

Common Riser Support Using Rod

Violates NFPA 13

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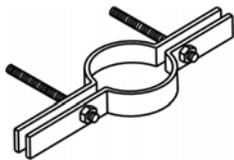
This article describes a common misapplication of hanger rod in the support of NFPA 13 risers. (See drawing A)

It has become common practice for fire sprinkler contractors to incorrectly identify a riser clamp assembly as riser support when it incorporates horizontal hanger rod fastened to a wall. As part of this assembly these hanger rods have limited influence in only the horizontal plane. Horizontal rods have ability in tension which is force/load away from the face of the wall and have diminished ability in compression which is force/load toward the face of the wall. NFPA 13 does not allow hanger rod mounted horizontally to provide vertical support because non-axial loading will create a bending moment on the rods. (See reference A9.1.2.3) Therefore, the assembly per drawing A is horizontally stabilizing the riser perpendicular to the face of the wall.

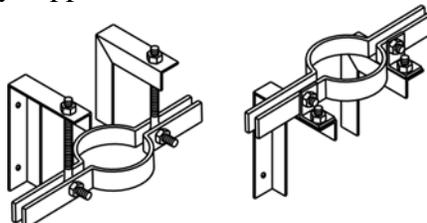
2013 NFPA 13 reference:

A.9.1.2.3 (1) – “Hanger rods are intended only to be loaded axially (along the rod). Lateral loads can result in bending, weakening and even breaking the rod.”

9.2.5.3 – “Riser clamps anchored to walls using hanger rods in the horizontal position shall not be permitted to vertically support risers.”



Drawing A



Drawings B & C

Riser clamps are designed to be supported from their ears with the gravitational load applied parallel to both the system pipe and the face of both fastener flanges. This can be accomplished from above the ears with rods, etc. or from below the ears by the structure or brackets. (See drawing B & C.)

2007 NFPA 13 recognized assembly A as so obsequious that text was added to specifically reject this application. (See reference 9.2.5.3) In closing, incorrectly describing assembly A as riser support is still too common in the fire sprinkler industry. This problem will persist, until AHJ’s become more proactive and specifically reject this definition of this assembly.



Kraig Kirschner is a third generation fire sprinkler contractor and a journeyman fitter. He is a Principal Member of NFPA 13 - Hanging and Bracing Technical Committee and serves on Standard Technical Panels of UL 203, UL 203A and FM 1950. Kraig is a Life Member of the National Fire Protection Association and was named Person of the Year in 2009 Fire Protection Contractor Magazine. He holds dozens of patents that enhance the installation and application of hangers and sway braces.