



Plastic Pipe and Fittings Association

PUBLICATIONS | PEX

Plumbing Inspector's Checklist for PEX Systems

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In the event there is a conflict between the contents of this list and the manufacturer's installation instructions or, any applicable code, the code or the instructions, whichever is more restrictive shall govern.

Components

Tubing Markings: ASTM F876/F877 and one or more of the following fittings standards if suitable for use with fittings made to these ASTM standards.

- F1807 Metal Insert Fittings Utilizing a Copper Crimp Ring
- F1960 Cold Expansion Fittings with PEX Reinforcing Rings
- F2159 Plastic Insert Fittings Utilizing a Copper Crimp Ring
- ASSE 1061 Push-Fit Fittings
- ASTM F3347 Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing
- ASTM F3348 Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing
- CSA B137.5 Cross-linked Polyethylene (PEX) Tubing Systems for Pressure Applications - 2020

Manifolds: Metal or plastic may be used with PEX. Connections shall meet the requirements of one of the standards marked on the tubing.

F1807 and F2159 Insert and Crimp Joints and Connections:

- Tube end cuts shall be cut square and free of burrs. Tube shall be pushed up to fittings shoulder.
- Crimp rings shall be 1/8 inch to 1/4 inch from end of tubing.
- Crimp rings shall not have multiple crimps.
- Verify each crimp checked with proper GO/NO-GO GAUGE.
- Incorrectly crimped fittings shall be cut out and replaced.
- Crimp rings shall be marked ASTM F1807 or PEX.

F1960 Cold Expansion Joints and Connections:

- Tube end cuts shall be cut square and free of burrs.
- Per install instructions the use of an adequate length of tubing between cold expansion fittings is required and is dependent on tubing size.
- Using an expansion tool, expand the pipe/ring assembly according to the manufacturer's instructions for the size of tubing being used.
- Insert the fitting so that its shoulder rests against the end of the ring.
- Incorrectly assembled fittings shall be cut out and replaced. PEX reinforcing rings shall be marked ASTM F1960.

ASSE 1061 Push-Fit Fitting Joints and Connections:

- Tube end cuts shall be cut square and free of burrs.
- Measure and mark the tubing for proper insertion depth (if no insertion depth indicator is provided).
- Ensure the fitting and tubing is free of debris.
- Insert tubing straight into the fitting (along the same line – not at an angle).
- Ensure the tubing is inserted to the proper insertion depth either by the marked line or if an insertion depth indicator is included then a visual indicator is visible through the sight window.

ASTM F3347 and ASTM F3348 Press fitting Joints and Connections:

- Tube end cuts shall be cut square and free of burrs.
- Insert the fitting with attached sleeve into the tubing and engage fully.
- Verify that PEX tubing is complete visible in 2 out 3 insertion depth indicator windows and partially visible in the third.
- Position press tool perpendicular over press sleeve, resting it against the tool locator ring.

- Incorrectly pressed fittings shall be cut out and replaced.
- Press sleeves shall be marked ASTM F3347 or ASTM F3348.

General Recommendations

- Contraction: allow 1/8 inch slack per foot of PEX tubing.
- PEX may be loosely bundled (NOT TAPED).
- Do not bend PEX tubing tighter than the recommended minimum bending radius.
- Install minimum 18 inches of metallic or other approved material piping between the flue or outlet of a gas water heater and PEX tubing.
- PEX shall be located at least 6 inches horizontally and 12 inches vertically from sources of high heat.
- PEX must be free of gouges, cuts, deep scratches, tar, kinks, grease, flux and fading or discoloration.
- Protective sleeves or bushings shall be used where PEX passes through metal studs.
- Use clamps or straps at tubing bends directly adjacent to connections.
- Horizontal support shall be 32 inches maximum for sizes 1" and below; larger sizes may require fewer supports, check your local code.
- Vertical tubing shall be supported at every floor, and at the mid-point between floors.
- Supports/clamps shall not restrict the movement of PEX tubing.
- Supports/clamps shall not pinch, cut, kink, or damage tubing.
- Use only hangers and straps recommended for plastic tubing.
- Tubing passing through concrete slabs or foundations shall have a protective sleeve.
- Hose bibs shall not be supported by PEX tubing. Hose bibs shall be anchored to prevent strain on PEX tubing.
- Tubing shall be protected from nail damage.
- Transition connections shall be made with fittings approved for that purpose.

Testing

- Test pressure shall be at least equal to normal system working pressure, but not less than 40 psi and not greater than 125 psi.
- Test duration shall not be less than 15 minutes.
- A slight drop in pressure after 2 hours is normal.
- Testing hydrostatically is the normal method. Alternative testing methods may be used if they are specifically authorized by all the manufacturers of the products in the piping system AND are also permitted in the applicable codes.