

# 1 Tech Data Sheets

## PureFlow Press Zero Lead Bronze Fittings



**PureFlow Press Zero Lead Bronze Fittings with Attached Stainless Steel Press Sleeves for Viegia PureFlow PEX, Barrier and FostaPEX SDR-9 Cross-linked Polyethylene (PEX) tubing.**

### Scope

This document designates the requirements for Viegia PureFlow Press Zero Lead Bronze fittings with attached stainless steel press sleeves and tool locator ring to be used as connections for Viegia PureFlow PEX, Barrier PEX, and FostaPEX tubing in  $\frac{5}{16}$ " ,  $\frac{3}{8}$ " ,  $\frac{1}{2}$ " ,  $\frac{5}{8}$ " ,  $\frac{3}{4}$ " , 1" ,  $1\frac{1}{4}$ " ,  $1\frac{1}{2}$ " , and 2" sizes as available. The connections are to be completed with the aid of a PureFlow Press hand tool or PureFlow Press power tool.

### Materials

Viegia PureFlow Press Zero Lead Bronze fittings are cast and machined from extruded (C87700) or forged (C87710) Zero Lead Bronze. This gives the fitting high-corrosion and stress-crack resistance. All Viegia PureFlow Press Zero Lead Bronze fittings are precision-made to tight tolerances for a consistent fit with Viegia PureFlow PEX tubing. All PureFlow Press Zero Lead Bronze fittings meet the rigorous requirements of ANSI/NSF-61 Annex G for lead extraction and meet California AB 1953 no lead requirements. "Zero Lead" identifies Viegia products meeting the lead free requirements of California and Vermont law, effective January 1, 2010, as tested and listed against NSF-61, Annex G.

The stainless steel press sleeves incorporate three (3) view holes and are manufactured from 304 stainless steel that will not corrode, maintaining a clean appearance for the lifetime of the system. The tool locator rings are color-coded to match their appropriately-sized PureFlow Press hand tool and are manufactured out of recycled plastic. (Stainless steel locator rings are used for solder adapters.)

### Markings

Viegia PureFlow Press Zero Lead Bronze fittings with attached stainless steel sleeves are manufactured and certified to the requirements of ASTM F877. Viegia PureFlow Press Zero Lead Bronze fittings and sleeves are marked with the size, manufacturer's mark, and required marking(s) of third-party certification organizations. Fittings also meet the requirements of ANSI/NSF-61 Annex G for health effects and are suitable for contact with potable water. NSF International and other certification organizations conduct random on-site inspections of manufacturing facilities and independently test Viegia PureFlow Press Zero Lead Bronze fittings for compliance with physical, performance, and toxicological standards.

### Quality Assurance

When the product is marked with the ASTM F877 designation, it affirms that the product was manufactured, inspected, sampled, and tested in accordance with these specifications and has been found to meet the specified requirements.

### Listings and Certificates

- cNSF<sup>®</sup>us pw-G
  - Zero lead listing meeting California AB 1953 and Vermont ACT 193
  - NSF International Performance and Health Effects (Standards 14 & 61)
  - NSF certified to CSA B137.5 (Canadian Standards Association)
- NSF Certified to NSF-U.P. Code
  - Approved for Uniform Plumbing Code, listed to ASTM F87
- IAPMO Certified
- ANSI/NSF 61-G
- ICC ES-PMG<sup>™</sup> 1038/1015 plumbing and heating systems
- UL certified to UL 1821 listing (130 psi @ 120°F) for use in residential fire sprinkler systems per NFPA 13D.1



All fittings may not be listed with each organization shown.

### Recommended Uses

Viega PureFlow Press Zero Lead Bronze fittings with attached stainless steel press sleeves are intended and recommended for use in:

- Potable water distribution systems with Viega PureFlow PEX and FostaPEX tubing
- Hydronic heating, snow melt, and cooling systems
- Viega PureFlow PEX, Barrier PEX, and FostaPEX tubing meet the requirements of ASTM F876 and residential fire sprinkler systems per NFPA 13D. Viega PureFlow PEX Black (sizes 3/4" to 2") meet the requirements of ASTM F876 and UL 1821 (130 psi @ 120°F).

Viega PureFlow Press Zero Lead Bronze fitting system components are available only from Viega and are not interchangeable with components and tubing from other suppliers. For information on other hot and cold applications not listed here, consult with your Viega representative.

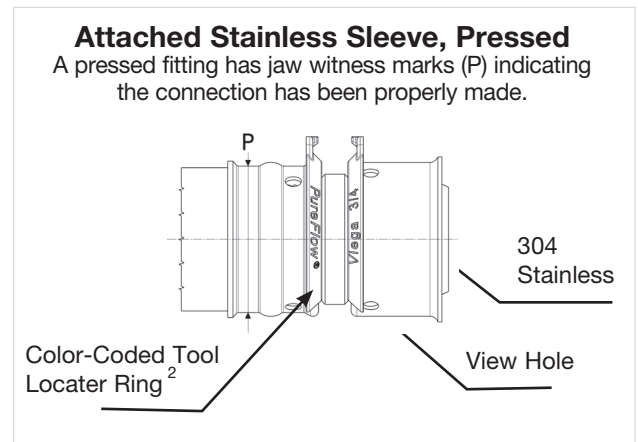
### Operating Parameters

Maximum design temperature and pressure ratings are

- 160 psi @ 73° F
- 100 psi @ 180° F
- 80 psi @ 200° F

### Handling and Installation

Viega PureFlow Press Zero Lead Bronze fittings are cast and machined from a solid bronze alloy and precision-made to tight tolerances. Use of these materials in hot and cold water distribution systems must be in accordance with good plumbing practices, applicable code requirements, and current installation practices available from Viega. Contact a Viega representative or the applicable code enforcement bureau for information about approvals for specific applications.

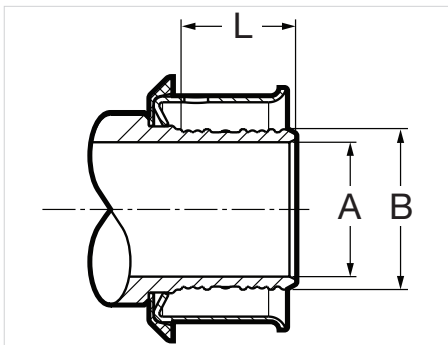


### Friction Loss for Viega PureFlow Press Zero Lead Bronze Fittings

Size (inches)	Coupling	90° Elbow	Tee Run	Tee Branch
Equivalent length of PEX tubing in feet				
3/8	2.9	9.2	2.9	9.4
1/2	2	9.4	2.2	10.4
3/4	1	8	1	9
1	1	10	2	10
1 1/4	2	11	2	11
1 1/2	2	13	2	12
2	1	19	2	18

This information is based on tubing nominal flow rate (@ 8 fps flow velocity).

### Typical Fitting Insert Dimensions for Viega PureFlow Press Zero Lead Bronze Fittings



Size (inches)	A	B	L
5/16	0.169	0.281±.002	0.496
3/8	0.236	0.344±.002	0.496
1/2	0.362	0.473±.002	0.496
5/8	0.457	0.571±.002	0.496
3/4	0.559	0.667±.003	0.496
1	0.728	0.858±.004	0.618
1 1/4	0.957	1.047±.004	0.866
1 1/2	1.083	1.232±.004	0.866
2	1.417	1.606±.004	1.260

Dimensions are in English units. Tolerances shown are Viega requirements. Viega PureFlow Press Zero Lead Bronze fittings are manufactured within these specifications.

# Tech Data Sheets

## PureFlow PEX Tubing

### Scope

This material specification designates the requirements for Viega PureFlow PEX tubing. All Viega PureFlow PEX tubing is copper tube size dimension (CTS), SDR-9 wall thickness, and meets the requirements of ASTM F876 and F877.

### Materials

Viega PureFlow PEX tubing is manufactured from a cross-linkable, high-density polyethylene produced by grafting organo-silanes onto a polyethylene base. A catalyst (accelerator) added to the cross-linkable polyethylene during extrusion initiates the cross-linking process. Cross-linking is completed with hot water or steam. The antioxidant blend and UV stabilizers within the resin are responsible for ensuring that the tubing will not lose its physical strength as well as its long term Chlorine/ORP resistance, which are the highest in the industry today, when exposed to UV light within the stated duration.

### Marking and Certification

All Viega PureFlow PEX tubing is marked with:

- Manufacturer name: Viega
- Nominal size
- Plastic tubing material designation code:  
PEX 5306 for red, blue, white, and black PEX or  
PEX 5006 for purple PEX
- Chlorine resistance rating: NSF-pw (CL5)
- Design pressure and temperature ratings
- Relevant ASTM standards
- Manufacturing date and production code

NSF-pw stamps indicating third-party certification by NSF International for meeting and exceeding performance and toxicological standards as well as achieving the highest chlorine resistance rating in the PEX industry. NSF conducts random on-site inspections of Viega manufacturing facilities and independently tests Viega PureFlow PEX tubing for compliance with physical, performance, and toxicological standards.

Viega PureFlow PEX is also certified to meet the Uniform Plumbing Code, IAPMO UPC®, UL (Underwriters Laboratories) UL 1821 (cULus) (*Black Viega PureFlow PEX sized ¾" through 2" only*), CSA (Canadian Standards Association) B137.5 (cNSFus) the ICC (International Code Council) Evaluation Service, and HUD (Housing and Urban Development).

### Recommended Uses

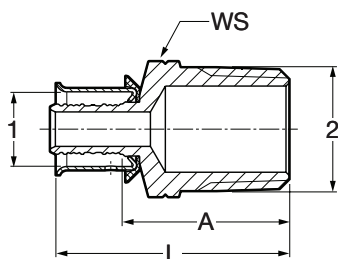
- Viega PureFlow PEX red, blue, and white tubing comes in ¾" to 1" sizes and is intended and recommended for use in hot and cold potable water distribution systems. Viega PureFlow PEX red, blue, and white tubing can also be used in “continuously recirculating” plumbing systems at temperatures of up to 140°F while still maintaining excellent chlorine resistance.
- Viega PureFlow PEX black tubing comes in ½" to 2" sizes with the ¾" to 2" sizes intended and recommended for use in residential fire sprinkler systems per NFPA 13D, meeting the requirements of ASTM F876 and UL 1821 (130 psi @ 120°F).
- Viega PureFlow PEX purple tubing is offered in sizes ½" to 1" sizes and is intended for non-potable, reclaimed water applications.
- Design temperature and pressure ratings for Viega PureFlow PEX are 160 psi @ 73°F, 100 psi @ 180°F, and 80 psi @ 200°F.

For information on the suitability for other hot and cold water applications not listed here, consult your Viega representative.

### Handling and Installation

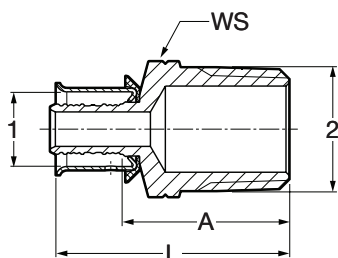
Viega PureFlow PEX tubing is tough yet flexible. However, it is softer than metals and may be damaged by abrasion or by objects with cutting edges. Use of these materials in hot and cold water distribution systems must be in accordance with good plumbing practices, applicable code requirements, and current installation practices available from Viega. Viega PureFlow PEX is manufactured to meet written national standards. Contact a Viega representative or the applicable code enforcement bureau for information about approvals for specific applications.

**PureFlow Press Adapter Zero Lead Bronze P x MPT - Model 2811ZL**



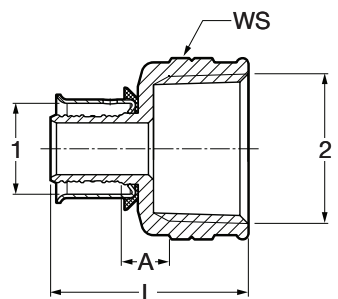
Part No.	Size (in)	A (in)	L (in)	WS (in)
	1 2			
90506	3/8 x 1/2 MPT	1.14	1.63	0.87
90521	1/2 x 1/2 MPT	1.10	1.59	0.87
90526	1/2 x 3/4 MPT	1.15	1.64	1.06
90542	3/4 x 1/2 MPT	1.10	1.59	0.87
90541	3/4 x 3/4 MPT	1.15	1.64	1.06
90546	3/4 x 1 MPT	1.41	1.91	1.34
90562	3/4 x 1 1/4 MPT	1.65	2.10	1.73
90556	1 x 3/4 MPT	1.18	1.80	1.06
90561	1 x 1 MPT	1.41	2.03	1.34
90566	1 x 1 1/4 MPT	1.60	2.22	1.73
90571	1 1/4 x 1 1/4 MPT	1.63	2.50	1.73
90581	1 1/2 x 1 1/2 MPT	1.79	2.66	1.97
90591	2 x 2 MPT	2.08	3.13	2.44

**PureFlow Press Adapter Bronze P x MPT - Model 2811NG**



Part No.	Size (in)	A (in)	L (in)	WS (in)
	1 2			
80527	5/8 x 1/2 MPT	1.10	1.59	0.87
80531	5/8 x 3/4 MPT	1.15	1.64	1.06

**PureFlow Press Adapter Zero Lead Bronze P x FPT - Model 2812ZL**



Part No.	Size (in)	A (in)	L (in)	WS (in)
	1 2			
91520	1/2 x 1/2 FPT	0.35	1.38	0.98
91525	1/2 x 3/4 FPT	0.37	1.42	1.20
91541*	3/4 x 1/2 FPT	0.31	1.34	0.98
91540	3/4 x 3/4 FPT	0.37	1.42	1.20
91545	1 x 3/4 FPT	0.40	1.58	1.20
91560	1 x 1 FPT	0.41	1.69	1.48
91570	1 1/4 x 1 1/4 FPT	0.58	2.13	1.85
91580	1 1/2 x 1 1/2 FPT	0.60	2.15	2.09
91590	2 x 2 FPT	0.62	2.36	2.60