ICC-ES PMG Listing

PMG-1039

Effective Date: April 1, 2014
This listing is subject to re-examination in one year.

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CSI: DIVISION: 22 00 00—PLUMBING
Section: 22 11 16—Domestic Water Piping
DIVISION: 23 00 00—HEATING, VENTILATING AND AIR CONDITIONING (HVAC)
Section: 23 21 13—Hydronic Piping

Product certification system:

The ICC-ES product certification system includes testing samples taken from the market or supplier's stock, or a combination of both, to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the supplier's quality system.

Products: ZurnPEX® and QestPEX® Tubing and Fittings
ZurnPEX® and QestPEX® Hydronic Barrier Tubing and Fittings
ZurnPEX® QickSert CR® Fittings

Listee: Zurn PEX, Inc.
Highway 11 East
Commerce, Texas 75428
www.zurn.com

Compliance with the following codes:

2012, 2009 and 2006 *International Plumbing Code*® (IPC)
2012, 2009 and 2006 *International Mechanical Code*® (IMC)
2012, 2009 and 2006 *International Residential Code*® (IRC)
2012, 2009 and 2006 *Uniform Plumbing Code*® (UPC)*
2012, 2009 and 2006 *Uniform Mechanical Code*® (UMC)*
**Uniform Plumbing Code is a copyrighted publication of the International Association of Plumbing and Mechanical Officials*
**Uniform Mechanical Code is a copyrighted publication of the International Association of Plumbing and Mechanical Officials*

Compliance with the following standards:

ASTM D2837-2013, Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products
ASTM F876-2013, Standard Specification for Crosslinked Polyethylene (PEX) Tubing
ASTM F877-2011a, Standard Specification for Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems
ASTM F1807-2013, Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing
ASTM F2159-2011 Standard Specification for Plastic Fittings Utilizing a Copper Crimp ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing
ICC-ES AC122-2007, Acceptance Criteria for PP, PEX, PEX-AL-PEX and PP-AL-PP Piping, Tube and Fittings Used in Radiant Heating and Water Supply Systems

ICC-ES LC1004-2010, PMG Listing Criteria for PP, PEX, PEX-AL-PEX and PP-AL-PP Piping, Tube and Fittings Used in Radiant Heating and Water Supply Systems
NSF/ANSI 14-2012, Plastic Piping System Components and Related Materials
NSF/ANSI 61-2013, Drinking Water System Components – Health Effects
NSF/ANSI 372-2011, Drinking Water System Components – Lead content

Identification:

Tubing is marked every 5 feet (1524 mm) with the following:

- Manufacturer's name or trademark
- Product designation (ZurnPEX® or QestPEX®)
- Nominal tube size
- Material designation (5006 PEX)
- Standard dimension ratio (SDR9)
- Pressure rating at 180°F (82°C)
- ASTM F876/F877 designation
- Production code
- Standard designation(s) of the fitting system(s) for which the tubing is recommended for use by the tubing manufacturer
- The name of the inspection agency [NSF International (AA-633)]
- The ICC-ES PMG listing mark.

Brass insert fittings are marked with the following:

- Manufacturer name or trademark
- The designations "ASTM F877" or "ASTM F1807"
- The ICC-ES PMG listing mark

Plastic insert fittings are marked with the following:

- Manufacturer name or trademark
- Material designation
- The designation "ASTM F2159"
- The ICC-ES PMG listing mark

Copper crimp rings are marked with the manufacturer's name or trademark, "ASTM F1807" or "PEX" and the ICC-ES PMG listing mark.

Packaging for the fittings is marked with the manufacturer's name, fitting size, "ASTM F1087" or "ASTM F2159", and the ICC-ES PMG listing mark.

Installation:

ZurnPEX® and QestPEX® tubing and fittings must be installed in accordance with the applicable code and the manufacturer's published installation instructions.

ZurnPEX ® QickSert CR® fittings must be installed in accordance with the applicable code and the manufacturer's published installation instructions.

Water Distribution: Horizontally laid pipe must be secured in such a manner that temperature-induced expansion and contraction are accommodated. Mounting brackets and installation hardware are provided by the manufacturer. In areas using the IAPMO UPC, PEX tubing is not to be installed within the first 18 inches (457 mm) of piping connected to a water heater.

Water Service: The tubing is to be installed underground in a manner that ensures external loads will not cause a decrease in the vertical dimension of the cross section exceeding five percent. Tubing installation is to provide an allowance for contraction of the tubing due to temperature change prior to backfilling. In areas with poor soil conditions (plastic clays), the trench bottom is to be prepared using granular material, to provide a stable base. Potable water service tubing is not to be located in, under or above cesspools, septic tanks, septic tank drainage fields or pits.

Radiant Heating Systems: Details of the design and installation of the radiant heating system must be submitted to the code official for approval. All circuits must be formed from continuous lengths of tubing, from manifold supply to return. No splices are allowed. The system may be installed in either

concrete or wood floors. When the system is embedded in concrete floors, a moisture barrier must be laid over a concrete base slab that has a minimum thickness of $3^1/_2$ inches (38 mm). Under-floor insulation and reinforcing mesh must be placed on the slab. The tubing is uncoiled and attached to the mesh using soft steel wire or clips. A concrete topping is laid over the tubing. When embedment is in concrete, the installation, including minimum concrete cover, must comply with IBC Section 1906.3, UBC Section 1906.3 or IRC Section R506, as applicable. When the tubing is installed over polystyrene boards, the boards must comply with IBC Section 2603, UBC Section 2602 or 2009 IRC Section R314 (2009 IRC Section R316), as applicable.

Models:

ZurnPEX® and QestPEX® tubing is cross-linked polyethylene (PEX) tubing used in potable hot- and cold-water distribution systems. The PEX materials comply with NSF 14 and NSF 61 as well as ASTM F876 and ASTM F877.

ZurnPEX® tubing is manufactured from blue, red, white or natural cross-linked PEX.

The tube is available in nominal diameters of $^3/_8$, $^1/_2$, $^3/_4$, 1 and $1^1/_4$, 1½, and 2 inches (10, 13, 19, 25, 32, 38 and 51 mm) in straight lengths, and in coils 100 to 1000 feet (30.5 to 304.8 m) long. (The $1^1/_4$,1½, and 2 inch tubing are for potable water only.)

ZurnPEX® tubing is also offered under the QestPEX® name. QestPEX® is identical to the ZurnPEX® product.

ZurnPEX® and QestPEX® Hydronic Barrier Tubing is similar to the ZurnPEX® tubing, but with the addition of an oxygen barrier as the outside layer. ZurnPEX® hydronic barrier tubing is also offered under the QestPEX® hydronic barrier name, which is identical to the ZurnPEX® hydronic barrier product.

Fitting assemblies for ZurnPEX® tubing, including hydronic barrier tubing, consist of brass or plastic insert fittings and copper crimp rings. Fitting assemblies comply with ASTM F 2159 or ASTM F 1807.

The ZurnPEX® and QestPEX® Tubing and Fitting System meets the requirements of ASTM F 876, ASTM F 877 and NSF 14. All components in contact with potable water meet the requirements of NSF 61 and NSF 372. ZurnPEX® and QestPEX® tube and fitting products are pressure-rated for 100 psi (689 kPa) at 180°F (82°C), and 160 psi (1100kPa) at 73°F (23°C), for a standard dimension ratio of 9. Standard dimension ratio is the ratio of outside diameter to wall thickness and is constant for all tube sizes over $^1/_2$ inch (12.7 mm).

Zurn PEX Large Diameter Tube

7Pex	1-1/2" C.T.S. Hot/Cold Tubing, SDR 9
8Pex	2" C.T.S. Hot/Cold Tubing, SD 9

ZurnPEX® QickSert CR® Fittings are molded from a blend of polymers intended for use in hot and cold potable water distribution system. Fittings comply with ASTM F 2159, NSF 14, NSF 61, and NSF 372.

Zurn PEX CR Couplings

QQPC33X	Polymer Coupling – ½" Barb
QQPC43X	Polymer Coupling – ¾" Barb x ½" Barb
QQPC44X	Polymer Coupling – ¾" Barb
QQPC54X	Polymer Coupling – 1" Barb x ¾" Barb
QQPC55X	Polymer Coupling – 1" Barb

Zurn PEX CR Male Adapters

QQPMC33X	Polymer Male Adapter – ½" Barb x ½" Male NPT
QQPMC34X	Polymer Male Pipe Thread Adapter – ½" Barb x ¾" MPT
QQPMC44X	Polymer Male Pipe Thread Adapter – ¾" Barb x ¾" MPT
QQPMC55X	Polymer Male Pipe Thread Adapter – 1" Barb x 1" MPT

Zurn PEX CR Elbows

QQPE33X	Polymer Elbow – ½" Barb
QQPE43X	Polymer Elbow – ¾" Barb x ½" Barb

QQPE44X	Polymer Elbow – ¾" Barb
QQPE55X	Polymer Elbow – 1" Barb
QQPE33BSX	Polymer Elbow (Swivel) – ½" Barb x ½" FPT
QQPE44BSX	Polymer Elbow (Swivel) – ¾" Barb x ¾" FPT
QQPE32BTX	Polymer Street Elbow – ½" Barb x 3/8" MPT
QQPE33BTX	Polymer Elbow – ½" Barb x ½" Male NPT
QQPE44BTX	Polymer Elbow – ¾" Barb x ¾" Male NPT

Zurn PEX CR Tees

QQPT333X	Polymer Tee – ½" Barb
QQPT334X	Polymer Tee – ½" Barb x ½" Barb x ¾" Barb
QQPT433X	Polymer Tee – ¾" Barb x ½" Barb x ½" Barb
QQPT434X	Polymer Tee – ¾" Barb x ½" Barb x ¾" Barb
QQPT443X	Polymer Tee – ¾" Barb x ¾" Barb x ½" Barb
QQPT444X	Polymer Tee – ¾" Barb
QQPT445X	Polymer Tee – ¾" Barb x ¾" Barb x 1" Barb
QQPT544X	Polymer Tee – 1" Barb x ¾" Barb x ¾" Barb
QQPT553X	Polymer Tee – 1" Barb x 1" Barb x ½" Barb
QQPT554X	Polymer Tee – 1" Barb x 1" Barb x ¾" Barb
QQPT555X	Polymer Tee – 1" Barb

Zurn PEX CR Swivel Adapters

QQPSFC23X	Polymer Swivel Adapter – 3/8" Barb x ½" Female NPT
QQPSFC33X	Polymer Swivel Adapter – ½" Barb x ½" Female NPT
QQPSFC44X	Polymer Swivel Adapter – ¾" Barb x ¾" Female NPT
QQPSFC45X	Polymer Swivel Adapter – ¾" Barb x 1" Female NPT
QQPSFC55X	Polymer Swivel Adapter – 1" Barb x 1" Female NPT

Zurn PEX CR Manifolds

QPM43-3	Polymer Manifold – (1) ¾" PEX Crimp Inlets w/ (3) ½" PEX Crimp Outlets
QPM43-4	Polymer Manifold – (1) ¾" PEX Crimp Inlets w/ (4) ½" PEX Crimp Outlets
QPM43-5	Polymer Manifold – (1) ¾" PEX Crimp Inlets w/ (5) ½" PEX Crimp Outlets

Zurn PEX Low Lead Brass Couplings

6QQXC77GX	1-1/2" Barb
QQC76GX	1-1/2" Barb x 1-1/4" Barb
QQXC75GX	1-1/2" Barb x 1" Barb
QQXC74GX	1-1/2" Barb x 3/4" Barb
QQXC88GX	2" Barb Coupling
QQXC87GX	2" Barb x 1-1/2" Barb

Zurn PEX Low Lead Brass Adapters

QQ900GX	1-1/2" Barb x 1-1/2" Male Sweat Adapter
QQ950GX	1-1/2" Barb x 1-1/2" Female Sweat Adapter
QQUFC77GX	1-1/2" Barb x 1-1/2" Thread Non-Swivel Female Adapter
QQMC77GX	1-1/2" Barb x 1-1/2" Male Thread Adapter
QQ1050GX	2" Barb x 2" Female Sweat Adapter
QQ975GX	2" Barb x 2" Male Sweat Adapter
QQMC88GX	2" Barb x 2" Male Thread Adapter

Zurn PEX Low Lead Brass Elbows

QQE77GX	1-1/2" Barb Elbow
QQE88GX	2" Barb Elbow

Zurn PEX Low Lead Tees

QQT777X	1-1/2" Barb x 1-1/2" Barb x 1-1/2" Barb
QQT776GX	1-1/2" Barb x 1-1/2" Barb x 1-1/4" Barb
QQT755GX	1-1/2" Barb x 1-1/2" Barb x 1" Barb
QQT774GX	1-1/2" Barb x 1-1/2" Barb x 3/4" Barb
QQT773GX	1-1/2" Barb x 1-1/2" Barb x 1/2" Barb
QQT765GX	1-1/2" Barb x 1-1/4" Barb x 1" Barb
QQT888GX	2" Barb x 2" Barb x 2" Barb
QQT887GX	2" Barb x 2" Barb x 1-1/2" Barb

QQT885GX	2" Barb x 2" Barb x 1" Barb
QQT884GX	2" Barb x 2" Barb x 3/4" Barb
QQT883GX	2" Barb x 2" Barb x 1/2" Barb

Zurn PEX Low Lead Plugs

QQP7GX	1-1/2" Barb Plug
QQP8GX	2" Barb Plug

Conditions of listing:

1. The tubing must be pressure-tested for leaks before installation of covering. The leak test must be witnessed by the code official or the code official's designated representative.

2. When installation is in fire-resistance-rated assemblies, evidence of compliance with IBC Chapter 7 (penetrations protection, prescriptive fire resistance), UBC Chapter 7(walls and partitions or floor/ceiling or roof/ceiling), as applicable, must be provided to the code official for approval.

3. The tubing and fittings must be protected from exposure to direct sunlight. Tubing and fittings must be protected from physical damage with an oversized flexible corrugated sleeve at structural mass penetrations and when the tube is uncovered. Annular spaces between sleeves and pipes must be filled or tightly caulked in an approved manner.

4. All systems must be installed by Zurn PEX, Inc., trained installers in accordance with Zurn PEX, Inc., 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.

5. During placement of the cover over the tubing, the tube must be maintained at the greater of $1^1/_2$ times the working pressure or 100 psi (689.4 kPa).

6. Clearances from heat-producing equipment must be in accordance with the applicable code.

7. Minimum bending radius of the tube must be eight times the outside tube diameter. The outside diameter is nominal diameter plus $^1/_8$ inch (3.2 mm).

8. ZurnPEX®, QestPEX® tubing and fitting systems, and ZurnPEX ® QickSert CR ® fittings are manufactured by Zurn PEX, Inc., in Harborcreek, Pennsylvania; Zurn PEX Low Lead Brass fittings are manufactured by Zhejiang Xingxin Aite, in Yuhuan, Zhejiang China under a quality control program with surveillance inspections by ICC-ES.