Electrofusion Installation Checklist

TOOL CHECK: Make sure you have what you need to accomplish before going to job site.

- ***Pipe Measuring Tools***
- ***Pipe Marking Tools***
- ***Pipe Cutting Tools***
- ***Pipe Cleaning Material***
- ***Pipe Scraping Tools***
- ***Pipe Re-Rounding Tools***
- ***Pipe Restraint & Alignment Tools***
- ***Pipe Beveling Tools***
- ***Appropriately Sized Power Source & Extra Fuel***
- ***Extension Cords***
- ***Joint Inspection Tools***
- ***EF Processor***

(1) Before Starting

- Inspect the work site making sure the area is dry and free of obstructions and potential hazards.
- In the event of bad weather, follow established inclement weather procedures before proceeding.
- Initial cleaning of the pipe surfaces can be done with clean water prior to pipe preparation if needed.
- **DO NOT** proceed with the fusion process if there is any water coming into direct contact with the fusion area. Flowing water coming in contact with the fusion surfaces during assembly and fusion must be avoided.

(2) Verify Pipe Ends Are In Spec

- Before proceeding, make sure that the pipe being used is the correct size for the electrofusion fitting by verifying that both sides of the pipe are within spec. **If the pipe is not within spec DO NOT proceed and contact the project manager immediately**.

(3) Check Pipe Surface for Excessive Gouges and Flat Spots

(4) Check Pipe Ends for Excessive Toe-In

- Toe-in should not exceed more than 2" from the pipe end. If it is found to exceed more than 2" from the end of the pipe, the pipe end must be cut back to a point beyond where the toe-in ends before proceeding.

(5) Cut the Pipe Ends

- Pipe ends must be cut square and at right angles to the pipe axis and as close to a 90° angle as possible. On larger pipe that must be cut by hand, it may be necessary to use a strap, a clamp or some other form of device to provide a visual on the pipe surface that will help the installer guide and control his cut. When using a chainsaw to cut HDPE pipe, **no lubricant of any kind can be used in the chainsaw.**

(6) Mark Your Stab Depth and Coupling Length

- Mark the stab depth on the pipe surface by first measuring the total length of the electrofusion coupler and then place a mark on the surface of the pipe that is ½ the total length of the coupler and a second mark indicating the full length of the coupler.

(7) Check The Pipe Ends for Excessive Out-of-Round Condition

- To check for an out-of-round condition, the pipe ends must be measured horizontally and vertically with a tape measure in order to determine the high and low points of the pipe. The difference between the high and low diameters should not exceed ¼".
- If the difference is greater than ¼" then a full encirclement re-rounding clamp should be placed immediately to the outside of the mark indicating the couplers stab depth, or the mark identifying the full length of the coupler. Pressure should be applied to the re-rounding clamp in this area until the pipe end is brought back into tolerance. This will make it easier to put the coupler onto the pipe but it will also ensure the gap between the pipe and the fitting will not be too large to fill during the fusion process

(8) Mark the Area Where the Fitting Will be Fused

After you have completed re-rounding the areas to be fused on the pipe; use your approved marking tool and clearly highlight the fusion area to be scraped.

(9) Scrape the Pipe

- Using an appropriate "peeler" type of scraper and remove the surface material from the pipe, carefully inspecting the entire circumference of the of the area as it is being scraped, visually checking for high and low spots that may need special attention and to make sure that that your scraper is providing you with adequate scraping coverage.
- Take care not to inadvertently re-contaminate the freshly scraped area by touching it, handling it, placing tools or other items on it, getting it wet, etc.
- Make sure to re-apply stab depth marks on the pipe surface indicating both the couplers stab depth and the full coupler lengths.
- ***Abrasives such as sandpaper and emery cloth, files and rasps, hand scrapers, grinding wheels and wire wheels are not to be used!***

(10) Re-Check for Out-of-Round Conditions

- Check the pipe ends for any adjustments that may need to be made for an out-of-round condition before attempting to insert the coupler onto the pipe end.

(11) De-burr and Bevel Pipe Ends

- .A router with a 22.5 degree angle bit is recommended but a power planer can be used as well.

(12) Final Cleaning of the Fusion Zone and Fitting

- Clean the freshly scraped fusion zone on the pipe using a 90% or greater solution of Isopropyl Alcohol with no additives and a clean, non-dyed, lint free cloth or wipe.
- Remove the electrofusion fitting from its protective packaging and wipe down the fusion zone on the inside of the fitting using the same 90% or greater solution of Isopropyl Alcohol with no additives and a clean, non-dyed, lint free cloth or wipe.
- If the prepared area is not to be assembled immediately, a plastic bag, clean plastic sheeting or shrink wrap, can be used to cover the scraped area on the pipe and the fitting can be placed back into its original plastic packaging until the assembly is to be made.

(13) Begin Fitting Assembly

- Push the IntegriFuse Coupler onto the pipe end until the edge of the coupler that is on the pipe is aligned with the stab depth witness mark. ***If you are doing a repair type of fusion, you will push the coupler on until you are aligned with the full coupler length witness mark and then pull the couple back until the stab mark is visible.*** The weight of the fitting or the tight tolerance of the pipe OD may make it necessary to use a rubber mallet, a dead blow hammer, or a sledge hammer with wooden blocks, to carefully nudge the fitting onto the pipe.
- In order to control bending stresses do not let the pipes support their own weight in the coupler. In order to provide an unstressed assembly it is recommended to use a suitable holding device. This stress-free condition must be maintained all the way through the cooling period.

(14) Check for Excessive Gaps

- Using a flashlight and a 7" long electrical tie or something similar; check the gap around the entire circumference of the pipe and fitting. The gap should be evenly spaced and no wider than 5mm (approx. 1/4").

(15) Start Fusion Sequence

- Verify that the electrofusion processor switch is in the off position.
- Make sure that your generator is fueled, operating normally and running at full throttle.
- Turn on the processor and wait for software initialization to complete. When prompted, press START to begin