



## Cross-Linked Polyethylene PEX Flexible Hot & Cold Plumbing Pipe

PEX pipe was first developed in the 1960's. It has been in use in Europe for plumbing, radiant heating, and snow-melting applications since that time. PEX was first introduced in the U.S. in the 1980's, and today is the most popular material for new residential plumbing.

The beauty of PEX is its flexibility and availability in long lengths which dramatically cut down on the number of fittings required to install the pipe. Labor costs for installation are approximately half of those for a comparable copper plumbing job, and the material itself is considerably less expensive than traditional metallic piping.

Popular sizes of PEX are 3/8", 1/2", 3/4" and 1" inside diameter, and the most common lengths are 5', 20' and 100'. PEX can also be purchased by the foot. Most PEX piping is white in color although the 1/2" and 3/4" sizes are available in blue and red to help distinguish hot and cold pipes.

PEX piping is relatively freeze-resistant. When frozen the pipe will expand and return to its original shape when thawed. Care should be taken however, as the brass fittings and valves used in the piping system will expand and split if frozen.

PEX is assembled using mechanical fittings. Most commonly, a barbed fitting is inserted into the pipe and secured with a crimp ring made of annealed and ductile copper. The ring goes over the ribs of the fitting and when properly crimped, seals the pipe and fitting together. Other systems using pinch-type fittings are available and offer the advantage of having one tool fit most sizes of pipe.



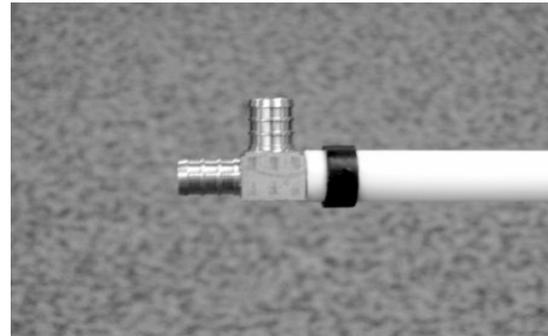
PEX can be bent into a fairly tight radius, but bend no tighter than a radius 6 times the outer diameter of the pipe.

Measure and cut the pipe to length. Remember to allow extra length for expansion and contraction – PEX runs should never be stretched tight between fittings. A squeeze-type PVC cutter will do a good job leaving a square and burr-free end.





Place the proper size crimp ring over the pipe and press a fitting into the pipe until it bottoms out. The ring should be placed  $1/8'' - 1/4''$  from the end of the pipe so that it covers the "ribs" of the fitting.



Open the PEX crimping tool completely and place it over the crimp ring. Squeeze the handles until they are completely closed to lock the ring onto the pipe. PEX is always assembled using mechanical fittings and is never cemented or glued.

Using the "Go/No-Go" tool, check that the ring has been properly crimped. The "Go" side of the gauge should fit over the crimped ring. If the "No-Go" side of the gauge fits over the ring, the tool must be recalibrated and the joint done over using a new ring.



Another type of PEX connection system uses a stainless steel crimp ring to secure the fitting to the pipe. The big advantage to using this method is that one tool works with  $3/8''$ ,  $1/2''$ ,  $3/4''$  and  $1''$  pipe. Shown is the *Quick-clamp* tool, rings and a few of the many fittings available for use with PEX piping

This method is actually easier to use than the ring-type system. Push the stainless crimp ring over the pipe and insert the fitting until it bottoms out. Open the tool completely and place the jaws over the "nub" on the fitting. Squeeze the handles until they close together completely.

