

ICC-ES PMG Listing**PMG-1016***Effective Date: September 1, 2008**This listing is subject to re-examination in one year.*

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CSI: Division 15—MECHANICAL
 Section: 15140—Domestic Water Piping
 Section: 15180—Heating and Cooling Piping

Product: Merflex PEX OT® Tubing

Listee: Mercury Plastics, Inc.
 15760 Madison Road
 Middlefield, Ohio 44062
 www.mercury-plastics.com

Additional listees:

Embassy Industries
300 Smith Street
Farmingdale, New York 11735
Product: Liquipex Tubing

Roth Industries
77 Circuit Drive
North Kingstown, Rhode Island 02852
Product: Roth PEXc System Tubing

Compliance with the following codes:

2006 *International Plumbing Code*® (IPC)
2006 *International Mechanical Code*® (IMC)
2006 *International Residential Code*® (IRC)
2006 IAPMO *Uniform Plumbing Code*™* (IAPMO UPC)*
2006 IAPMO *Uniform Mechanical Code*™* (IAPMO UMC)*

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Compliance with the following standards:

ASTM F 876
NSF 14
NSF 61
LC1004

Identification:

The tubing must be marked every 5 feet (1524 mm) with the manufacturer's product name ("Merflex PEX OT[®]" for Mercury Plastics; "Roth PEXc" for Roth Industries; and "Embassy/LiquiPex" for Embassy Industries); nominal tubing size; material designation (PEX); standard dimension ratio (SDR9); temperature and pressure ratings; ASTM F 876 designation; production code; the name of the inspection agency (NSF International); the potable water designation (NSFus-pw), and either the ICC-ES evaluation report number (ESR-1852) or the ICC-ES PMG listing number (PMG-1016) and/or the ICC-ES PMG listing mark.

Installation:

Merflex[®] tubing must be installed in accordance with the manufacturer's published installation instructions, the applicable codes and this listing. Where differences exist, the instructions in this listing must govern.

Water Service: The tubing must be installed underground in a manner that ensures external loads will not cause a decrease in the vertical dimension of the cross section exceeding 5 percent. Tubing must be installed to provide an allowance for contraction of the line due to temperature change prior to backfilling. In areas with poor soil conditions (plastic clays), the trench bottom must be prepared using granular material to provide a stable base. Potable water service tubing must not be located in, under or above cesspools, septic tanks, septic tank drainage fields or pits.

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

Radiant Heating Systems: Mercury Plastics' Merflex PEX OT[®] is to be used in radiant heating systems. Installation is to comply with the applicable chapters in the referenced mechanical codes and with the manufacturer's published installation instructions. Details of the design and installation of the radiant heating system are to be submitted to the code official for approval. All circuits are to 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 is to be laid over a concrete base slab a minimum of 3¹/₂ inches (89 mm) thick. Under-floor insulation and reinforcing mesh is then to be placed on the slab. The tubing is uncoiled and attached to the mesh using plastic fasteners. A concrete topping is then laid over the tubing. When embedment is in concrete, installation, including minimum concrete cover, is to comply with IBC Section 1906.3 or UBC Section 1906.3, as applicable. When the tubing is installed over polystyrene foam plastic boards, the boards are to comply with IBC Section 2603, IRC Section R314, or UBC Section 2602, as applicable. 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.

Models: Tubing:

Mercury Plastics Merflex PEX OT[®] tubing is manufactured from crosslinked polyethylene (PEX) materials satisfying NSF 14 and 61, as well as ASTM F 876.

Merflex PEX OT[®] tubing is available in red, white, blue and grey.

The tubing is available in nominal diameters of 1/4, 1/2, 3/4 and 1 inch (6.4, 12.7, 19.1 and 25.4 mm), and in coils ranging from 50 to 1000 feet (15 to 305 m) long.

Mercury Plastics Merflex PEX OT[®] tubing is pressure-rated for 100 psi (689 kPa) at 180°F (82°C) and 160 psi (1100 kPa) 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 Merflex PEX OT[®] tubing sizes. Mercury Plastics Merflex PEX OT[®] tubing is also available as Embassy Industries Liquipex and as Roth Industries Roth PEXc System Tubing. Information in this listing pertaining to Mercury Plastics Merflex PEX OT[®] tubing is also applicable to the Embassy Industries and Roth Industries products.

Fittings:

Fittings for the PEX tubing must comply with ASTM F 1807, ASTM F 1960 or ASTM F 2080, and be recognized in a current ICC-ES evaluation report.

Conditions of Listing:

1. Tubing must be manufactured, identified and installed in accordance with this listing, the applicable code and the manufacturer's published installation instructions. Tubing and fittings must be installed by Mercury Plastics-trained installers. The manufacturer's published installation instructions must be furnished to the code official. The instructions within this listing must govern if there are any conflicts between the manufacturer's published instructions and this listing.
2. When installation is in fire-resistance-rated assemblies, evidence of compliance with IBC Section 712 (penetrations), UBC Section 709 (walls and partitions) and UBC Section 710 (floor/ceiling or roof/ceiling), as applicable, must be provided to the code official for approval.
3. Merflex[®] tubing 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 tubing is uncovered. Annular spaces between sleeves and pipes must be filled or tightly caulked in an approved manner.
4. During placement of cover over the tubing, the tubing must be maintained at the greater of 1¹/₂ times the working pressure or 100 psi (689.4 kPa).
5. Each installation must be pressure-tested for leaks in the presence of the code official or the code official's designated representative.
6. Clearances from heat-producing equipment must be in accordance with the applicable code.
7. Fittings used with Merflex[®] must be recognized in a current ICC-ES evaluation report as complying with NSF 61 and ASTM F 1807, ASTM F 1960 or ASTM F 2080.
8. The use of tubing on hydronic systems is limited to applications using potable water as the transfer fluid.
9. Minimum bending radius of the tube must be eight times the outside tube diameter. The outside diameter is the nominal diameter plus 1/8 inch (3.2 mm).
10. The tubing is manufactured by Mercury Plastics in Middlefield, Ohio, under a quality control program with inspections by NSF International (AA-633).