

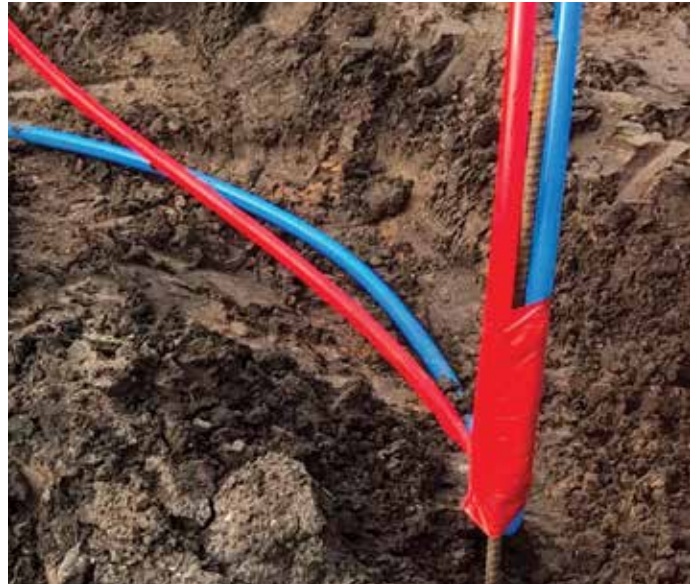
Residential below-grade (under-slab) plumbing information sheet

Uponor AquaPEX® piping along with ProPEX® engineered polymer (EP) and lead-free (LF) brass fittings are approved for installation below grade, in a concrete slab and direct burial in the soil.

Below-grade or in-slab installations

Refer to the following instructions to properly install an Uponor AquaPEX plumbing system below grade or in a concrete slab.

1. Always follow local code when installing Uponor AquaPEX pipe below grade or in the slab.
2. Protect piping where it enters and exits a concrete slab with a thick, protective material, such as HDPE wrapping, PE tape, closed-cell pipe insulation, PVC elbows and sleeves or equivalent, that allow expansion and contraction of the piping.
3. Lay the Uponor AquaPEX pipe in a trench and backfill as needed with dirt to prevent the pipe from recoiling in the trench.
 - a. Ensure the soil provides stable and continuous support for the piping with no hollows, lumps or rocks.
 - b. For poor soil conditions (e.g., rocky, clay, muddy, etc.), prepare the trench bottom with a granular material to provide a stable base.
 - c. Backfill with sand or gravel with a maximum particle size of $\frac{3}{4}$ ". Do not use highly plastic clays, silts, organic materials, or sharp or large rocks as backfill.
 - d. Compact the backfill from the subgrade to a level per local code that will cover the piping 4" to 6" to provide protection around the piping.
 - e. Refer to local code for additional requirements.
4. Uponor ProPEX EP and LF brass fittings are approved for use in below-grade and in-slab applications.
5. After installation, pressurize the system (typically 20 psi above working pressure) before backfilling or pouring the concrete.
6. Do not allow organic (petroleum-based) chemicals, petroleum distillates, termiticides or pesticides to come into direct contact with PEX piping. Refer to the termiticides/pesticides section of this document for further details.



Water service

Uponor AquaPEX piping and ProPEX fittings meet the requirements of American Water Works Association (AWWA) C904, Cross-linked Polyethylene (PEX) Pressure Pipe, $\frac{1}{2}$ " (12mm) through 1" (25mm) for Water Service.

Refer to the following instructions when installing Uponor AquaPEX for water service applications.

1. Use only SDR9 compression fittings listed in compliance with AWWA C800 as referenced in AWWA C904 in water service applications when transferring from PEX to a corporation or curb stop. Commonly available SDR9 compression fitting manufacturers include:
 - Ford Meter Box Company, Inc.®
 - A.Y. McDonald Mfg. Co.®
 - Mueller Company®
 - Philmac®
2. Use insert stiffeners when assembling a compression fitting with Uponor AquaPEX.
3. Use Uponor ProPEX water meter fittings or valves for direct connection to $\frac{5}{8}$ " to 1" water meters. Refer to the Uponor product catalog for information about these products.



Pre-insulated applications

Uponor offers a pre-insulated piping product with insulation thicknesses up to 2" to meet any pre-insulated piping application.

Refer to the following guidelines when installing Uponor Pre-insulated AquaPEX piping.

- For below-grade applications, Uponor recommends using Pre-insulated AquaPEX with a minimum 1"-thick insulation due to static soil loads.
- Protect piping where it enters and exits a concrete slab with a thick, protective material, such as HDPE wrapping, PE tape, closed-cell pipe insulation, PVC elbows and sleeves or equivalent, that allow expansion and contraction of the piping.
- Ensure proper placement of these slab-penetration devices where piping exits the slab.



Uponor Inc.
5925 148th Street West
Apple Valley, MN 55124
USA

T 800.321.4739
F 952.891.2008

Uponor Ltd.
6510 Kennedy Road
Mississauga, ON L5T 2X4
CANADA

T 888.594.7726
F 800.638.9517

Pre-sleeved applications

When using Pre-sleeved Uponor AquaPEX piping or a protection sleeve around Uponor AquaPEX piping, an annular gap will exist between the pipe and the sleeve.

Refer to the following instructions when installing pre-sleeved piping applications.

1. Fill the annular gap between the pipe and the sleeve at the exposed ends with an approved sealant to prevent pathways for pests and the mistaken application of harmful chemicals into the space.
2. Use only the following approved sealants that are compatible with Uponor AquaPEX piping:
 - Latex caulk
 - Latex foam
 - Silicone sealant
 - Polyurethane expanding foam
3. Do not allow for pooling or puddling of the sealants around the PEX piping.

Termiticides/pesticides

Uponor AquaPEX piping is approved for installation in below-grade or in-slab applications where soil termiticide/pesticide treatment is required.

Refer to the following guidelines when installing Uponor AquaPEX piping in areas requiring termiticides/pesticides.

- If applying termiticides/pesticides while the installed PEX piping still has exposed open ends that are not yet connected to plumbing fixtures, be sure to cap, plug or close the ends of the piping to prevent these chemicals from entering the piping system.
- Do not allow organic (petroleum-based) termiticides or pesticides to come into direct contact with Uponor AquaPEX piping.
- Fill the annular gap between the PEX piping and the slab-penetration protection devices (sleeving, PVC bend guides or PE tape) at the ends of the piping to help prevent pathways for pests and the mistaken application of harmful chemicals into the space between the PEX piping and the protection device. Use only sealants that are compatible with PEX piping.
- When using pre-sleeved piping, never fill the space between the PEX piping and the sleeving with pesticides/termiticides.
- When re-treating soil near PEX piping, prevent the puddling or pooling of termiticides/pesticides around the piping.

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