

Wraparound U-Hooks

Not Appropriate to Resist Vertical Movement of a Pendent Sprinkler Below Ceiling

© 2001 Kraig Kirschner
AFCON

Most Wraparound U-Hooks are shop made and do not require UL listing per NFPA 13 Chapter 9 – 9.1.1.4.2. Their shape features loose pipe fit geometry to accommodate easy pipe insertion. Pipe radius and fastener hole tolerances vary between shop made, field made and various hanger manufacturers. Closely controlled manufacturing tolerances are not common to these hangers. NFPA 13 Chapter 9 advises that Wrap Around U-Hook's are appropriate for horizontal restraint of 1 thru 2-inch line piping per 9.3.6.1. (2) and horizontal/vertical restraint of the end line sprinkler per 9.3.6.3. The intended restraint in 9.3.6.3 is to keep piping from impacting building elements and restrain excessive movement, which could damage sprinkler heads.

This variation of Wrap Around U-Hook product dimension tolerance makes them incapable of vertical restraint to a specific dimension of the pendent sprinkler below ceiling. They would have to be custom made to close tolerances specific to pendent sprinkler vertical restraint, to achieve desired results. Recognizing these facts, I do not believe Wrap Around U-Hook's are appropriate to control pendent sprinkler deflector distance below ceilings per NFPA 13 Chapter 9 - 9.2.3.4.4.

I believe the appropriate hanger components to address NFPA 13 Chapter 9 - 9.2.3.4.4 are listed surge restrainers. These products are made to strict manufacturing tolerances and must meet strict deformation criteria at rated load. Surge restrainers are listed only for use and only for installation with specific ring hangers. This strict limited product combination provides constant profile height gap dimensions, thus maintaining the correct pendent sprinkler deflector distance dimension.