insulation be permitted between the pipe or fitting supplying the dry sprinkler and the heated space.

Alternative performance based engineering approaches using insulation, ventilation openings or localized heating must be specifically approved by the Authority Having Jurisdiction for the exposure conditions for the location where the system is being installed.

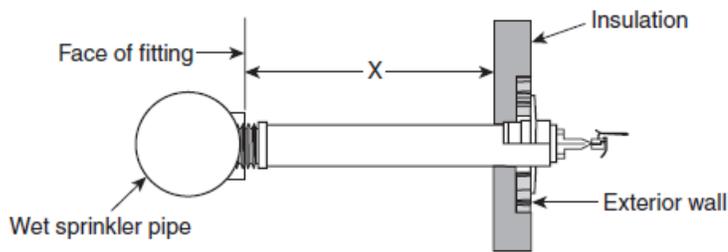
When a licensee is responsible for an installation involving a dry sidewall or dry pendent sprinkler within a wall or ceiling space as part of a wet pipe sprinkler system installation, the branch line and exposed barrel length identified in either Table 8.4.9.1 (a) or (b) must be located within the heated envelope of the building (conditioned space having a temperature at or exceeding the selected value from the Table). If the minimum exposed barrel length and fitting supplying the dry sprinkler cannot be maintained by the owner at or above the selected exposure temperature from Table 8.4.9.1 (a) or (b), the licensee's installation shall be considered non-compliant with the requirements of NFPA 13, Section 8.4.9.1.

The exterior (ambient exposure) temperature selected must consider historical low temperature for the area where the sprinkler system is being installed. Interior temperature must be maintained at or above the temperature selected from Table 8.4.9.1, but never less than 40° F. Failure to comply with these requirements will result in potential for failure due to freezing temperatures. This is considered improper installation and the licensee would be held accountable for the improper installation and any failure that occurs as a result.

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It is also important to remember that the value "X" in the tables is measured from the face of the fitting on the branch line (wet pipe system, in the temperature conditioned space) to the INSIDE surface of the INSULATED wall through which the barrel penetrates. If there is no "inside surface", "X" should be measured from the inside face of the insulation to the face of the fitting. In either instance, if the distance required by the table is not achieved, freezing is possible. Also, if the temperature for which the "X" value was used is not maintained or exceeded, freezing may occur.

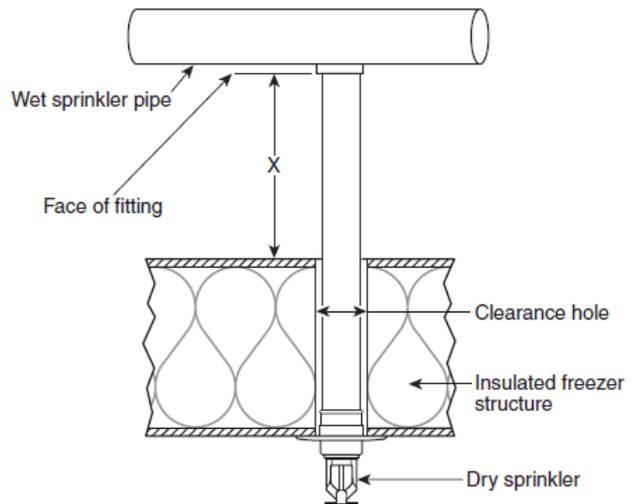


X = Minimum exposed barrel length

X is measured from the face of the sprinkler fitting to the inside surface of the exterior wall or insulation—whichever is closer to the fitting.

FIGURE A.8.4.9.1(a) Dry Sidewall Sprinkler Through Wall

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X = Minimum exposed barrel length

X is measured from the face of the sprinkler fitting to the inside surface of the exterior wall or insulation—whichever is closer to the fitting.

FIGURE A.8.4.9.1(b) Dry Pendent Sprinkler Through Ceiling or Top of Freezer.

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