PEXLINE

Residential pex water system

The benefit of the PEXLINE system

Ease of Installation

The installation of PEX pipe is generally easier than rigid pipe. It is available in eliminates the need for coupling joints. Its flexible nature allows it to be bent obstructions, minimizing the use of fittings. No solvent, chemical, or solder The mechanical fittings are secure and reliable when installed properly. The making it safe to transport and easy to handle. For a comparison of the installation metal pipe to PEX pipe.

Best system design for good and ease service

PEXLINE made with 2 pipes one in another. The inner pipe is PEX pipe and the outside pipe is from anther plastic material and made for the ability of taking out the PEX pipe outside at any time without take the floor out or damaging the wall.

National Standard Plumbing Code

France standard NFT 54-085, 54-026, 54-021, 54-025.
Israel standard 5433 part 5
We can meet any standard and request.

Durability

Based on extensive testing and material performance over the span of more than 40 years, PEX piping has proven to be a durable material that does not suffer from some of the historical
problems associated with metallic piping, such as reduced interior dimension, corrosion, electrolysis, filming, mineral build-up, and water velocity wear. PEX piping will typically expand
if the system is allowed to freeze, and return to its original size when the water thaws.
PEXLINE Time of fracture is 50 years.

Cost Effectiveness

PEX plumbing systems have lower installation costs than rigid metallic plumbing systems. Installation time and labor required is greatly reduced. In service, the use of PEX systems can reduce energy and water use by delivering water to the fixtures faster and by reducing losses in the piping.

Energy Efficiency

PEX piping offers reduced heat loss and improved thermal characteristics when compared to metallic pipe. In addition, less energy is used by the water heater because of shorter delivery time for hot water with PEX parallel plumbing systems

Noise Reduction

When properly secured, PEX piping can be significantly quieter than rigid systems. It is inherently less noisy due to its flexibility and ability to absorb pressure surges.

Material properties

PEXLINE is a material made up of molecules of high-density polyethylene (HDPE) that are

permanently linked to each other by a process called crosslinking. Crosslinking makes PEX a "thermoset" polymer, which gives it long-term stability.
PEXLINE is PEX B

Temperature and Pressure

PEXLINE work at 10 bar presser and 95 C hot water and 24 bar at 20 C hot water

Flexibility

The flexible nature of PEX allows it to be bent gently around obstructions and installed as one continuous run without fittings. Slight changes in direction are made easily by bending the pipe
by hand. There is a predetermined bend radius of a 90-degree change of direction without installing a fitting (reference manufacturer's installation instructions). Minimizing mechanical connections can result in quicker installations, less potential for leaks at fittings, and less resistance due to pressure drops through fittings.

Noise and Water Hammer Resistance

As water flows through pipes, pressure in the system gives moving water energy, known as kinetic energy. Kinetic energy increases with the speed of water and also with the mass of water that is flowing. When the flow of water is stopped, such as when a valve or faucet is closed, this kinetic energy must be dissipated in the system.
The ability of a plumbing pipe to dissipate energy due to surge in water pressure is based on the pipe's modulus of elasticity, a measure of material stiffness. A higher modulus of elasticity means the material is more rigid. Copper pipe is 180 times more rigid than PEX pipe.
Ultimately, this means that with rigid piping systems, pressure surges can produce noticeable banging sounds as energy is dissipated, thus causing what is known as "water hammer." The pressure surge that causes water hammer can produce instantaneous pressures of 300 to 400 psi (2070 to 2760 kPa), which can cause damage to rigid pipes, fittings, and connections.
The flexibility of PEX pipe allows the pipe itself to absorb energy from pressure surges and eliminate or reduce the occurrence of water hammer.

Resistance to Freeze Damage

PEX pipes are less susceptible to the effects of cold temperatures retaining their flexibility even below freezing. This flexibility means that if water-filled PEX piping freezes, the elasticity of the material allows it to expand without cracking or splitting, and then to return to its original size upon thawing. This applies when PEX pipes have room to expand evenly along their length, as is typical when installed within walls or ceilings. PEX pipes inside a slab may not be able to expand evenly.

PEXLINE Piping Dimensions and Flow Characteristics

Outer Diameter	Inner diameter	Flow rate in L/SEC at velocity of 1.5 m/sec	Flow rate in L/SEC at velocity of 1.2 m/sec
16	11.6	9.48	7.62
20	14.4	14.4	11.4
25	18	22.8	18
32	23.2	37.8	30

PEXLINE joining method

Stainless Steel Sleeve

This type of fitting is made of metal and uses a press sleeve or cap to secure the PEX pipe to the fitting. These fittings have ribbed annular ends that are inserted into the PEX pipe. A sleeve or cap slides over the outer part of the piping and the fitting is inserted into the pipe. The pipe must be fully inserted. A press tool is used to make the final connection. It is important that the appropriate tool is used. This type of fitting is often used in other industries to make pneumatic or hydraulic hose line connections.

PEXLINE manifold type

The unique features of PEX piping make it ideal for use in manifold-type system designs, commonly referred to as home-run plumbing systems. In this design, all fixtures are fed from dedicated piping that runs directly and unbroken from central manifolds. The hot water manifold should be located in close proximity to the hot water source to ensure fast and efficient delivery.

All outlets are individually fed from a common manifold or two central manifolds (hot and cold). Because inline fittings are eliminated, pressure losses along the line are reduced, allowing

the piping size to be reduced for certain fixtures. 16 mm piping may be used for lower flow applications and 20 mm piping is recommended for higher flow applications. The home-run system often has more evenly distributed pressure losses when flowing water to fixtures since all lines are fed from a common point, rather than adding multiple fixtures into

the same pipe section. Smaller diameter pipe also results in quicker delivery of hot water from the water heater, although each line must be purged independently.

If the manifold is installed using valves outlets, many plumbing codes do not require a second valve at the fixture, speeding installation and adding convenience much like an electrical breaker panel. Specific features and advantages of the PEX home-run design include:

- Easier piping runs to each fixture using smaller diameter piping
- Opportunity to eliminate all fittings between the manifold and the outlet
- Opportunity to have centrally located individual shut-offs housed at the manifold
- Quicker delivery of hot and cold water to the outlets
- A more stable pressure to each fixture when operating simultaneous fixtures

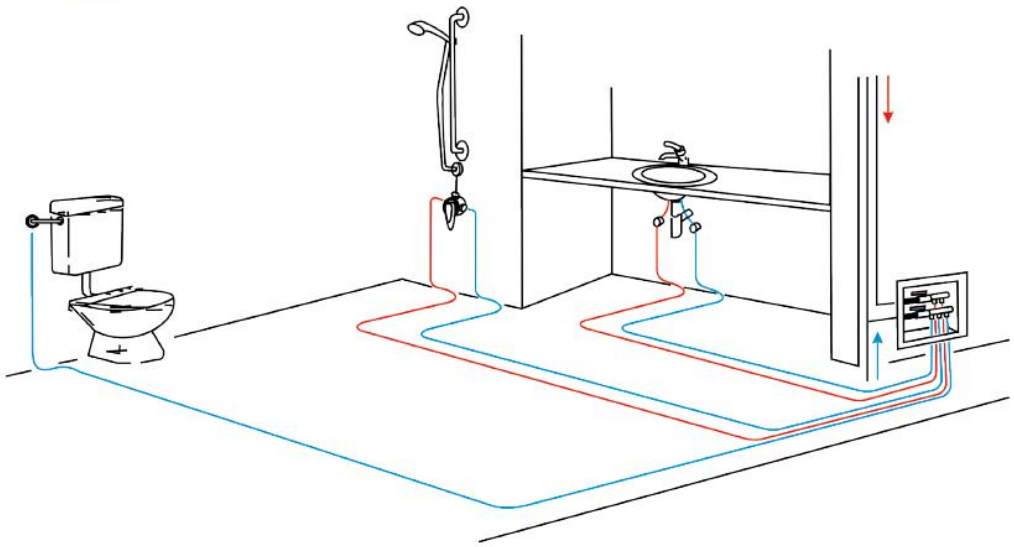
Remote Manifold

A second method for installing PEX piping combines elements of the trunk &branch systems and the remote manifold systems.

typically referred to as a remote manifold system design. The basic approach to this system is running hot and cold trunk lines to some convenient location in close proximity to multiple fixtures, such as for a bathroom group. At this point a smaller remote manifold is installed on each trunk line. The remote manifolds can be flow-through or closed end. Individual branch lines are then run to each fixture in the same manner as the central manifold. Manifolds with valves must be installed in accessible locations; manifolds without valves may be installed in enclosed spaces. The remote manifold system performs in a similar manner to the T&B system. However, it simplifies the installation due to the reduced number of fittings that are required. Specific features and advantages of the PEX remote manifold design include:

- Relatively simple system design conversion from rigid piping to flexible PEX piping
- Opportunities to reduce the number of fittings installed
- Quicker hot water delivery during sequential flows.
- Opportunity to have centrally located individual shut-offs housed at the remote manifold.

PEXLINE scheme



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