Solvent Weld Gravity Flow Sewer Fitting Installation Guide

Receiving Shipments:

Each shipment shall be inspected with care upon arrival. Each fitting shipment is carefully loaded at the factory using methods acceptable to the carrier. The carrier is then responsible for delivering the fittings as received From GPK Products.

Check the fittings received against the bill of lading. ANY DAMAGED OR MISSING ITEMS MUST BE NOTED ON THE DELIVERY RECEIPT AND RETURNED TO THE TRANSPORTATION COMPANY.

Storage:
Unload shipment not to cause damage to product, store fittings away from any direct heat sources (engine exhaust, steam lines ect..)
Do not stack heavy object on top of fittings, this will cause deformation of the fittings.
Do not store in direct sunlight for extended amounts of time.

Always follow Solvent cement manufactures recommendations along with ASTM D2855 for solvent cementing.

Understand local specifications and codes

Assembly:

1. Pipe must be cut as square as possible. Check the end of the pipe with a square to make sure it has been cut squarely. A diagonal cut reduces bonding area in the most effective and critical part of the joint. Make sure to remove any burs after cut.

2. Remove inside diameter burrs or raised beads with an internal deburring tool or knife. Remove the burrs or raised beads on the outside diameter of the pipe by using a file or external deburring tool. Burrs can scrape channels into pre-softened surfaces or create hang-ups across the inside fitting diameter.

5. With a clean-dry rag, remove any dirt, grease, shavings or moisture from the inside and outside of the pipe and fitting. A thorough wipe is usually sufficient. (Moisture will retard cure and dirt, grease, or any foreign material can prevent proper fusion).

6. Check pipe and fittings for dry fit before cementing.

- For proper interference fit, fitting should go over end of pipe easily but become tight about 1/3 to 2/3 of the way on. Too tight a fit is not desirable; you must be able to fully bottom the pipe in the socket during assembly. If the pipe and fittings are not out of round, a satisfactory joint can be made if there is a “net” fit, that is, the pipe bottoms in the fitting socket with no interference, but without slop. A quick, dry fit “slop” test: Hold a short length of pipe vertically with a fitting “bottomed” on the pipe. If the fitting falls off the end of the pipe, do not start assembly. Contact your pipe or fitting supplier. Measure the fitting socket length and mark this distance on the pipe OD to insure the fitting has been fully inserted, add a couple inches to this distance and make a second check mark on the pipe, as the primer and cement will remove the first mark. All pipe and fittings must conform to ASTM or other recognized product standards.

7. Use the right applicator for the size of pipe or fittings being joined. The applicator size should be approximately 1/2 the pipe diameter. It is important that a satisfactory size applicator be used to help ensure that sufficient layers of cement are applied.

8. Priming; the purpose of a primer is to penetrate and soften the surfaces so they can fuse together. The proper use of a primer and checking its softening capability provides assurance that the surfaces are prepared for fusion in a wide variety of conditions. Check the penetration or softening on a piece of scrap pipe before you start the installation or if the weather
changes during the day.

Using the correct applicator (as outlined in step #7), aggressively apply the primer into fitting socket, keeping the surface and applicator wet until the surface has been softened. More applications may be needed for hard surfaces and cold weather conditions. Re-dip the applicator in primer as required. When the surface is primed, remove any puddles of primer from the socket.

10. Next, aggressively apply the primer to the end of the pipe to a point 1/2” beyond the depth of the fitting socket.

11. Apply a second application of primer to the fitting socket. Do not allow primer to run down the inside of the fitting or pipe or pool.

12. With the proper size and type of applicator, while surfaces are still wet, immediately apply the appropriate cement.

13. Cementing: (Stir or shake the cement before using.) Aggressively apply a full, even layer of cement to the pipe-end equal to the depth of the fitting socket – do not brush it out to a thin paint type layer, as this will dry too quickly.

14. Aggressively apply a medium layer of cement into the fitting socket; avoid puddling cement in the socket. On bell-end pipe do not coat beyond the socket depth or allow cement to run down into the pipe beyond the bell.

15. Apply a second, full even layer of cement on the pipe. Most joint failures are caused by insufficient application of cement.

16. Immediately, while cement is still wet, assemble the pipe and fittings. If not completely wet, recoat parts before assembly. If cement coatings have hardened, cut pipe, dispose of fitting and start over. Do not assemble partially cured surfaces. While inserting, twist 1/8 to 1/4 turn until reaching socket bottom. Do not continue to rotate after the pipe has reached the socket bottom.

17. Hold the pipe and fitting together for a minimum of 30 seconds to eliminate movement or pushout. Longer duration for larger diameter

18. After assembly, a joint should have a ring or bead of cement completely around the juncture of the pipe and fitting. If voids
(gaps) in this ring are present, sufficient cement was not applied and the joint may be defective.

19. Using a rag, remove the excess cement from the pipe and fitting, including the ring or bead around the socket entrance, as it will needlessly soften the pipe and fitting, and does not add to joint strength. Excess cement around the socket entrance will also extend the cure time. Avoid disturbing or moving the joint.

20. Handle newly assembled joints carefully until initial set has taken place.

- Allow joint to fully cure prior to backfilling for underground installation.

Inspect:
Once fitting and pipe are assembled inspect for proper depth on spigot and assembly. Preform tests prior to backfilling

For Underground Installation:

Backfill:
Backfill procedures should follow ASTM D2321 and UNI-Bell guidelines.

Backfill by hand around hard to compact areas and service lines, eliminant any voids and areas that will cause settlement.

Backfilling should follow fitting assembly as closely as possible. This protects the fittings from falling rocks, eliminates possibility of lifting the pipe from grade due to flooding of an open trench, avoids shifting pipe out of line by cave-ins, and in cold weather lessens the possibility of backfill material's becoming frozen.

Testing:

Test with low pressure air test, follow ASTM F1417

Tips:

- Never solvent weld well moisture is present
- Hold the joint together during cure to prevent backout
- Assure the use of proper applicator and primer and solvent
- Don't disturb joint during cure time (some joints require longer than others)
- Don't let primer pool in bottom of fitting, could cause delamination
- Always follow all local and state codes and requirements
- Consult the solvent manufacturer for varies types of cements for varying applications.
- Different pipe materials and different diameter sizes will require different solvent cement