

	<b>CITY OF AUSTIN FIRE DEPARTMENT-FIRE MARSHAL'S OFFICE</b> <b>FIRE PROTECTION ENGINEERING SECTION</b>	
	<b>AFD Clarification on Horizontal Sprinkler Piping Hangers</b>	
	Prepared By: Jennifer Verhulst, P.E.	Issued on: 01/17/2025
		Revised:
6310 Wilhelmina Delco Dr. Austin, TX 78752 512-974-0160, Extension 2, fireprevention@austintexas.gov		

This document is intended to provide design professionals the most recent Austin Fire Department (AFD) clarification of the below referenced standard section(s) related to large (4-inch diameter and larger) horizontal sprinkler piping hangers.

**REFERENCES**

NFPA 13 – 2019 Edition, Section 17.1.2 and 17.4.1.3.1

**BASIC REQUIREMENTS**

Due to a recent local failure of a horizontal standpipe connection to the structural floor framing system, AFD will require documentation demonstrating that the associated NFPA requirements for hangers (§ 17.1.2) and supporting structure (§ 17.4.1.3.1) have been addressed. It is imperative that hangers withstand construction and operational loads to prevent injury and prevent loss of water supply during a fire event.

The below sections are provided to clarify specific to requirements for hangers and supporting structure. This is not intended to exclude or omit any other requirements. All requirements of NFPA 13 Chapter 17 for installation of hangers and support of system piping shall be included in submitted plans and documents.

**NFPA 13, § 17.1.2** states that ‘Hangers certified by a registered professional engineer to include all of the following shall be an acceptable alternative to the requirements of Chapter 17:

- 1) Hangers shall be designed to support five times the weight of the water-filled pipe plus 250 lb at each point of piping support.
- 2) These points of support shall be adequate to support the system.
- 3) The spacing between hangers shall not exceed the value given for the type of pipe as indicated in Table 17.4.2.1(a) or 17.4.2.1(b).
- 4) Hanger components shall be ferrous.

- 5) Detailed calculations shall be submitted, when reviewed by the reviewing authority, showing stresses developed in hangers, piping, and fittings, and safety factors allowed.'

In response to a technical question request, NFPA technical staff stated that if a hanger is UL listed, then it has been tested to meet § 17.1.2(1), and hangers may be safely spaced per NFPA 13, § 17.4.2. If a hanger is not UL listed then it must be must be certified per § 17.1.2.

Details and components of hangers and how mechanism of attachment to the structure shall be submitted for review and shall be the exact elements that will be installed. Hanger type(s), location(s), attachment method, fasteners used and spacing shall be project specific. Generic details/tables copied and pasted from referenced standards or other publications will not be accepted. Many manufacturers have published sprinkler attachment details. Manufacturer-specific details, for the appropriate sprinkler piping size, may be submitted in lieu of calculations.

**NFPA 13, § 17.4.1.3.1** states 'Sprinkler piping shall be substantially supported from the building structure, which must support the added load of the water-filled pipe plus 250 lb applied at the point of hanging, except where permitted by 17.4.1.1.2, 17.4.1.3.3, and 17.4.1.4.1.'

Calculations from a Texas Licensed Structural Engineer shall be submitted for review demonstrating that the supporting structural framing members can withstand the additional weight of the water-filled pipe plus 250 lb.

### **INSPECTION REQUIREMENTS**

Submitted documents shall include a manufacturer-specific hanger detail, UL listed hanger system, or sealed hanger calculations along with sealed calculations for the supporting structural framing members. Fire inspectors will reference the approved hanger components and spacing to inspect the installation.

End of  
Document