

ASTM Standards

- ASTM D 2239, Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR) Based on Controlled Inside Diameter (only covers pipes with controlled **inside** diameters).
- ASTM D 2737, Standard Specification for Polyethylene (PE) Plastic Tubing (only covers CTS **tubing** with **outside** controlled diameters).

DO'S AND DON'TS ON HANDLING:

DO - Store pipe on firm and flat surfaces. - Keep pipe and fittings away from sharp objects, heat, and toxic and aggressive materials. - Take care not to cut, kink, abrade, or otherwise damage the pipe during handling. - Keep protective packaging intact until pipes and fittings are required for use. - Release coils carefully, keeping in mind they may be coiled under tension. - Take care when handling pipe under wet or frosty conditions, as the pipe may become slippery. - Temporarily cap cut pipe ends to prevent dirt or other material from entering the pipe. - Uncoil pipe and allow it to warm in the sun before burial for ease of installation.

DON'T - Throw pipe from delivery vehicles. - Drag pipe or roll pipe coils. - Place pipe and fittings in contact with lubricating oil, gasoline, solvents, or other aggressive materials. - Heat pipe with an open flame.

Cutting A plastic tubing cutter is recommended for a square, clean cut. Do not use cutters previously used on metal piping.

Joining None of this piping can be joined by solvent cementing. Connecting is simple and easy with flexible plastic piping; it can be done with compression fittings, insert fittings using clamps, or a stab-type fitting. Care must be used to match the sizing of the fittings to the pipe or tubing you are using. This is best done by matching the sizing on the pipe print line with the fitting's label. In using insert or compression fittings, consult the installation instructions of the particular manufacturer whose fittings you are using. Stab-type mechanical fittings designed for PE (and PEX) water piping are of a one-piece design that simplifies installation. Compression type mechanical connectors include insert fittings with crimp or band-type rings, nut-follower style, flanged bolted and stab-type fittings. Insert fitting joints utilize insert fittings with male barbed ends. Insert crimp/band type or nut-type mechanical couplings with rigidly positioned stiffeners that extend beyond the clamp or coupling nut should not be used unless provisions are made to prevent the creation of a stress riser at the end of the stiffener.

REMEMBER, you can avoid problems by:

1. Protecting the piping from damage before installation.
2. Inspecting piping for cuts and damage before installation and rejecting damaged piping.
3. Never permitting rocks and sharp objects to bed against piping.
4. Never "reverse bend" coiled piping.
5. Installing piping without placing stress on fittings.
6. Never permitting plastic piping to be kinked or installed under strain at a metal fitting.
7. Snaking the piping in the ditch to allow for temperature differences.
8. Flushing the line free of dirt before the final connection.
9. Filling the line with water and pressure testing before back filling. Test to the pressure required by the code or to 150% of working pressure.

Steps to Join Polyethylene Pipe and Tubing

Polyethylene Pipe (IPS) Polyethylene pipe is manufactured to have a controlled inside diameter that typically utilizes barbed insert style fittings. Barbed fittings are available in PVC plastic, brass, and galvanized steel.



A. The end of the pipe is forced over the barbs until it makes contact with the shoulder of the fitting. Try placing the end of the pipe in hot water if you experience difficulty inserting the fitting into the pipe. Never used oil or soap on pipe or fittings. B. Install two all stainless steel clamps over the barbed section of the fitting (only one clamp shown in picture). The clamps should have the screw positions offset. OR use crimp style clamps.

NOTE: When using polyethylene pipe in submersible pump application use brass adaptors at both the well seal and the pump outlet. Double clamp both joints with all stainless steel clamps. Use snubbers at the pump, at the static water level, and at about half-way between to avoid abrasion of the pump housing, the pipe, or the power cable against the casing. Tape the power cable to the pipe about every five feet. Attach a stainless steel cable (1000 LB. Test) to the well seal and to the pump; this will prevent loss of pump and will assist in raising the pump in case of failure

Polyethylene Tubing (CTS) Polyethylene tubing is manufactured to have a controlled outside diameter that utilizes a compression style fitting.



A. The pipe should be cut square. Trim the edge of the tubing so that it will easily slide into the fitting without damaging the seating surface of the fitting. B. Insert plastic stiffeners inside the tubing. C. Insert stiffener until stiffener shoulder makes contact with the tubing. D. Insert tubing into the fitting until it bottoms in the fitting.

Some compression style fittings use a locking nut to provide the compression for sealing. The locking nut style fitting is shown here.

