PLUMBING SYSTEMS

PRE-INSULATED AQUAPEX®

PRODUCT GUIDE

Uponor Pre-insulated AquaPEX®

Offers Industry's First Pre-insulated PEX Tubing

Energy-efficient, Sustainable Building

To ensure the building industry is equipped with the latest, most innovative products, Uponor is the first to offer a pre-insulated crosslinked polyethylene (PEX) tubing to meet the latest energy-code requirements for potable-water applications.

At the core of Pre-insulated AquaPEX® is Uponor's AquaPEX (PEX-a) tubing — a flexible, durable, corrosion-resistant product with a 20-year proven history in plumbing and a 25-year limited warranty. A layer of ½" or optional 1" PEX-foam insulation surrounds the tubing to insulate potable-water lines and meet national, state and local energy-code requirements.

In fact, using Pre-insulated AquaPEX can even help a home or building earn LEED® or National Green Building Standard™ points for energy savings (for information about points on your specific project, refer to www.usgbc.org or www.nahb.org).

More Convenience

Gone are the days of having to install tubing and then going back to install the insulation over it. Because the tubing is already insulated, Pre-insulated AquaPEX eliminates the second step of having to insulate after installation, saving time and hassles. And because the insulation on Pre-insulated AquaPEX runs the entire length of the tubing, there are no seams like in traditional insulation applications.

Ideal for Installing in Tight Spaces

For plumbing applications with challenging installation requirements, such as re-pipe jobs, Pre-insulated AquaPEX offers a significant advantage. Pre-insulated AquaPEX features the same tight bend radius as Uponor AquaPEX tubing — 6 times the outside diameter of the tubing. And because the insulation is already on the tubing, Pre-insulated AquaPEX eliminates the hassle of trying to insulate in tight, confined spaces.

Product Benefits

- Complies with energy-code requirements
- Helps meet LEED® and National Green Building Standard™ points
- Easily installed in tight, confined spaces
- Insulation runs entire length of tubing — no open seams like in traditional insulation applications
- Reduces water waste and hot-water delivery wait times

Pre-insulated AquaPEX Offering

Part No.	Part Description
F6040500	½" Pre-insulated AquaPEX with ½" insulation, 100-ft. coil
F6040750	¾" Pre-insulated AquaPEX with ½" insulation, 100-ft. coil
F6041000	1" Pre-insulated AquaPEX with ½" insulation, 100-ft. coil
F6041250	1¼" Pre-insulated AquaPEX with ½" insulation, 100-ft. coil
F6041500	1½" Pre-insulated AquaPEX with ½" insulation, 100-ft. coil
F6042000	2" Pre-insulated AquaPEX with ½" insulation, 100-ft. coil
F6921250	1¼" Pre-insulated AquaPEX with ½" insulation, 20-ft. straight length, 100 ft.
F6921500	1½" Pre-insulated AquaPEX with ½" insulation, 20-ft. straight length, 100 ft.
F6922000	2" Pre-insulated AquaPEX with ½" insulation, 20-ft. straight length, 100 ft.

Note: Uponor also offers custom coil lengths as well as tubing with 1" insulation on a made-to-order basis. For a quote and availability, contact your Uponor sales representative or Uponor Customer Service at 800.321.4739.

Pre-insulated AquaPEX Straight Length

Pre-insulated AquaPEX Coil

Code Bodies That Specify Insulation

- **IECC 2006**: Residential Energy Efficiency, Section 403: Systems (Mandatory)
- **IECC 2003**: Residential Energy Efficiency, Section 504: Service Water Heating
- **IECC 2006**: Commercial Energy Efficiency, Section 504: Service Water Heating (Mandatory)
- **IECC 2003**: Commercial Energy Efficiency, Section 804: Service Water Heating
- **IPC 2006**: Section 607: Hot Water Supply System
- **IRC 2006**: Energy Effiency, Section N1103 Systems
- **ASHRAE 90.1 2007:** Section 6: Heating, Ventilating and Air Conditioning
- **ASHRAE 90.1 2007:** Section 7.4.3: Service Hot-Water Piping Insulation

Codes and Standards

Hydrostatic Temperature and Pressure Ratings:

- 200°F at 80 psi (93.3˚C at 5.51 bar)
- 180°F at 100 psi (82.2˚C at 6.89 bar)
- 73.4°F at 160 psi (23˚C at 11 bar)

Product Listings:

- IAPMO
- NSF
- CSA
- ITS
- HUD
- ICC

Applicable Codes:

- IPC
- UPC
- NSPC
- NPC of Canada

Manufacturing Standards:

- ASTM F876
- ASTM F877
- ASTM F2023
- ASTM F1960
- ANSI/NSF Standard 14
- ANSI/NSF Standard 61

½" Insulation R-value and Heat-loss Chart

Tubing Size	R-value	Heat Loss
½"	3.3	8.9 Btu/hr/ft at 70°F Delta (Δ) T
¾"	3.1	11.1 Btu/hr/ft at 70°F Delta (Δ) T
1"	3.0	13.1 Btu/hr/ft at 70°F Delta (Δ) T
1¼"	2.9	15.2 Btu/hr/ft at 70°F Delta (Δ) T
1½"	2.8	17.1 Btu/hr/ft at 70°F Delta (Δ) T
2"	2.7	21.0 Btu/hr/ft at 70°F Delta (Δ) T

1" Insulation R-value and Heat-loss Chart

Tubing Size	R-value	Heat Loss
½"	7.8	6.1 Btu/hr/ft at 70°F Delta (Δ) T
¾"	7.1	7.4 Btu/hr/ft at 70°F Delta (Δ) T
1"	6.7	8.6 Btu/hr/ft at 70°F Delta (Δ) T
1¼"	6.4	9.7 Btu/hr/ft at 70°F Delta (Δ) T
1½"	6.2	10.8 Btu/hr/ft at 70°F Delta (Δ) T
2"	5.8	12.9 Btu/hr/ft at 70°F Delta (Δ) T

What Does Insulation Have to Do with Hot-water Delivery?

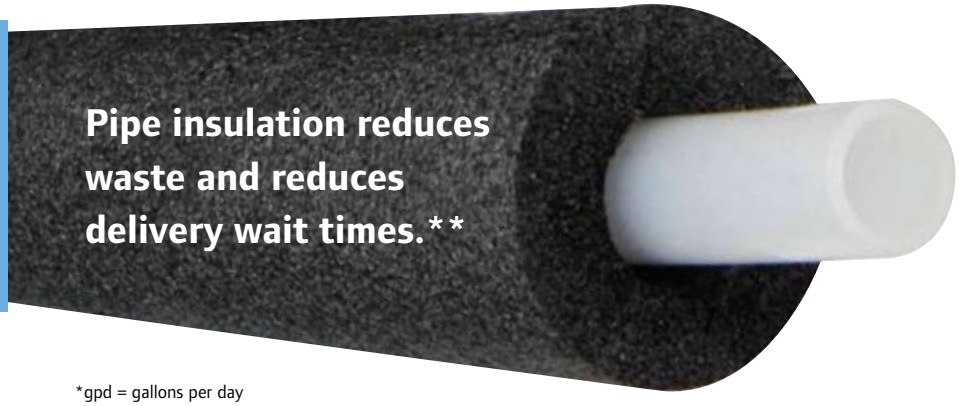
Average Residential Household Hot-water Usage is 52.6 gpd*

10.52 gpd
Hot-water heated and not used or used after cooled

+ 6.35 gpd
Water sent down drain waiting for hot water

= 16.87 gpd
Water wasted without insulation

30%
Water wasted down the drain every day per household



Pipe insulation reduces waste and reduces delivery wait times.**

*gpd = gallons per day

** James Lutz, Estimating Energy and Water Losses in Residential Hot Water Distribution Systems, 2005

Pre-insulated AquaPEX FAQs

Is Uponor the first to offer this technology?

Although this technology is similar to a product offering in Europe, Uponor is the first manufacturer to offer pre-insulated PEX tubing for potable-water applications.

What sizes are available?

Uponor offers Pre-insulated AquaPEX in ½", ¾", 1", 1¼", 1½" and 2" 100-foot coils and 1¼", 1½" and 2" 20-foot straight lengths. Uponor also offers custom coil lengths as well as tubing with 1" insulation on a made-to-order basis. For a quote and availability, contact your Uponor sales representative or Uponor Customer Service at 800.321.4739.

What is the R-value and heat loss of Pre-insulated AquaPEX?

For R-value and heat-loss information, refer to page 3 of this product guide.

What insulation thickness is available?

Uponor Pre-insulated AquaPEX comes standard with ½" insulation. Special orders for 1" insulation on ½", ¾", 1", 1¼", 1½" and 2" tubing sizes are also available. For a quote and availability, contact your Uponor sales representative or Uponor Customer Service at 800.321.4739.

Can installing Pre-insulated AquaPEX help earn LEED® points?

Using Pre-insulated AquaPEX may help a home or building earn LEED points for water and energy savings. For complete details, go to www.usgbc.org.

Can you use Pre-insulated AquaPEX in a plenum?

Pre-insulated tubing is not currently listed for installation in a plenum. Uponor is in the process of evaluating the product in this application.

Can you bury Pre-insulated AquaPEX?

Yes, provided the tubing will not be exposed to groundwater. Although the water will not compromise the integrity of the AquaPEX tubing or insulation, it will have a detrimental effect on the insulating value of the insulation.

What's the bend radius?

The bend radius is the same as Uponor AquaPEX, which is 6 times the outside diameter of the tubing.

Where can I use Pre-insulated AquaPEX?

Pre-insulated AquaPEX can be used in all areas of the potable-water system.

Are there any accessories or guidelines for insulating connections (tees, ells, etc.) in conjunction with the straight pipe?

The insulation can be pulled over the expanded PEX Ring leaving only the fitting body un-insulated. Uponor does not offer insulation kits for the fittings; however, insulation kits are available in the industry if needed for your specific application.

Is there any recycled content in the insulation?

Currently, the insulation does not contain any recycled content. However, we are in the process of evaluating the inclusion of recycled content in the insulation.

For more information, visit our websites listed below.

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