

Operations and Maintenance Procedures

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O&M Section # 12.3	SCUD Task # 90
Section: Construction/Operations	Revision Date: 09/06/16

Joining of Plastic Pipe - Electrofusion

SCOPE AND PURPOSE

This procedure is to ensure when personnel join polyethylene plastic pipe and associated fittings using electrofusion, that this material is installed in a safe and efficient manner so as to minimize anticipated stresses upon the piping and associated fittings as well as eliminate leakage. It describes practices required to comply with §§192.281 through 287.

RESPONSIBILITY

The Main Line Supervisor, Service Line Supervisor, Maintenance Supervisor, or other designee, is responsible to ensure when installing polyethylene plastic pipe and associated fitting, that it is performed as described in this procedure.

PERSONNEL SAFETY (Where Applicable)

Every reasonable precaution shall be taken to protect employees and the general public.

Avoid using fusion machine in a combustible gas atmosphere.

Do Not be in the ditch/hole while fusing a tap on a line that has gas on it.

EQUIPMENT AND MATERIALS

System maps and records
Polyethylene plastic pipe and associated fittings
Plastic Fusion equipment, as required
Routine hand tools
Electrical Power Source
Soft felt-tip pen, crayon or other markers
Other equipment and materials, as needed

OPERATOR QUALIFICATION

This activity is a covered task under the Operator Qualification Plan and may only be performed by an individual who is currently qualified to perform this task. Refer to the OQ Plan for specific qualification requirements.

INSTRUCTIONS

Maintenance and Operation of Equipment

All equipment shall be operated and maintained in accordance with the manufacturers' instructions.

Electrofusion Steps

- Ensure that pipe ends are cut squarely removing any cuts, scratches or grooves.
- Clean pipe ends to be joined
- Mark appropriate stab depth on pipe ends.
- Surface pipe ends using the properly sized scraper.
- Insert pipe ends into fitting. (Use two ea.), electrofusion fittings and a segment of pretested polyethylene plastic pipe when pipe ends do not come closely together or a large section is to be replaced.
- When fusing a tapping tee, prepare the fusion area surface of the main. Ensure that the prepared surface extends beyond the intended melt bead area.
- Apply properly sized fitting clamps to maintain fitting and pipe alignment.

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- h. Attach electrofusion machine leads to the machine and fitting. Fitting adapters are typically necessary when using a machine and fittings from different manufacturers.
- i. Get everyone out of the fusion ditch/hole if fusing to a live gas line.
- j. Turn on the electrofusion machine. The machine will read the fitting size and type.
- k. When prompted by the machine, press the fusion button. Fusion and cooling times before rough handling and leak test pressure application, will appear on the machine read out.
- l. After prescribed cooling time, remove leads from fitting and remove alignment clamps.
- m. The fusion machine memory can be downloaded to a computer for a record of the fusion including anomalies such as short stab and misalignment. The record may also be printed from the electrofusion machine.
- n. **All unsatisfactory fusions shall be cut out.**

REPORTING/NOTIFICATION

Complete documentation in accordance with Operation and Maintenance Manual.

RELATED PROCEDURES

CONST006 - Leak Test at Operating Pressure (Final Tie-in)