XPAND-PEX F1960 INSTALLATION GUIDE

IMPORTANT: Read this manual BEFORE beginning any assembly. Failure to read, follow, and use this information may result in faulty and leaking connections, and will void any guarantee on the system or equipment. **SAVE THIS GUIDE FOR FUTURE REFERENCE.**

Copperfit **IS NOT LIABLE** for installation practices that deviate from this installation guide or are not acceptable practices within the mechanical trades, codes, or standards of practice.

This guide provides a comprehensive overview of our expanded ring system, highlighting its specific technical features. It has been carefully prepared and organized to facilitate quick access to the required information.

Precautions:

Chemical Products
Avoid contact or exposure of PPSU fittings to PVC glues, gels, solvents, polyurethane foams, liquid metal sealants, mineral greases, lubricants, paints, disinfectants, and bleach.

Pipeline
When pipes are delivered in rolls, they should be unrolled evenly in the opposite direction of how they were rolled to avoid warping. Do not use any sections that are bent, curved, or damaged.

After assembly, please ensure pipe is not damaged by other work carried out on-site. To ensure this, it is recommended to protect pipes with a protective corrugated pipe or insulation.

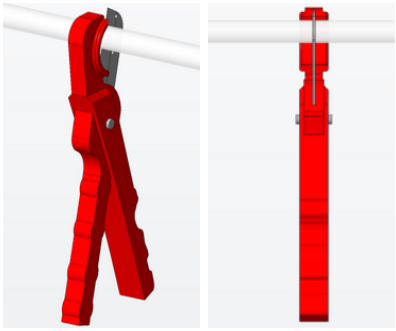
ASSEMBLY PROCESS

To achieve correct pressing, follow these instructions:

1.Cutting the pipe

Cut the pipe with a pipe cutter designed for PE-Xa pipe. Pipe should be cut cleanly and perpendicular, at a 90º angle, to the pipe axis. Make sure that there are no burrs inside the tube.

IMPORTANT:
Do not use a hacksaw, pocket knife, copper pipe cutter, or any other similar tool.

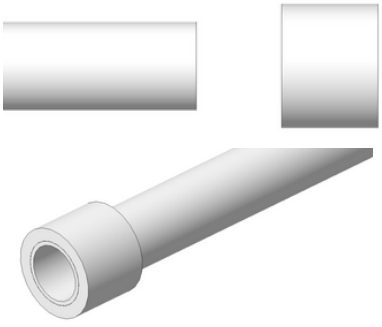


2. Placing the ring on the pipe

Slide the expansion ring onto the pipe. The expansion ring has a built-in stop. Insert the pipe into ring until it makes contact with the stop.

Do not push ring beyond the end of pipe. The ring must fit snugly on the pipe.

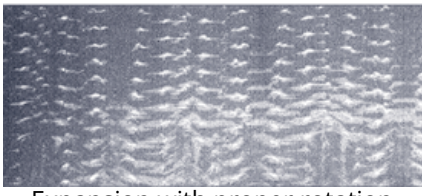
If it is loose, remove the ring from the pipe and slightly expand the end of pipe without the ring. Then, replace the ring onto the end of the pipe.



Copperfit Industries Inc.
1280 E 9th St, Pomona, CA 91766
(909) 622-6100
www.copperfit.com

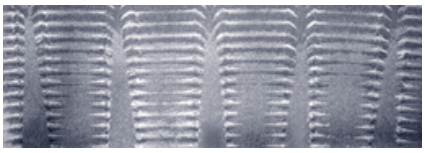
3. Expand the pipe

Select the appropriate expander head for the pipe diameter. Remove the expander head from the tool and clear any dirt and debris. Put the head back on and firmly tighten the head on the tool. Using incorrectly sized expansion heads can produce faulty connections, resulting in leaks and property damage.



Expansion with proper rotation

Follow the tool manufacturer's instructions. If the tool has a rotating head, ensure it rotates properly. If the head does not rotate automatically, rotate the pipe or tool after each expansion to avoid grooves inside the pipe and faulty connections, again causing leaks and property damage. (See illustration)

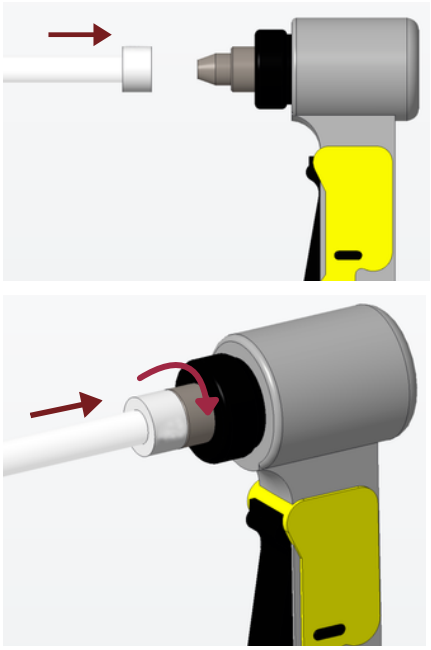


Expansion without proper rotation

Apply a thin layer of expander cone grease to the expander cone. Improper use of lubrication (too much or too little) on the expansion cone can produce pipe damage, and faulty connections, resulting in leaks and damage.

Expanding the pipe and inserting the fittings must be carried out in the same place since fittings must be installed immediately after expanding the pipe.

Using an electric or battery tool:
Insert the expansion head into the pipe as far as possible, holding the ring and the pipe, without forcing so that they do not rotate with the head. Start the expander. Expander head will perform the opening steps to widen the pipe.



Electric / battery expander

At the end of each expansion, if the head is not rotatable, rotate the pipe, gently pushing the pipe further onto the expander head and rotating it 1/8 of a turn in either direction.

If a tool with a rotating head is used, after each expansion the tool must be removed from the inside of the pipe while the head is no longer expanded. During this process, the head will rotate on its own, so it is not necessary to rotate the tool. The expander head will expand, retract, and rotate slightly with each cycle.

Continue expanding and rotating until the piping and ring are snug against the shoulder of the expander head, then perform at least 2 more expansions. In the case of 1", 1¼", 1½" and 2" pipes, let the head continue expanding for about 3 seconds.

Avoid excessive expansion. The correct number of expansions is the amount necessary for the piping and the shoulder of the fitting to fit snugly together. Expand the pipe only enough to insert the connector with some resistance, and do not hold the pipe in the expanded position.

Copperfit does not recommend the use of a manual expander during installation. To ensure the integrity and optimal performance of the product, please use the specific tools indicated in this guide.

Perform expansions until the flat part of the expander head segments is completely inside the pipe and the edge of the pipe at the end of it. Hold the pipe when the segments are inserted into it.

If the process is interrupted during the widening phase, cutting the piece of pipe and the ring used is mandatory. Then make the joint using a new piece of pipe and a new ring.

Do not expand pipe and ring too much. Temperatures affect the required time for the pipe and ring to shrink to the fitting. Follow the steps below when expanding in cold weather:

- Keep rings and fittings at 55°F (13°C) or warmer to reduce contraction time and ensure even expansion. Heating the fittings and rings reduces shrinkage time. Place them in pockets before installation to keep them warm.
- Do not make expansion connections in temperatures below 5 °F (-15°C).
- At temperatures below 40 °F (4.4°C), fewer expansions are required.
- Make a test connection for each size of pipe when temperatures vary from day to day, noting the number of expansions necessary to make a tight connection.

4. Insert the fitting

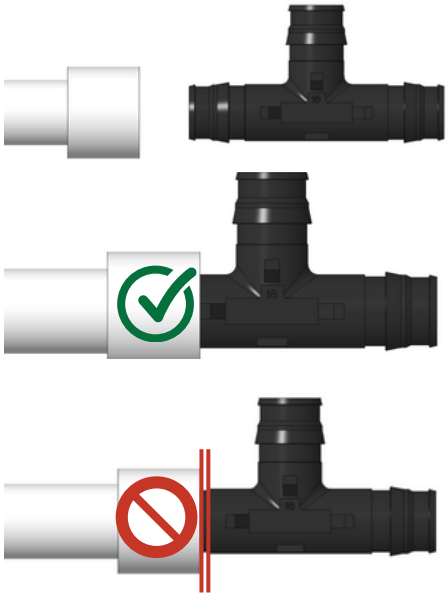
When pipe touches the head stop, the last expansion is performed. If mounting is in a difficult location, hold the pipe in place, against the shoulder of the fitting, for 3 seconds after the last expansion. Turn off the expansion tool and remove it.

Remove the expanding head from the pipe and insert the fitting completely without delay against the shoulder of the fitting. Hold the fitting for about 1 minute until the pipe and ring contract around it.

After this time the pipe will have contracted over the fitting, and another joint can be made. Do not make expansion connections in ambient temperature below 5 °F (-15°C). But it is advisable to work between 41 and 77°F (5 and 25 °C).

If the fitting does not insert easily, remove and expand it once more without damaging the pipe. To avoid over-expanding the piping, do not hold the piping in the expanded position.

To obtain a good grip, ring and pipe must be firmly attached to the fitting. If there is a gap between fitting shoulder and ring greater than 1/16” (1 mm), fitting must be removed and replaced with another one. Cut about 50 mm behind fitting, place a new ring, expand over the pipe and repeat the insertion process.



Recommendations to consider during installation

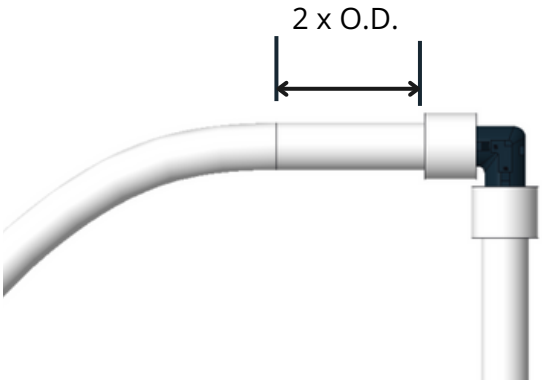
System cleaning and purging

All pipes should be thoroughly cleaned before initial use to ensure that foreign matter and substances inside the pipe are removed and that hygiene problems and corrosion damage are avoided as much as possible.

Drinking water pipe should be filled as soon as possible after installation and after pressure testing. Water of a quality close to drinking water should be used to install pipes to avoid any possible contamination of the pipes.

PEX bend radius

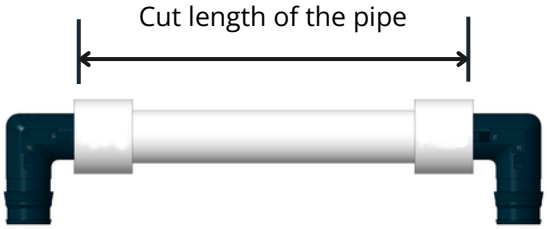
Avoid bending pipe too close to the fitting; it is recommended a minimum of two times the outside diameter (O.D.) of the pipe as the minimum distance before changing direction. When a proper bend is not possible, use an elbow.



Distance between fittings

Avoid joints that are very close to each other, to prevent damage to fittings during installation and to protect against elevated stress on the pipe and fitting.

Nominal fitting size	Cut length of pipe
1/2"	2″
3/4"	3″
1″	3 ½″
1 ¼″	4 ½″
1 ½″	4 ½″
2″	6″



Protect PPSU fittings and PEX pipes from UV rays.

Protect PPSU fittings from contact with fire or excessive heat.

Avoid exposure or direct contact with vapors from PPSU fittings with the following products: PVC glues, gels and solvents, polyurethane foams, liquid metal sealants, mineral greases and lubricants, paints, disinfectants, and bleach.

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Do not recover Xpand-Pex F1960 fittings after being assembled

- PPSU ring and fittings ⟶ **ARE NOT REUSABLE**
- It is not advisable to attempt to recover the fitting by cutting the ring with scissors or a saw, as there is a high risk of damaging the nipple of the fitting, which could cause leaks.

Problem Solving

If the connectors are **NOT** watertight, check the following:

- Make sure expander head is securely screwed to expander tool head.
- Check that expander head does not have bent segments; if they are bent, replace head.
- If the segments remain open, verify that the segments are clean
- Is the cone on the expander head bent? If so, the tool must be repaired. **DO NOT USE**.
- Is there too must grease in the expander cone? Use a clean cloth to clean the expansion cone and reapply a light coat of grease to lubricate the cone.

EXPANSION TOOLS

- Check if the expander head is rotatable or not.
- Follow the manufacturer's recommendations for lubrication of the expander cone.
- Choose the appropriate expander head for each pipe diameter, to achieve a correct connection.
- Keep the expander heads in their holders.
- Do not use a damaged expander head.
- Do not use the expansion tool for any other purpose (it is not a hammer).
- It is not recommended to use manual expansion tools.