

ICC-ES PMG Listing**PMG-1024**

Effective Date: August 1, 2011

This listing is subject to re-examination in one year.

www.icc-es-pmg.org/ | (800) 423-6587 | (562) 699-0543 A Subsidiary of the International Code Council®

CSI: DIVISION: 23 00 00—HEATING, VENTILATION 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: Roth Duo-PEXc Tubing and Fittings

Listee: Roth Industries, Inc.
268 Bellew Avenue South
Watertown, New York 13601
www.roth-usa.com

Compliance with the following codes:

2012 and 2009 *International Residential Code*® (IRC)
2012 and 2009 *International Mechanical Code*® (IMC)
2009 IAPMO *Uniform Mechanical Code*™ (IAPMO UMC)*

**Uniform Mechanical Code* is a copyrighted publication of the International Association of Plumbing and Mechanical Officials, 50001 East Philadelphia Street, Ontario, California 91761.

Compliance with the following standards:

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
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

Identification:

Tubing: Roth Duo-PEXc Tubing must be marked at minimum intervals of 5 feet (1.5 m) with the following: company name (Roth Industries, Inc.), product name (Duo-PEXc), nominal tube size, material designation (PEXc), standard dimension ratio (SDR9), temperature and pressure ratings [180°F/100 psi (82°C/689 kPa)], ASTM F 876/F877 designation, production code, the name of the inspection agency (NSF International) and the ICC-ES PMG listing mark.

Fittings: Compression fittings are marked with the Roth company name, the name of the quality control agency (NSF International), the nominal size, the manufacturing date and the designation "ASTM F 877."

Packaging for the fittings bears the Roth Industries, Inc., company name, product name, model number and the ICC-ES PMG listing mark.

Installation:

All systems must be installed by installers trained by Roth Industries, Inc., and in accordance with the manufacturer's published installation instructions, which are provided with the product. Installation must conform to the requirements of the applicable code, and is subject to approval by the code official having jurisdiction.

Clearances from heat-producing equipment must be in accordance with Section 503.7.8 of the *International Fuel Gas Code*[®], Section M1306 of the IRC or Section 802.10.5 of the IAPMO UMC, as applicable.

Models:

Tubing:

Duo-PEX_c tubing is available in nominally $\frac{3}{8}$ -, $\frac{1}{2}$ -, $\frac{5}{8}$ -, $\frac{3}{4}$ - and 1-inch-diameter (10, 13, 16, 19 and 25 mm) sizes.

Fittings:

Brass Compression-type Fittings: Compression-type fittings are available in nominally $\frac{3}{8}$ -, $\frac{1}{2}$ -, $\frac{5}{8}$ -, $\frac{3}{4}$ -, and 1-inch-diameter (10, 13, 16, 19 and 25 mm) sizes.

Conditions of Listing:

1. Details on the design and installation of the heating system must be submitted to the building official for approval.
2. The tubing must be maintained at the proposed operating pressure during placement of concrete cover for hydronic piping system.
3. The tubing installation must be pressure-tested for leaks in the presence of the building official or the official's designated representative.
4. When installation is in fire-resistive assemblies, evidence of compliance with IBC Section 713 must be provided to the building official.
5. The potable water connections must be protected against backflow from the hydronic heating system.
6. The tubing must not be used as a source of electrical ground.
7. Minimum bending radius is six times the outside tube diameter of the PEX tube. The outside diameter is the nominal diameter plus $\frac{1}{8}$ inch (3.2 mm).
8. The tubing is limited to applications using potable water as the transfer fluid.
9. The tubing is manufactured in Datteln, Germany, and the fittings are manufactured in Dautphetal, Germany, under a quality control program with three inspections per year by NSF International (AA-633).



FIGURE 1—ROTH COMPRESSION FITTING FOR RADIANT HEATING SYSTEMS

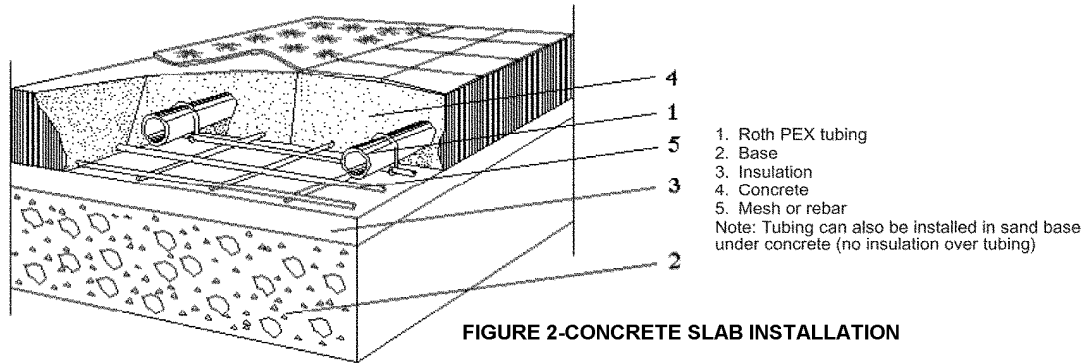


FIGURE 2-CONCRETE SLAB INSTALLATION

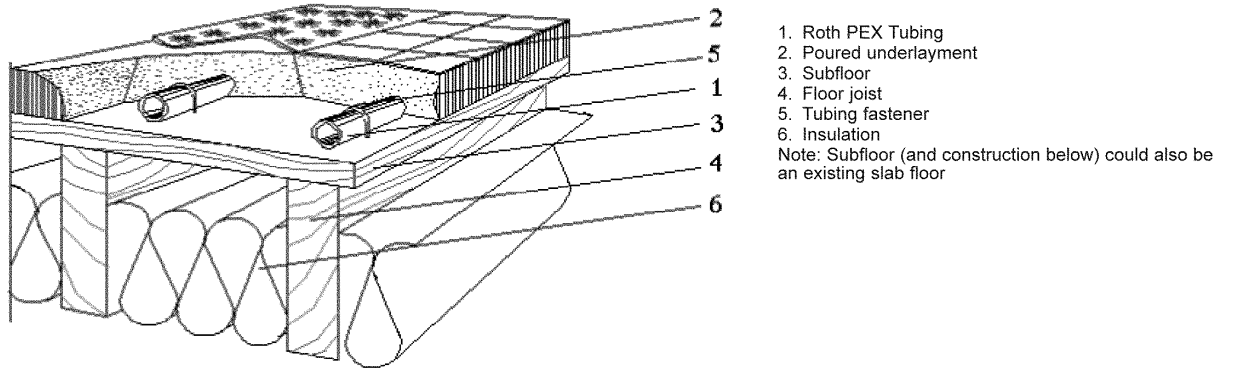


FIGURE 3—OVERPOUR INSTALLATION

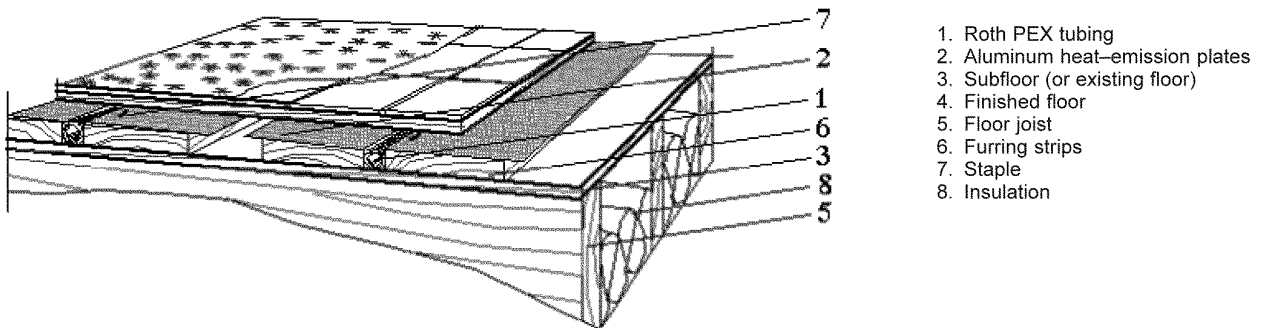


FIGURE 4—SUSPENDED FLOOR, INSTALLATION FROM ABOVE

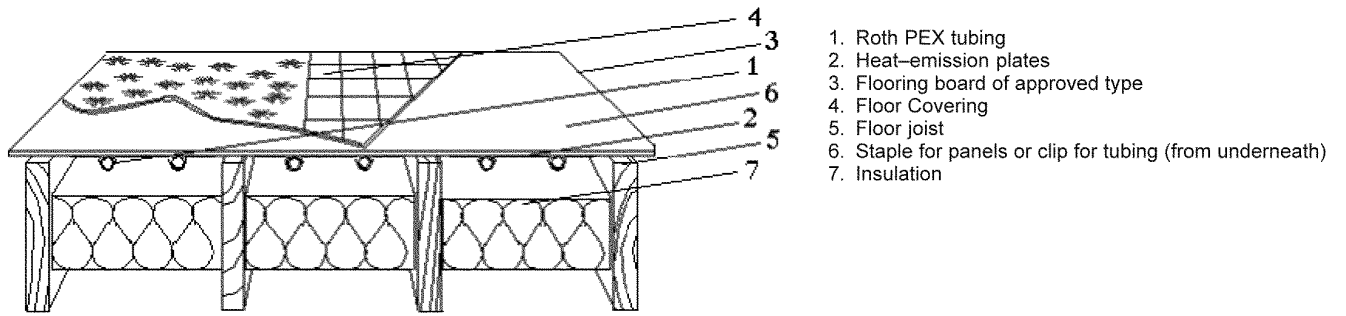


FIGURE 5—SUSPENDED FLOOR, INSTALLATION FROM UNDERNEATH

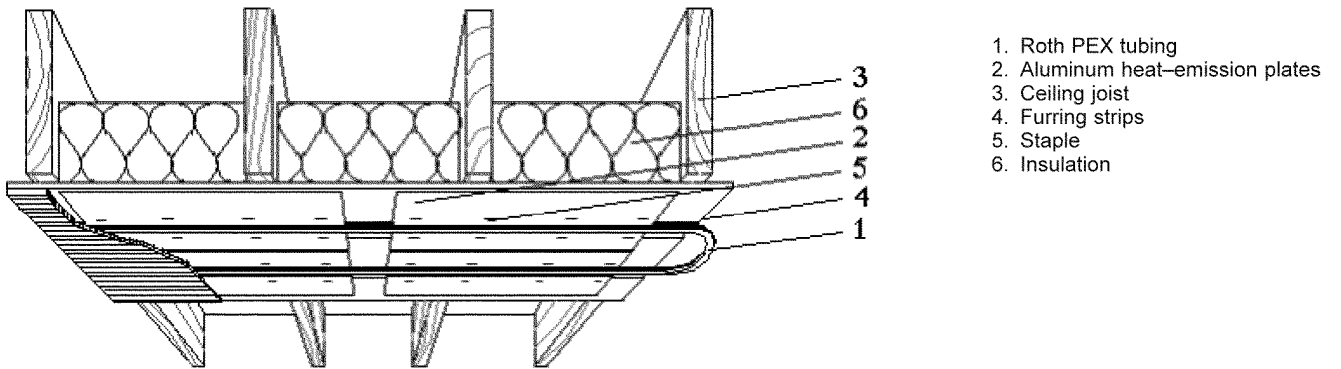


FIGURE 6—CEILING HEATING

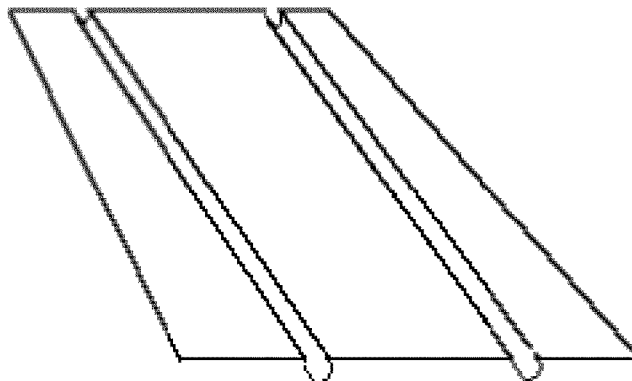


FIGURE 7—THE PANEL CAN BE STAPLED BETWEEN JOISTS TO FLOORING BOARD FROM UNDERNEATH