



CSI: DIVISION: 22 00 00 - PLUMBING
Section: 22 11 16 - Domestic Water 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.

Product: Watts WaterPEX, WaterPEXa, PlumbFlow tubing and fittings for use in water distribution system

Listee: Watts Water Technologies
815 Chestnut Street
North Andover, MA 01845
www.wattswater.com

Compliance with the following codes:

2021, 2018, 2015, 2012, 2009, 2006 and 2003 *International Residential Code*® (IRC)
2024, 2021, 2018, 2015, 2012, 2009, 2006 and 2003 *International Plumbing Code*® (IPC)
2024, 2021, 2018, 2015, 2012, 2009 and 2006 *Uniform Plumbing Code*® (UPC)*

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

Compliance with the following standards:

ASTM F876-23, Standard Specification for Crosslinked Polyethylene (PEX) Tubing
ASTM F877-23, Standard Specification for Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems
ASTM F1807-23, 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 F2159-23, Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing
NSF/ANSI 14-22, Plastic Piping System Components and Related Materials
NSF/ANSI/CAN 61-22, Drinking Water System Components – Health Effects
ICC-ES LC 1004, PMG Criteria for PEX, PEX-AL-PEX and PP-AL-PP Piping Tubing and Fittings Used in Radiant Heating and Water Supply Systems (Approved Nov 2009, Ed. Revised June 2010)

Identification:

Marking on the tubing shall include the following, spaced at intervals of not more than 5 ft.:

- Manufacturer's name (or trademark) and production code indicating the date of production.
- Nominal tubing size (for example, 2 in.).
- Type of plastic tubing material in accordance with the designation code.
- Standard dimension ratio, SDR 9.
- Pressure rating(s) for water and temperature(s) for which the pressure(s) rating are valid.
- ASTM F876/F877 designation.
- Potable water designation
- Standard designation(s) of the fitting system(s) for which the tubing is recommended for use by the tubing.
- ICC-ES PMG listing mark.

Marking on fittings shall include:

- Manufacturer's name or trademark
- Nominal size
- Potable water mark
- If size permits, PEX or the ASTM standard number, or a combination thereof
- Marking on package shall include manufacturer's trademark, fitting size, ASTM F1807
- ICC-ES PMG listing mark.

Installation:

Installation of Watts WaterPEX / WaterPEXa / PlumbFlow tubing is to comply with the applicable code and the manufacturer's published installation instructions.

Water Distribution: Water PEX, WaterPEXa and PlumbFlow by Watts is recognized for use in water distribution systems. Horizontally laid pipe is to be secured in such a manner that temperature-induced expansion and contraction are accommodated. 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: Water PEX by Watts is recognized for use in water service piping. 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.

Mounting brackets and installation hardware are provided by the manufacturer. Horizontally laid pipe is to be secured in such a way that temperature-induced expansion and contraction are accommodated.

Inspection: Installed tubing is to be pressure-tested and inspected as required by IPC Section 606.6, IRC Section P2503.6 or IAPMO UPC Section 103.5.3, as applicable.

Models:

Tubing:

Tubing is produced from cross-linked polyethylene compound complying with ASTM F876 and NSF 61. The tubing is pressure-rated for 100 psi (689 kPa) at 180°F (82°C) for a standard dimension ratio of 9. Standard dimension ratio is the ratio of outside diameter to wall thickness.

Watts WaterPEX and PlumbFlow tubing are available in nominally 1/8-, 1/4-, 3/8-, 1/2-, 5/8-, 3/4-, 1-, 1 1/4-, 1 1/2- and 2-inch diameters (3, 7, 10, 13, 16, 19, 25, 32, 38 and 51 mm) and come in 100- to 1200-foot-long (30.5 to 365.8 m) coils. Some diameters of WaterPEX and Plumbflow tubing are also available in 5-, 10- and 20-foot-long (1.5, 3.0 and 6.1 m) straight lengths. The tubing is available in red, blue and white colors.

Watts WaterPEXa tubing is available in 3/8-, 1/2-, 3/4-, 1-inch (10, 13, 16, 19, and 25 mm) nominal diameter sizes, and in coils 100, 300, 500 and 1000 feet (30.4, 91.4, 152.4 and 304.8 m) long, or in straight lengths 20 feet (6.2 m) long. WaterPEXa is white.

Fittings:

Fittings for Watts WaterPEX, PlumbFlow, and WaterPEXa tubing consist of brass, copper or polysulphone resin insert fittings and copper crimp rings, complying with ASTM F877 and ASTM F1807 or F2159, as applicable. Fittings are to comply with the applicable code and be recognized in a current ICC-ES evaluation report.

Conditions of listing:

1. Installation must comply with this report, the manufacturer's published installation instructions and the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.
2. The tubing installation must be pressure-tested for leaks in the presence of the building official or the official's designated representative and is subject to approval by the code official.
3. When installation is in fire-resistance rated assemblies, evidence of compliance with IBC Section 712 (penetrations), 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 at time of permit application.
4. The tubing must not be used as a source of electrical ground.
5. Minimum bending radius is eight times the outside tube diameter of the PEX tube. The outside diameter is the nominal diameter plus $\frac{1}{8}$ inch (3.2 mm).
6. The tubing is recognized for applications using potable water.
7. The tubing shall be protected against exposure to direct sunlight. Tubing and fittings shall 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 shall be filled or tightly caulked in an approved manner.
8. During the placement of cover over the tubing, the tube shall be maintained at the greater of 1 $\frac{1}{2}$ " times working pressure of 100psi (689.4 kPa).
9. Clearances from heat-producing equipment are to be maintained in accordance with the applicable code
10. Watts WaterPEX, PlumbFlow and WaterPEXa Systems are manufactured under quality control programs with surveillance inspections by ICC-ES.