

ICC-ES PMG Listing

PMG-1038

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This listing is subject to re-examination in one year.www.icc-es.org/pmg | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

CSI: DIVISION: 15—MECHANICAL
Section: 15140—Domestic Water Piping

Products: Viega LLC's PureFlow® ViegaPEX™, ViegaPEX™ Ultra, ViegaPEX™ Barrier, and FostaPEX® cross-linked polyethylene (PEX) tubing, and PEX Press and PEX Crimp fitting systems, used in potable hot- and cold-water distribution systems.

Listee: Viega LLC
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Compliance with the following codes:

2009 *International Plumbing Code*® (IPC)
2009 *International Residential Code*® (IRC)
2009 IAPMO *Uniform Plumbing Code** (IAPMO UPC)*

**Uniform Plumbing Code* is a copyrighted publication of the International Association of Plumbing and Mechanical Officials, 5001 East Philadelphia Street, Ontario, California 91716.

Compliance with the following standards:

ASTM F 876, Standard Specification for Crosslinked Polyethylene (PEX) Tubing
ASTM F 877, Standard Specification for Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems
ASTM F 1807, Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing
ASTM F 2159, Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing
NSF 61, Drinking Water System Components - Health Effects
LC1004, PP, PEX, PEX-AL-PEX, and PP-AL-PP Piping, Tube and Fittings Used In Radiant Heating and Water Supply Systems

Identification:

Tubing: The Viega LLC PureFlow® ViegaPEX™, ViegaPEX™ Ultra, ViegaPEX™ Barrier, and FostaPEX® tubing covered by this listing must be labelled at minimum intervals of 5 feet (1524 mm) with the manufacturer's name and/or trademark (Viega), product name (LLC PureFlow® ViegaPEX™, ViegaPEX™ Ultra, ViegaPEX™ Barrier, or FostaPEX®), nominal tubing size, potable water designation, standard dimension ratio (SDR 9), material designation (PEX 1006), pressure rating [160 psi at 73°F, 100 psi at 180°F], ASTM F 876/F 877 designation, name of the third-party inspection agency (NSF International, AA-633), and the ICC-ES PMG listing mark. The ICC-ES PMG listing number (PMG-1038) is optional.

Listings are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the listing or a recommendation for its use. There is no warranty by ICC Evaluation Service, Inc., express or implied, as to any finding or other matter in this listing, or as to any product covered by the listing.

Fittings: The Viega LLC PEX Press fittings covered by this listing must be labeled with the Viega trademark, potable water designation, nominal size, product code, and ASTM F 877 designation. The PEX Crimp fittings covered by this listing must be labeled with the manufacturer's trademark, potable water designation, nominal size and appropriate manufacturing code (ASTM F 1807 or ASTM F 2159). Packages of fittings must bear the Viega LLC name, product name, model number and the ICC-ES PMG listing mark. The ICC-ES PMG listing number (PMG-1038) is optional.

Installation:

General: Viega LLC tubing and fittings must be manufactured, identified and installed in accordance with this listing, the applicable code and the manufacturer's published installation instructions. Manufacturer's published installation instructions must be furnished to the code official. Installation must conform with the requirements of the applicable code, and is subject to approval by the code official having jurisdiction. The outer and aluminum layers of Fosta PEX[®] tubing must be removed with a tool supplied by Viega LLC before a pipe/fitting joint is made.

Water Distribution: Horizontally laid pipe must be secured in such a manner that temperature-induced expansion and contraction are accommodated. In jurisdictions enforcing the IAPMO UPC, PEX tubing must not be installed within the first 18 inches (457 mm) of piping connected to a water heater.

Inspection of Water Distribution Piping: Installed tubing must be pressure-tested and inspected as required by Section 312.5 of the IPC, Section P2503.6 or the IRC or Section 103.5 of the IAPMO UPC.

Clearances from heat-producing equipment must be in accordance with Section 503.7.7 of the 2006 *International Fuel Gas Code*[®], Section M1306 of the IRC or Section 802.10.5 of the IAPMO UMC, as applicable.

Models: **Tubing:**

General: The Viega LLC PureFlow[®] ViegaPEX[™], ViegaPEX[™] Ultra, ViegaPEX[™] Barrier, and FostaPEX[®] tubing products are manufactured from cross-linked polyethylene (PEX) materials satisfying NSF 61, as well as ASTM F 876 and F 877. Viega LLC tube and fitting products are pressure-rated for 100 psi (689 kPa) at 180°F (82°C), for a standard dimension ratio of 9. The standard dimension ratio is the ratio of tube outside diameter to the wall thickness and is constant for all Viega LLC tube sizes.

PureFlow[®] ViegaPEX[™] tubing is red, white, or blue in color, and available in 1/4-, 3/8-, 1/2-, 3/4-, and 1-inch (6.3, 9.5, 12.7, 19.1, and 25.4 mm) nominal diameter sizes in coils ranging from 100 to 1000 feet (30.5 m to 305 m) in length, and in straight lengths of 20 feet (6.1 m).

ViegaPEX[™] Ultra has a black core with an outer color-coded layer of red, white, blue, or black, and is available in 3/8-, 1/2-, 3/4-, 1-, 1 1/4-, and 1 1/2-inch (9.5, 12.7, 19.1, 25.4, 31.7, and 38.1 mm) nominal diameter sizes in coils ranging from 100 to 1000 feet (30.5 m to 305 m) in length, and in straight lengths of 20 feet (6.1 m).

ViegaPEX[™] Barrier is black with a red stripe and is composed of four layers: PEX, oxygen barrier, a second oxygen barrier, and the outer black layer that sports the red stripe. ViegaPEX[™] Barrier is available in 5/16-, 3/8-, 1/2-, 5/8-, 3/4-, 1-, 1 1/4-, 1 1/2-inch (7.9, 9.5, 12.7, 15.9, 19.1, 25.4, 31.7, and 38.1 mm) nominal diameter sizes in coils ranging from 100 to 4000 feet (30.5 m to 1220 m) in length, and in straight lengths of 20 feet (6.1 m).

FostaPEX[®] tubing has a fully dimensional inner layer of ViegaPEX[™] with the addition of an aluminum layer and an outer polyethylene layer. FostaPEX[®] tubing is silver or red in color and available in 1/2-, 3/4- and 1-inch (12.7, 19.1, and 25.4 mm) nominal diameter sizes. Silver FostaPEX[®] is available in coils ranging from 150 to 400 feet (45.8 to 122 m) in length, and in straight lengths of 20 feet (6.1 m). Red FostaPEX[®] is available in 150-foot (45.8 m) coils.

Fittings:

The PureFlow[®] PEX Press fitting system can be used for ViegaPEX[™], ViegaPEX[™] Ultra, ViegaPEX[™] Barrier and FostaPEX[®] tubing. The outer and aluminum layers of Fosta PEX[®] tubing

must be removed with a tool supplied by Viega LLC before a pipe/fitting joint is made. The fittings are bronze, insert-type with either an external or attached stainless steel press sleeve. The fittings must be installed in the end of the tubing by installation of the stainless steel press sleeve over the tubing and insertion of the bronze insert fitting. The stainless steel press sleeve must then be pressed onto the tube and fitting with a proprietary ratchet-style tool that is supplied by Viega LLC. The tool only releases from the fitting once the full compression is exerted on the fitting. When used with the fittings noted above, PureFlow® PEX Press fittings comply with the ASTM F 877. The fittings are illustrated in Figure 1.

The PureFlow® PEX Crimp fittings are only for use with ViegaPEX™ and ViegaPEX™ Ultra tubing in nominal diameters up to 1 inch (25.4 mm). The fittings are brass, copper or PolyAlloy, insert-type using an external copper crimp ring. The fitting is installed in the end of the tubing by installation of the copper crimp ring over the end of the tubing and insertion of the barbed fitting. The copper ring is then crimped onto the tubing and fitting within 1/8 inch to 1/4 inch of the end of the tubing, with a PEX crimp hand tool supplied by Viega LLC. The fittings are illustrated in Figure 2. Both fitting systems must be attached to tubing in strict accordance with Viega LLC PureFlow® installation instructions.

Conditions of Listing:

1. The tubing must be maintained at the proposed operating pressure during placement of concrete cover for a hydronic piping system.
2. The tubing installation must be pressure-tested for leaks in the presence of the code official or the official's designated representative.
3. When installation is in fire-resistive assemblies, evidence of compliance with IBC Section 712 (penetrations) must be provided to the code official.
4. The tubing must not be used as a source of electrical ground.
5. The minimum cold free-bending radius is eight times the outside diameter, or five times the outside diameter with use of a bend support supplied by Viega LLC. The outside diameter is the nominal diameter plus 1/8 inch (3.2 mm).
6. All systems must be installed in accordance with the manufacturer's installation instructions, which are provided with the product. Installation must conform to relevant requirements of the referenced codes and is subject to approval by the code official. Manufacturer's instructions must be furnished to the code official upon request.
7. The tubing is manufactured in McPherson, Kansas, and Ochtrup, Germany, and the fittings are manufactured in Attendorn, Germany, under a quality control program with inspections by NSF International (AA-633).



FIGURE 1—VIEGA PRESS SLEEVE FITTINGS

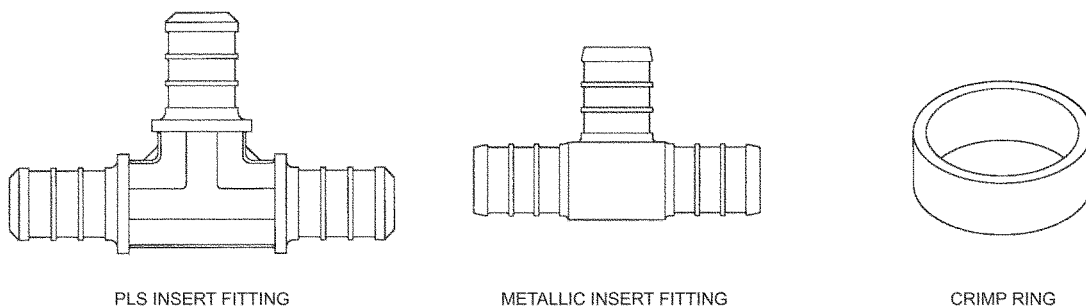


FIGURE 2—TYPICAL INSERT FITTINGS