

## PROCEDURES

### PLASTIC PIPE MECHANICAL FITTINGS

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#### 10.0 PURPOSE

This section identifies the mechanical fittings approved for use in the Operator's gas system.

#### 10.1 GENERAL

- A. Only approved mechanical fittings may be installed in PE gas systems.
- B. The use of lubricants with mechanical fittings is not permitted.

#### 10.2 CONTINENTAL TAP TEE (PE) PIPE APPLICATION

- A. Approved tools:
  - 7/16 in. wrench
  - Marking pen
  - 1/8-in tapping tool
  - Clean cotton cloth or paper towel
- B. Joining procedure (tee to main):
  - Clean main with clean cloth or towel.
  - Inspect pipe for defects.
  - Inspect tapping tee and components for defects.
  - Make sure that O-rings are clean and properly positioned.
  - Mount tapping tee on main and insert bolts.
  - Bring top and bottom of tapping tee together evenly by cross tightening the bolts.
  - Ensure that tee is secured firmly to the main.
- C. Join fitting outlet connection:
  - Clean the pipe end with a clean cotton cloth or paper towel. The pipe end should be undamaged and squarely cut.
  - Inspect the pipe to ensure there are no cuts or gouges located in the sealing area of the pipe.
  - Remove the components from the plastic bag and examine for defects. Make sure the o-rings are clean and positioned properly.
  - Mark the stab length on the pipe 2 3/8 inch for 1 inch IPS outlet.
  - Loosen the compression nut until the seal ring is no longer compressed,

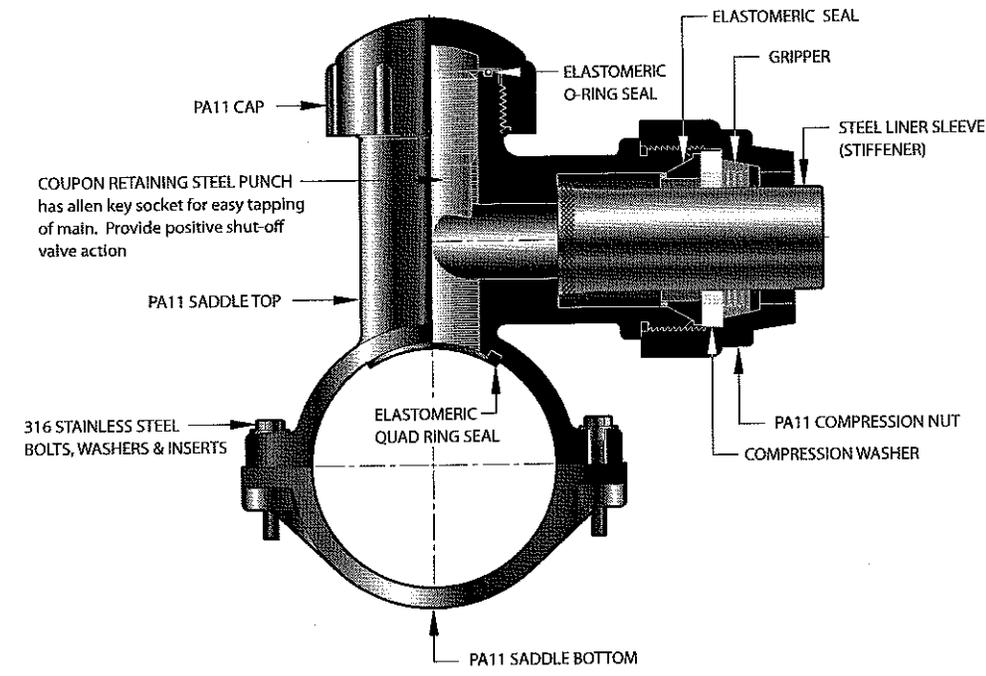


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#### CONTINENTAL HVTT (PE) PIPE APPLICATION



- A. Approved tools:
- ½-in wrench
  - Marking pen
  - Continental tapping tool
  - 24-in pipe wrench
  - Clean cotton cloth or paper towel
- B. Joining procedure (tee to main):
- Clean main with clean cloth or towel.
  - Inspect pipe for defects.
  - Inspect tapping tee and components for defects.
  - Make sure that O-rings are clean and properly positioned.
  - Mount tapping tee on main and insert bolts.

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- Tighten center bolts first, using care to pull the top and bottom together evenly by alternating front to back.
  - Tighten remaining bolts evenly by cross tightening the bolts until the flanges of the saddle come together.
  - Make sure that the tee is secured firmly to the main.
- C. Join fitting outlet connection:  
Clean the pipe end with a clean cotton cloth or paper towel. The pipe end should be undamaged and squarely cut.
- Inspect the pipe to ensure there are no cuts or gouges located in the sealing area of the pipe.
  - Mark the maximum stab depth from the end of the pipe. 4 inch stab depth for 2 inch IPS outlet.
  - Remove the red cap plug and stiffener from end of outlet without removing the compression nut (discard the plug). Tap the stiffener into the pipe until the ID of the pipe rests on the knurl of the stiffener.
  - Stab the pipe into the outlet up to (not past) the stab mark.
  - Tighten the compression nut until it shoulders against the body of the outlet. **Do not overtighten.** If you cannot see the stab mark or the end of the compression nut is not within 1 inch, reassemble the fitting.
- D Tapping the tee:
- Remove cap and o-ring, insert tapping tool into punch.
  - Screw punch clockwise until the stop on tapping tool contacts the top of the tee.
  - To allow flow through the service, rotate the punch counter-clockwise until the top of the punch is flush with the top of the tee.
  - Replace o-ring and cap and screw cap down ¼ turn past hand tight.
- E. Abandonment nut installation:
- Inspect the parts to ensure they are in good condition.
  - Install the components in the following order: Seal ring, Compression ring, compression nut.
  - Tighten the compression nut until it shoulders against the outlet. **Do not overtighten.**

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#### 10.4 LYCOFIT (PE) PIPE APPLICATION

##### A. Approved Tools

- Ratchet
- Ratchet cutter
- Vise grip tool / LycoRing (disposable plastic grip ring)
- Marking pen
- Lyall tool
- Clean cotton cloth or paper towel

##### B. Joining Procedure:

- Clean pipe ends with clean cloth or towel. Pipe ends should be undamaged and square cut.
- Inspect pipe for any imperfections within the sealing area. Cut out any imperfections.
- Remove and inspect fitting components for defects.
- Slide completion sleeve onto pipe.
- Clamp pipe jaw vise grip onto pipe with a length of pipe extending behind the pipe jaw that is equal in length to the coupling spigot.
- If using the LycoRing, slide it, small diameter first onto the PE pipe and position it approximately ½ inch further than the length of the fitting spigot.
- Slide the completion sleeve over the LycoRing and against the tab so that the LycoRing grabs the PE pipe.
- Insert the line-up nose of the spigot into the pipe. Position the pipe and the spigot in the tool location plates.
  - The spigot portion of the fitting should be placed in the fixed jaw of the tool. (This part of the tool has the jaw attached to the handle not the traveler or rack portion.) The pipe and sleeve will then be pulled onto the spigot by the traveler/rack portion of the assembly tool.
  - When using a reducer fitting, the smaller side of the fitting should be assembled first. The spigot is placed in the fixed jaw of the tool during assembly of both sides.
- Operate the ratchet until the pipe completely covers the last spigot barb.
- Remove the pipe jaw vise grip tool from the pipe, or remove the LycoRing by pulling on its tab. Position the pipe, completion sleeve and spigot in the tool locating plates. Continue operating the ratchet until the completion sleeve

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meets the coupling flange.

#### 10.5 METFIT MECHANICAL FITTINGS

- A. Use only METFIT approved crimp tool.
- A. Preparation:
  - 1. Cut ends of pipe/tubing square, use approved cutters not a hacksaw.
  - 2. Remove burs from pipe/tubing.
  - 3. Mark the insertion depth 1 1/8 inches. (Gap for 2 inch IPS repair coupling is 2 1/8 inch – 2 1/1 inch.)
  - 4. Slide compression ring over pipe (Flanged end toward fitting).
  - 5. Push pipe into the fitting until end butts against shoulder inside the fitting.
  - 6. The insertion depth mark should line up with the fitting (if not try again but do not proceed if unable to line up properly).
  - 7. Fitting is now ready to be crimped.
- B. Crimping Procedure:
  - 1. Open the jaws of the appropriate crimp tool.
  - 2. Stationary jaw is placed at back of fitting shoulder.
  - 3. Movable jaw is placed at back of compression ring.
  - 4. Close the jaw until the compression ring is pulled past the locking rib.
  - 5. Open jaw and remove tool.
- C. Inspect and Complete:

Visually inspect to ensure crimp ring is fully in place past the locking rib all around the circumference of the fitting. If not, rotate the fitting or the tool 90<sup>0</sup> and repeat crimping procedure. When visual inspection and completion verified follow the same procedure for the other side of the fitting.
- D. When fitting is complete no time is required before installing and backfilling.