

ICC-ES PMG Listing**PMG-1039**

Effective date: April 1, 2011

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

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)
2009 and 2006 IAPMO *Uniform Plumbing Code* (IAPMO UPC)*
2009 and 2006 IAPMO *Uniform Mechanical Code* (IAPMO UMC)*
1997 ICBO *Uniform Mechanical Code* (ICBO UMC)

*Uniform Plumbing Code is a copyrighted publication of the International Association of Plumbing and Mechanical Officials

Compliance with the following standards:

ASTM D 2837, Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products
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 F1807, 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
ICC-ES AC122, 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 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

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, LLC, express or implied, as to any finding or other matter in this listing, or as to any product covered by the listing.



NSF 14, Plastic Piping System Components and Related Materials
NSF/ANSI 61, Drinking Water Systems Components—Health Effects
NSF/ANSI 61 Annex G, Weighted Average Lead Content Evaluation Procedure to a 0.25% Lead Requirement

Identification:

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

- Company name (Zurn PEX, Inc.)
- Product designation (ZurnPEX[®] or QestPEX[®])
- Nominal tube size
- Material designation (5006 PEX)
- Potable water designation (PW)
- Standard dimension ratio (SDR9)
- Temperature and pressure ratings
- ASTM F 876/F 877 designation
- Production code
- The name of the inspection agency [NSF International (AA-633)]
- The ICC-ES PMG listing mark. The ICC-ES PMG listing number (PMG-1039) is optional.

Brass insert fittings are marked with the following:

- Manufacturer designation
- Nominal size
- Potable water marking (PW)
- The designations ASTM F 877 or ASTM F 1807

Copper crimp rings are marked with the designations “Q,” “PEX” and “F1807.”

Packaging for the fittings is marked with the product code and the ICC-ES PMG listing number (PMG-1039) or 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.

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 under ground 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 3¹/₂ 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 $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 and $1\frac{1}{4}$ inches (10, 13, 19, 25 and 32 mm) in straight lengths, and in coils 100 to 1000 feet (30.5 to 304.8 m) long. (The $1\frac{1}{4}$ -inch (32 mm) tubing is 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 insert fittings and copper crimp rings. Fitting assemblies comply with 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. 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 $\frac{1}{2}$ inch (12.7 mm).

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 Section 712 (penetrations), IBC Section 720 (prescriptive fire resistance), UBC Section 709 (walls and partitions) or UBC Section 710 (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 $1\frac{1}{2}$ 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 $\frac{1}{8}$ inch (3.2 mm).
8. ZurnPEX[®] and QestPEX[®] tubing and fitting systems are manufactured by Zurn PEX, Inc., in Harborcreek, Pennsylvania, under a quality control program with three surveillance inspections per year by NSF International (AA-633).