

IMPORTANT: Please read all warnings and follow the installation instructions completely and carefully. Failure to do so will void all warranties and may cause product failure, or result in environmental contamination due to liquid leakage into the soil, creating hazardous spill conditions

WARNING - DANGER: Using electrically operated equipment near gasoline or gasoline vapors may result in fire or explosion, causing personal injury and property damage. Be sure that the working area is free from such hazards, and always use proper precautions.

Tank Sumps

FlexWorks Tank Sumps are installed below grade on top of UST's to provide secondary containment of and access to underground equipment such as submersible pumps, tank bung fittings, and various piping connections. Tank Sumps extend from the top of the tank to just below a manhole cover at grade level. The sump cover must be located within the grade level manhole skirt just under the manhole cover. If the tank is too deep to allow for this, a deeper sump must be used. Do not exceed Maximum Sump Burial Dept: TSMF-44"; TSDF-55".

IMPORTANT: For best results, FlexWorks Fiberglass Tank Sumps should be installed when the ambient temperature is at least 50 F to allow proper curing of the epoxy resin adhesive. (See RK-5000 Resin Kit Instruction Sheet).

Step #1

Mount the Tank Sump Base to the UST. Flexworks Fiberglass Tank Sumps can be mounted to the top of UST's using one of the following methods:

Method 1: Mounting Flanges (not shown) - Attaches the base of the sump to tank bung fittings using Flexworks Sump Mounting Flanges - FlexWorks Product Numbers:

SMF-4E*	4" NPT Mounting Flange
SMF-6*	6" NPT Mounting Flange
TFA-4090	4" No Bolt Style

* See Installation Instructions supplied with FlexWorks Sump Mounting Flanges.

Method 2: Collar Mount - The sump is attached to the 42" diameter containment collar on an FRP tank by cutting out the bottom of the tank sump base and attaching the sump base to the collar using a FlexWorks Resin Adhesive Kit (Product Number RK-5000).

NOTICE: Many mounting kits supplied by other manufacturers are not warranted by OPW. OPW bears no responsibility whatsoever for the integrity of joints using alternate tank sump mounting systems.

42" FRP Collar Mount Installation Procedure

a) Measure across the tank collar to confirm that it is 42". Saw off the very bottom of the sump base to fit the tank collar as shown in **Figure (A)** below. Be sure to leave a minimum of 1" of side wall on the round bottom section.

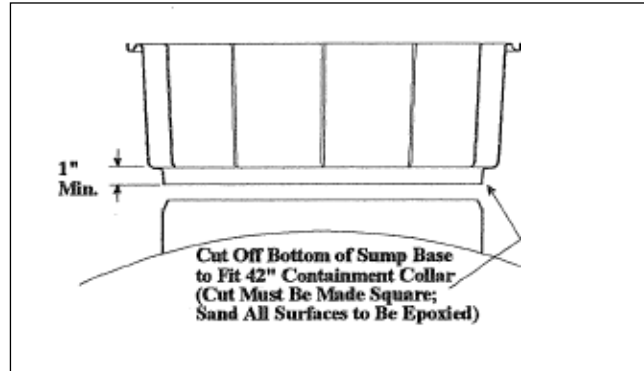


Figure (A)

b) Using sandpaper, completely roughen the surface of both the sump collar and the sump base where they will be joined with the resin adhesive kit (see resin contact area in **Figure (A)** above). Use a level to set the sump base on collar as shown in **Figure (B)** below.

CAUTION: The sump base must be set level to insure that the adhesive will fill the trough evenly around the entire diameter of the middle joint to be assembled in **Step #4**.

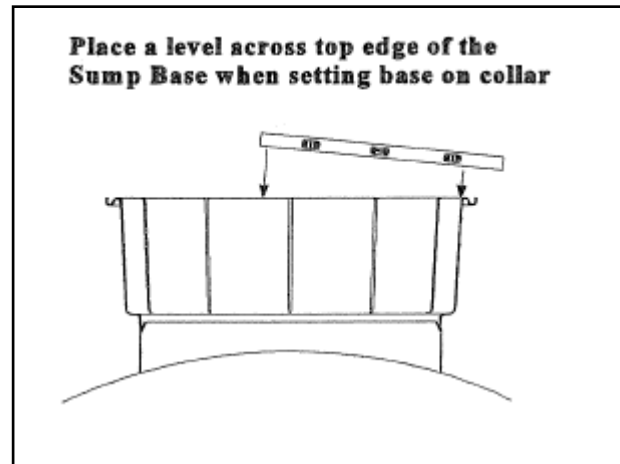


Figure (B)

c) After leveling sump base, apply duct tape around the outside of the joint between the sump base and collar to prevent the adhesive from running out of the joint before it hardens. Mix epoxy resin adhesive as shown in **Figure (C)** below.

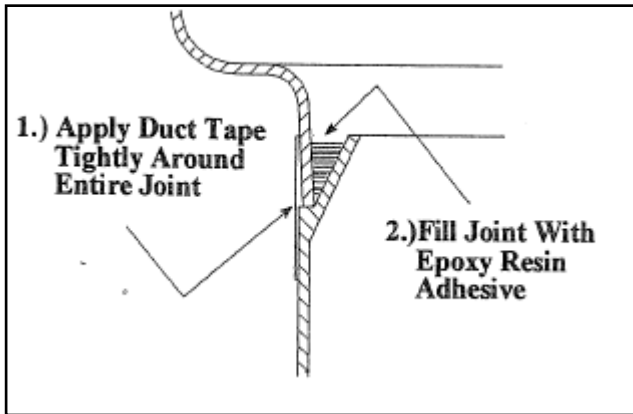


Figure (C)

Important: Resin Set-up Times

After joining the sump base to the collar or to the sump top, allow the epoxy resin adhesive to harden before proceeding. Carefully follow the instructions supplied with the Epoxy Resin Kit (RK-5000), and observe minimum set-up times before proceeding. **DO NOT BACKFILL OR CONTINUE WORK IN OR AROUND THE SUMP UNTIL THE EPOXY IS COMPLETELY CURED.**

Step #2

Install the appropriate FlexWorks pipe and conduit entry fittings into the flats around the tank sump base at the proper locations (Refer to the appropriate FlexWorks Entry Fitting Installation Instructions). Complete all piping connections as shown on the following pages.

Determining Pipe Entry Height

Pipe entries are generally located as close to the bottom of the tank sump as possible. The lower the pipe entry into the tank sump wall, the easier it will be to maintain the proper piping slope back to the UST from the dispensers.

Step #3 - Height Adjustment (See Figure 3)

If necessary, the height of FlexWorks tank sumps can be adjusted in the field by cutting off a portion of the sump top piece. Determine the location to cut to allow the sump to extend so that the sump cover is just below the grade level access manhole cover. Using a saber or circular saw, cut off the necessary portion of the top section **making sure the cut is square.** Before proceeding, test fit the top piece by placing it in the trough on the sump base. Verify that the correct sump height has been attained and the cut has been made square.

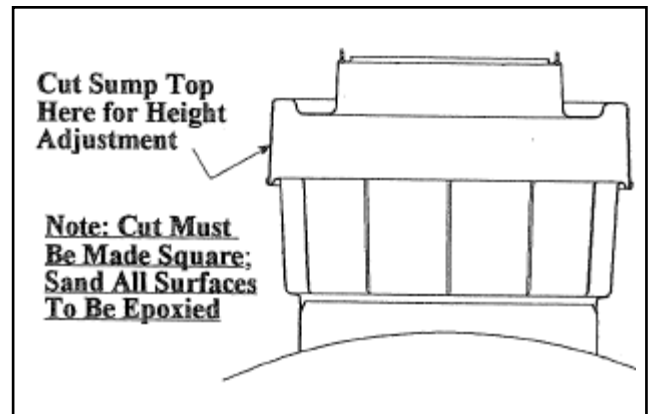


Figure 3

Step #4 - Middle Joint (See Figure 4)

After test fitting the top piece, remove it from the sump base. Using sandpaper, completely roughen the middle joint area on both the sump base and sump top. Wipe the joint area clean. Fill the trough with a full portion of epoxy resin adhesive (supplied in Kit RK-5000). Set the sump top on sump base as shown in Figure 4 below. Allow resin to cure undisturbed as per Epoxy Resin Kit Instructions. For added protection, a bead of FlexWorks SL-1100 sealant can be used to fill in the joint after the epoxy resin adhesive is fully cured.

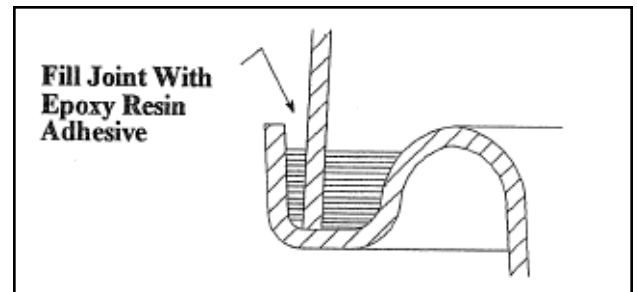


Figure 4

NOTE: For added protection, a bead of FlexWorks SL-1100 can be applied to joint after epoxy cures.

Important: Resin Set-up Times

After joining the sump base to the collar or to the sump top, allow the epoxy resin adhesive to harden before proceeding. Carefully follow the instructions supplied with the Epoxy Resin Kit (RK-5000), and observe minimum set-up times before proceeding. **DO NOT BACKFILL OR CONTINUE WORK IN OR AROUND THE SUMP UNTIL THE EPOXY IS COMPLETELY CURED.**

Step #5 - (See Figure 5)

Replace cover on sump top. Apply a bead of urethane sealant (SL-1100) under the cover seal to hold it in place.

Leak Testing

OPW Fueling Containment Systems recommends the following procedure for hydrostatic testing of dispenser sumps, tank sumps and specialty application sumps.

- 1) Visually inspect all entry boots for band clamps, compression rings and donuts for possible leak points prior to connecting. Correct as needed.
- 2) Be sure all test tubes, connector tubes or any other open secondaries into the sump are sealed and liquid tight.
- 3) Fill all sumps to a minimum of 1" above the highest penetration fitting or sump joint. Mark the liquid level with a permanent marker.
- 4) Hydrostatic test should be held for 1 hour or per local regulations.
- 5) Be sure all water is disposed of properly after completing the test.

Note: Should the liquid level drop during testing, visually identify the leak source. Remove water and tighten band clamps to 30 in/lbs. Entry boot compression rings should be tightened in a clockwise manner until each stud reaches 60in/lbs. Repeat testing procedure.

Backfilling

Rounded pea gravel with a minimum diameter of 1/8" and a maximum diameter of 3/4" must be used for backfill around FlexWorks Tank Sumps. To prevent sump damage, avoid dumping pea gravel directly onto the Tank Sumps when backfilling.

Maintenance

FlexWorks sumps are designed to provide secondary containment of tank equipment and piping connections. All sumps should be regularly checked for the presence of petroleum products. Third party approved leak sensors should be installed in every sump. Any liquid present in the sump should be promptly removed and disposed of properly. The drainage area between the sump and manhole skirt must be kept clear of silt and debris to allow surface water to drain away.

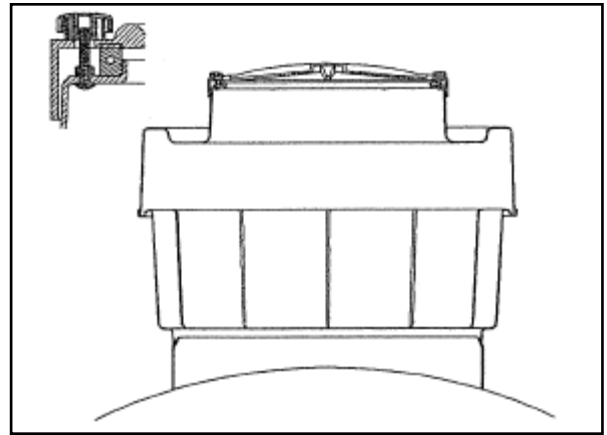
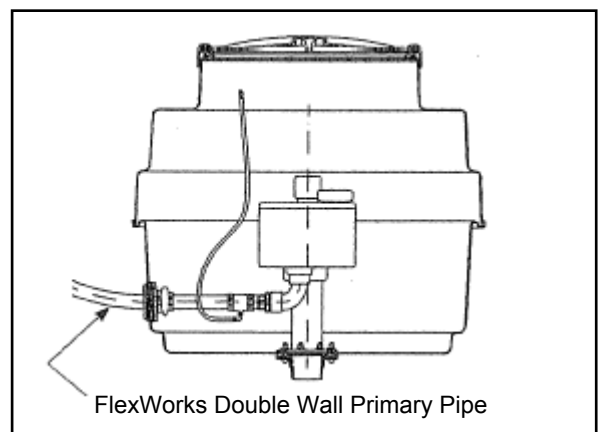
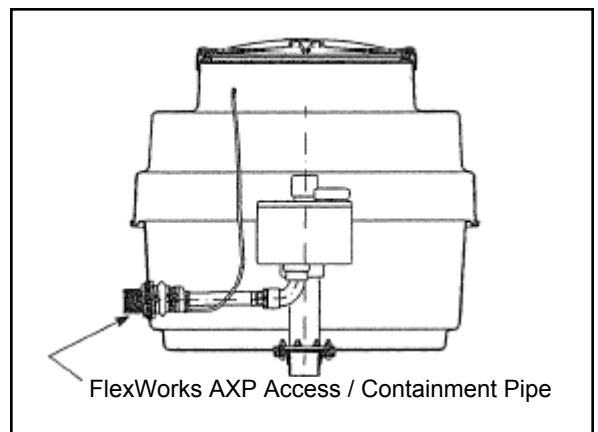


Figure 5

FlexWorks Tank Sump Piping Connections



Direct Burial System



Retractable System

Notice: FlexWorks products must be used in compliance with applicable federal, state, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and material to be handled. OPW makes no warranty of fitness for a particular use. All illustrations and specifications in this literature are based on the latest production information available at the time of publication. Prices, materials, and specifications are subject to change at any time, and models may be discontinued at any time, in either case, without notice or obligation.

Product Warranty

OPW warrants that products sold by it are free from defects in materials and workmanship for a period of one year from the date of shipment by OPW. As the exclusive remedy under this limited warranty, FlexWorks by OPW, Inc., will at its sole discretion, repair, replace, or issue credit for future orders for any product that may prove defective within the one year period. This warranty shall not apply to any product that has been altered in any way, which has been repaired by any party other than a service representative authorized by OPW or when failure is due to misuse, conditions of use, or improper installation or maintenance. Neither OPW Fueling Containment Systems nor OPW shall in any instance have any liability whatsoever for special, incidental or consequential damages to any party and shall have no liability for the cost of labor, freight, excavation, clean up, downtime, removal, reinstallation, loss of profit, or any other cost or charges in excess of the amount of the original invoice for the products.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND SPECIFICALLY THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.



IMPORTANT INFORMATION - FOLLOW ALL INSTRUCTIONS

Please contact your OPW-FCS sales representative or OPW-FCS customer service representative at 1-800-422-2525 for OPW-FCS products installation procedures. All OPW-FCS literature including installation instruction sheets and manuals can be accessed from the OPW-FCS website at: www.opwfcs.com.



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