



Listing Number: PMG-1012

**Effective Date: August 1, 2008**

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

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

Product: Wirsbo hePEX™ plus Tubing, Wirsbo AQUAPEX®  
Tubing, and Fittings—for Use in Radiant Heating Systems

Listee: Uponor North America  
5925 148<sup>th</sup> Street West  
Apple Valley, Minnesota 55124  
[www.uponor-usa.com](http://www.uponor-usa.com)

Compliance with the following codes:

2006 *International Mechanical Code*® (IMC)  
2006 *International Residential Code*® (IRC)  
1997 ICBO *Uniform Mechanical Code* (ICBO UMC)  
2006 IAPMO *Uniform Mechanical Code* (IAPMO UMC)\*

Compliance with the following standards:

ASTM F 876-04,  
ASTM F 877-02e1  
ASTM F 1960-04a  
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: The tubing is marked at intervals of 3 feet (914 mm) with the product designation (Wirsbo hePEX™ plus or Wirsbo AQUAPEX®), nominal tube size, standard dimension ratio (SDR 9), temperature and pressure ratings [100 psi at 180/F (689 kPa at 82/C)], “ASTM F 876,” ASTM F 877 designations, production code, name of the inspection agency (NSF International), and either the ICC-ES evaluation report number (ESR-1529) or the ICC-ES PMG listing number (PMG-1012) and the ICC-ES PMG listing mark.

Fittings: ProPEX fittings are marked with the nominal size, name of the inspection agency (NSF International), product code and “ASTM F 1960.” The PEX compression ring for ProPEX fittings is marked with the nominal size and “ASTM F 1960.” Brass compression fittings, QS20 fittings and compression rings are marked with the nominal size and “ASTM F 877.” Fittings and compression rings are also marked with the Wirsbo trademark:



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

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Packaging for the fittings includes the Uponor North America company name, product name, model number and either the ICC-ES evaluation report number (ESR-1529) or the ICC-ES PMG listing number (PMG-1012) and the ICC-ES PMG listing mark.

**Installation:**

Radiant piping must be installed in accordance with the manufacturer's published installation instructions and IMC Chapter 12, IRC Chapter 21, ICBO UMC Chapter 12 or IAPMO UMC Chapter 12, as applicable; and the installation is subject to approval by the code official having jurisdiction. The system must be installed by Uponor North America-trained installers. (See Figures 2, 3 and 4.)

Only Uponor's proprietary fittings noted in this listing must be used in the Uponor System. Fittings must be attached to tubing in strict accordance with the Uponor North America installation instructions, which are provided with the product.

Clearances from heat-producing equipment must be in accordance with 2006 *International Fuel Gas Code*® Section 503.7.7, IRC Section M1306 IRC or IAPMO UMC Section 802.10.5, as applicable.

**Models: Tubing:**

Wirsbo AQUAPEX® Tubing is available in nominally  $\frac{3}{8}$ -,  $\frac{1}{2}$ -,  $\frac{5}{8}$ -, and  $\frac{3}{4}$ -inch-diameter (10, 13, 16 and 19 mm) sizes and in 300- to 1,000-foot-long (91.4 to 304.8 m) coils.

Wirsbo hePEX™plus Tubing is identical to the Wirsbo AQUAPEX tubing except for the inclusion of a barrier layer. The Wirsbo hePEX plus tubing is available in nominally  $\frac{5}{16}$ -,  $\frac{3}{8}$ -,  $\frac{1}{2}$ -,  $\frac{5}{8}$ -, and  $\frac{3}{4}$ -inch-diameter (8, 10, 13, 16 and 19 mm) sizes and in 250- and 1,000-foot-long (76.2 and 304.8 m) coils.

**Fittings (see Figure 1):**

ProPEX Fittings are insert-type fittings manufactured of either brass or sulfone plastic, and are used with an external PEX compression ring. The fittings are available in nominally  $\frac{3}{8}$ -,  $\frac{1}{2}$ -,  $\frac{5}{8}$ -, and  $\frac{3}{4}$ -inch-diameter (10, 13, 16 and 19 mm) sizes. The ProPEX® fittings comply with ASTM F 1960.

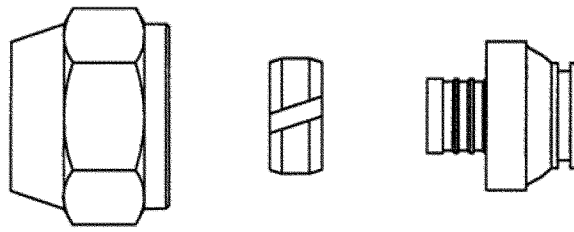
Brass Compression-type Fittings are supplied in  $\frac{3}{8}$ -,  $\frac{1}{2}$ -,  $\frac{5}{8}$ -, and  $\frac{3}{4}$ -inch-diameter (10, 13, 16 and 19 mm) sizes, and consist of a nut, compression ring and insert. The compression fittings, when used with Wirsbo AQUAPEX or Wirsbo hePEX plus tubing, comply with ASTM F 877.

QS20 Brass Compression-type Fittings are  $\frac{5}{16}$  inch (8 mm) in diameter, are for use with  $\frac{5}{16}$ -inch-diameter (8 mm) Wirsbo hePEX plus tubing, and consist of a nut, compression ring and insert. The fittings, when used with  $\frac{5}{16}$ -inch-diameter (8 mm) Wirsbo hePEX plus tubing, comply with ASTM F 877.

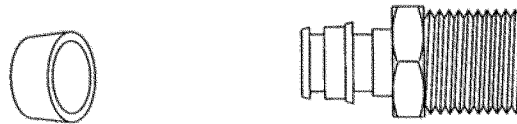
**Conditions of Listing:**

1. Details on the design and installation of the heating system must be submitted to the code official for approval.
2. The tubing must be maintained at the greater of  $1\frac{1}{2}$  times the working pressure or 100 psi (689.4 kPa) during placement of concrete cover for hydronic piping system.
3. The tubing installation must be pressure-tested for leaks in the presence of the code official or the official's designated representative.
4. When installation is in fire-resistive assemblies, evidence of compliance with IBC Section 712 or UBC Sections 709 and 710, as applicable, must be provided to the code official.
5. Any potable water connections must be protected against backflow from the hydronic heating system.
6. The minimum cold bending radius is eight times the outside tube diameter.

- 7. The tubing is limited to hydronic applications using potable water as the transfer fluid.
- 8. The products are manufactured in Apple Valley, Minnesota, and St. John, New Brunswick, Canada, under a quality control program with inspections by NSF International (AA-633).



COMPRESSION FITTING



PROPEX FITTING AND PEX RING

FIGURE 1—FITTINGS

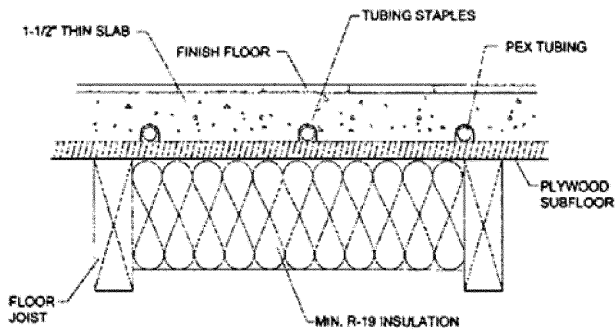


FIGURE 2—POURED UNDERLAYMENT DETAIL

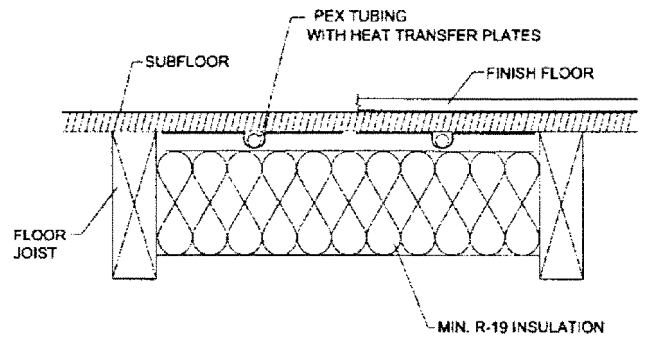


FIGURE 3—HEAT EMISSION PLATES DETAIL

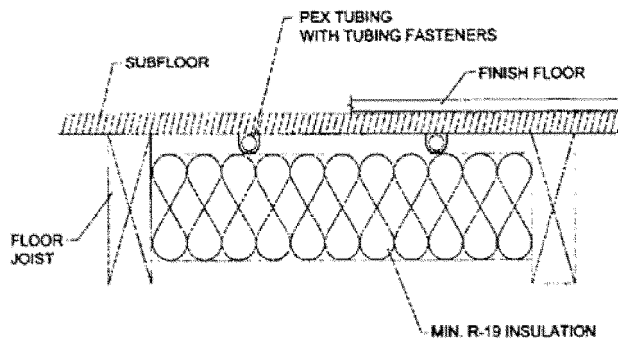


FIGURE 4—JOIST HEATING DETAIL