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# **RECOMMENDED ENGINEERING SPECIFICATION FOR ASSUREFLEX® 2-LEG U STYLE LOOP**

# **EXPANSION LOOPS AND SEISMIC LOOPS FOR FIRE PROTECTION**

## PART 1 GENERAL

1.01 SECTION INCLUDES

A. AssureFlex® Two-leg U style flexible loop, model FPTL3U (+/-1.5") or FPTL8U (+/-4"), which provides a flexible pipe loop that will absorb and compensate thermal movement (X plane ) or seismic movement (X, Y, Z plane) as well as reduce piping stress.

Models FPTLU4/8M (male NPT ends)

Models FPTLU4/8F (150# plate steel flanges)

Models FPTLU4/8G (groove pipe ends)

Models FPTLU4/8W (beveled weld ends)

1.02 MANUFACTURES

A. AssureFlex® Two-leg U style flexible loop shall be manufactured by Flex Hose Co. or pre-approved equal.

PART 2 PRODUCTS

2.01 2-Leg U style flexible loop

## Construction to be 2 equal length sections of annular corrugated 321 / 304L stainless close-pitch hose (made in USA) with stainless steel over-braid (made in USA) that will absorb or compensate for pipe movements thermally or when used in seismic applications.

1. The corrugated metal hose, braid(s), and a stainless steel ring-ferrule/band (material gauge not less than .048") must be integrally seal welded using a 100% circumferential, full penetration TIG welds. End fittings shall be selected per application. Fittings must be attached using a 100% circumferential TIG weld.
2. Braided stainless steel flexible loops must be suitable for operating temperatures up to 850 degrees F (455 degrees C).
3. Flexible loops must be designed for pressure testing to 1.5 times their maximum rated working pressure and a minimum 4:1 (burst to working) safety factor.
4. Each braided flexible hose loop shall be individually leak tested by the manufacturer using air-under-water, helium vacuum and/or hydrostatic pressure to 1.5 times rated working pressure prior to shipment.
5. Flexible hose loops shall be prepared for shipment using a cut-to-length metal shipping bar, tacked securely between the elbows of the two parallel legs, to maintain the manufactured length during shipping. Shipping bar must be removed prior to system start-up.
6. The Flex-Hose Co. hanger assembly kit shall be used to support and hang the flexible hose loop. The UL Listed Seismic Wire/Cable assemblies conform to the requirements of the ASCE (American Society of Civil Engineers) guidelines for structural applications of wire rope, in that the cable is pre-stretched and the permanent end fittings maintain the break strength of the cable with a safety factor of two.
7. The pre-manufactured flexible loop shall be installed and guided following the manufacturer's published installation instructions Two-leg V style manufactured loops that require pipe alignment guides (in thermal applications) shall use "Spider" type with outer housing ring affixed to building structure with rigid elements. Units shall be fabricated from carbon steel. Pipe hangers and/or roller supports shall not be considered acceptable for use as guides.
8. 2-Leg U Style Loops shall be third party listed by UL (Underwriters Laboratories) for use in fire protection systems in both the United States an Canada.
9. All standard models that are UL listed must be rated for 300 PSI ½”-3” and 175 PSI for sizes 4”-12” nominal hose inside diameter.
10. High Pressure models UL listed for 300 PSI 4”-6” nominal hose inside diameters to be used for where pressure indicates.
11. For the Canadian market they must be standard B51 certified, inspected and tested by the Technical Standards and Safety Authority of Canada
    1. WARRANTY

AssureFlex® Two-leg flexible U style loop must have a 5-year full product replacement warranty when installed in accordance with all specifications and installation instructions as described in the Two-Leg V / U style flexible loop Installation and Maintenance Instructions.