

Flexible Sprinkler Piping

Q: I have recently heard about flexible sprinkler piping. Can you advise what it is, where it can be used, what are its limitations, and is it UL Listed?

A: Flexible sprinkler piping is UL Listed under product category VENN as “Flexible Sprinkler Hose with Fittings.” This category covers flexible sprinkler hose with fittings intended for use in sprinkler systems between the branch line and sprinkler when installed in accordance with ANSI/NFPA 13, “Standard for the Installation of Sprinkler Systems;” ANSI/NFPA 13R, “Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height;” or ANSI/NFPA 13D, “Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes,” and the manufacturer’s installation instructions.

A flexible sprinkler hose assembly consists of a flexible hose, inlet fitting for connection to

the branch line and an outlet fitting for connection to the sprinkler. These flexible hose with fittings are intended to be installed using the anchoring devices referenced in the manufacturer’s installation instructions. Flexible hose length is limited to a maximum of 6 feet so as to minimize the potential for inadequate support and undesirable movement of a sprinkler after installation. UL’s Listing information includes additional information relative to proper use such as allowable number of bends, minimum bend radii, pressure loss, type of flexibility and maximum temperature rating. The manufacturer’s installation instructions include additional information such as anchoring device installation procedures and sprinklers to be attached to the outlet fitting.

As indicated in the individual Listings, these products may have high flexibility or limited flexibility. Products having high flexibility are intended for use in applications where

frequent movement between the two ends of the hose is expected after installation. Products having limited flexibility are intended for use in applications where little or no movement between the two ends is expected after installation.

These products are intended for use in hydraulically-designed sprinkler systems. The hydraulic pressure loss associated with these devices needs to be included in the hydraulic design calculations. Pressure loss is published in equivalent length, in feet of 1-in. diameter Schedule 40 steel pipe (where the Hazen-Williams coefficient of friction is C equals 120).

The basic standard used to investigate products in this category is UL 2443, “Flexible Sprinkler Hose with Fittings for Fire Protection Service.” Authorities Having Jurisdiction should be consulted before installation.

