

Polyethylene Tank Sump / Chamber Installation

Installing a UPP Fusion Polyethylene Tank Sump/Chamber Base

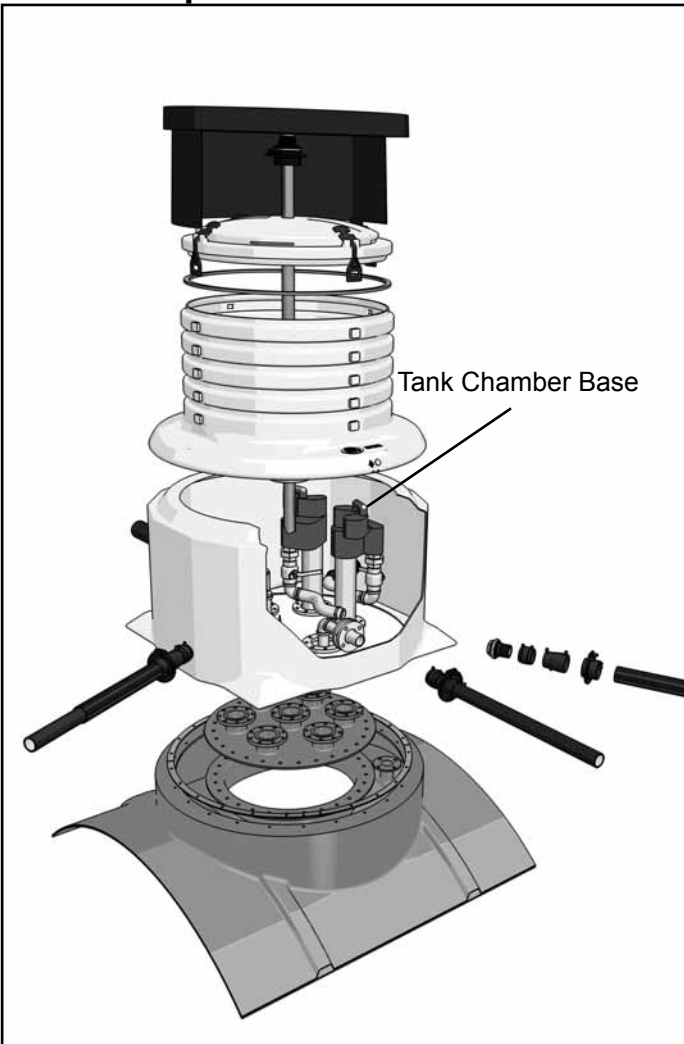


Figure 1: Installation Overview

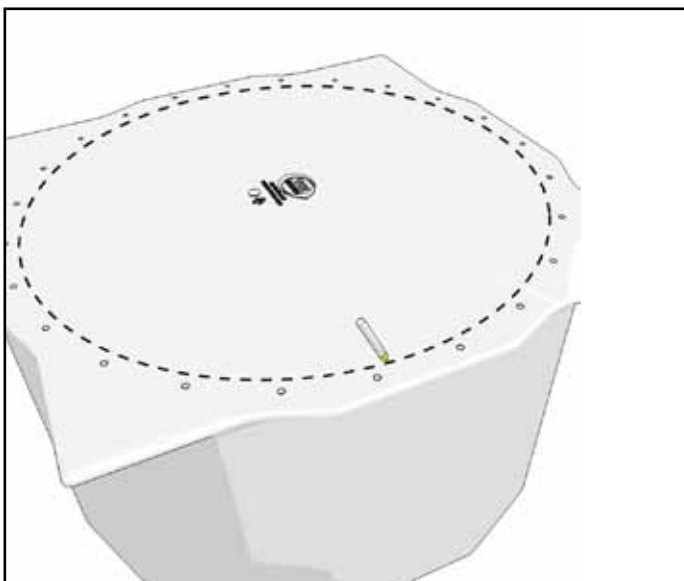


Figure 2: Mark Base

1. Mark base for access shaft opening and bolt holes to suit access shaft.

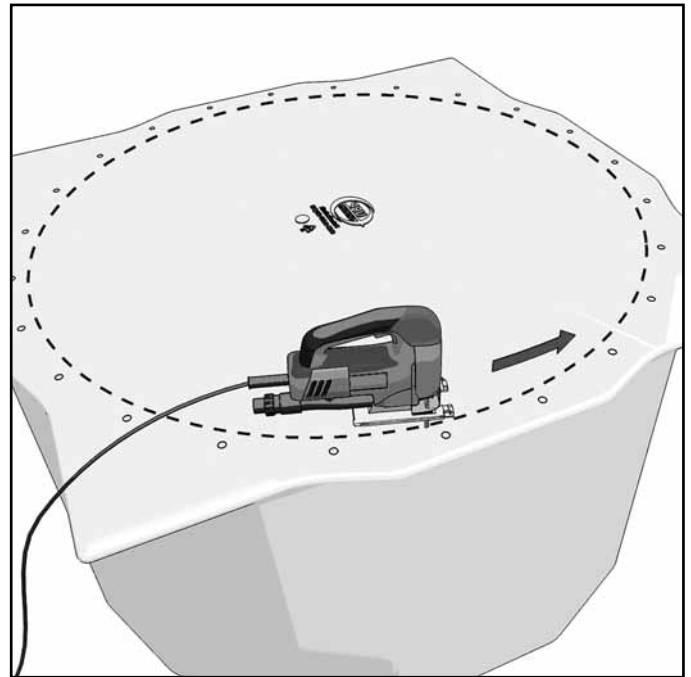


Figure 3: Cut Area

2. Cut base opening using jig saw or hand saw only.

Note: For square collars, use hole saw to cut all 4 corners of the opening.

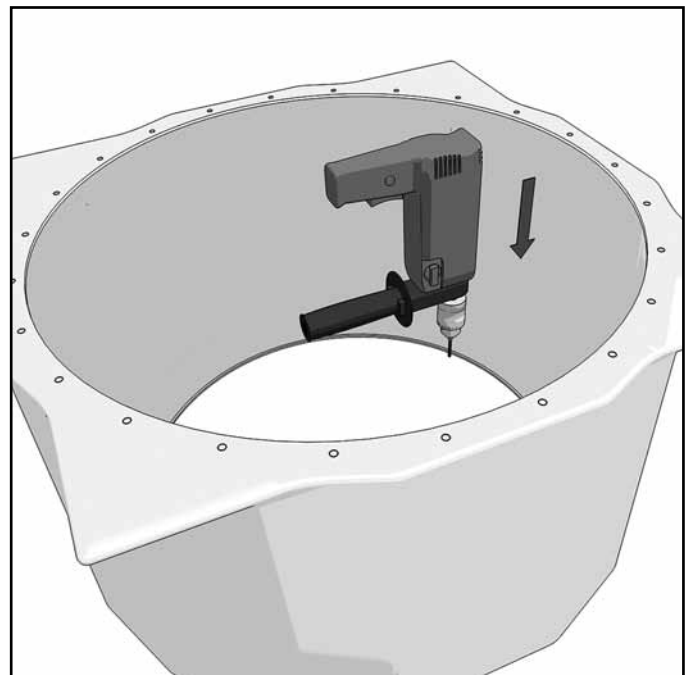


Figure 4: Drill Holes

3. Drill bolt holes.

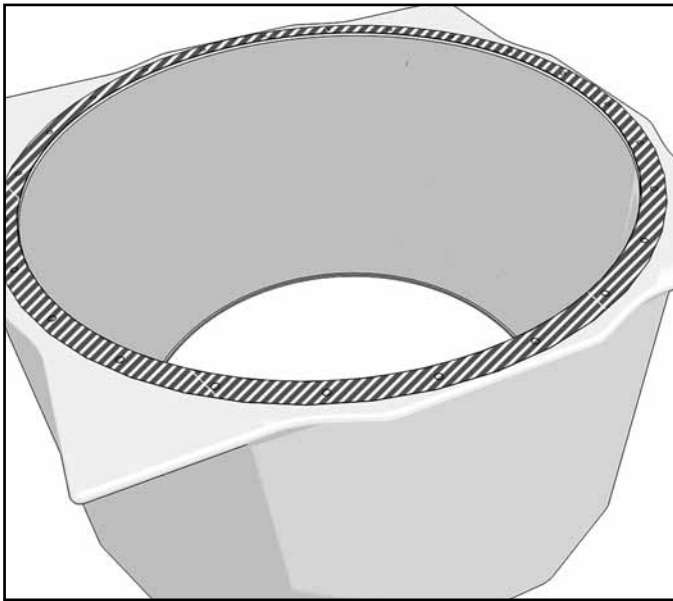


Figure 5: Clean Sump/Chamber Base and Tank Collar

4. Clean tank containment collar with acetone.

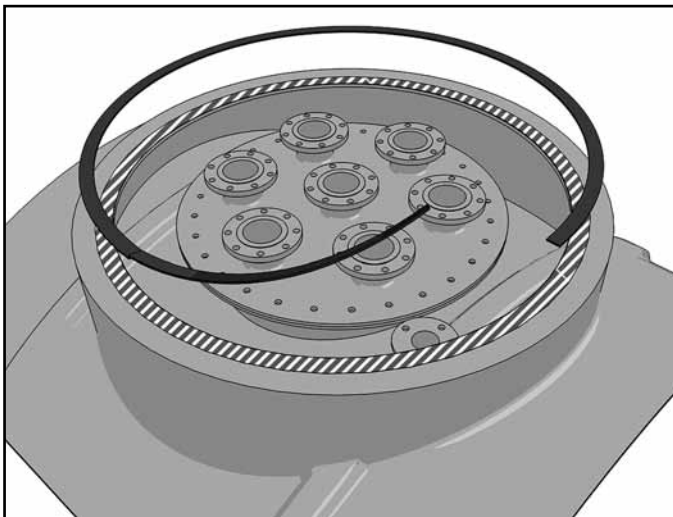


Figure 6: Fit the Seal

5. Apply adhesive backed gasket to access shaft flange ensuring there are no gaps. Use a sharp knife to create slits through the gasket at the location of the bolt holes.

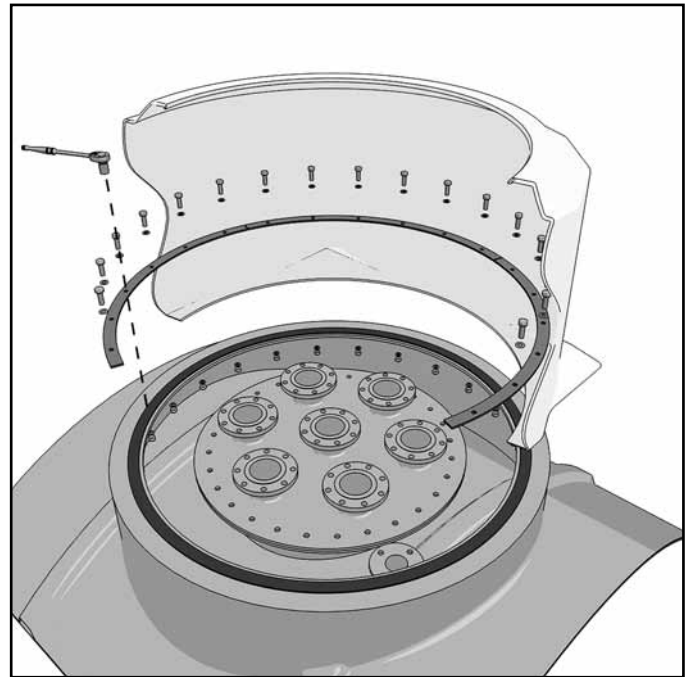


Figure 7: Fit the Base with the Backing Ring

6. Mount the sump/chamber base onto tank. Fit backing plates and bolt together using M12 (1/2") Bolt sets. Ensure all bolts are tightened equally. Recommended torque: 20 Nm (14.75 lbft).

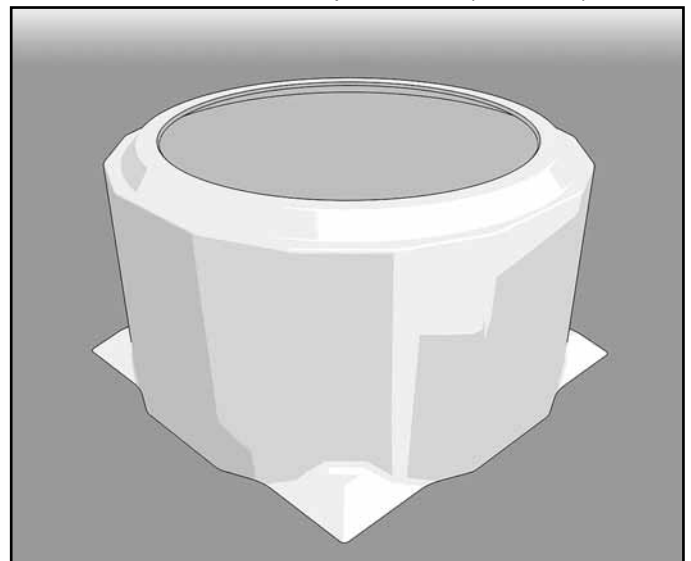


Figure 8: Backfill the Tank Collar up to the Top

7. Backfill up to the top of the tank collar. Ensure backfill is well compacted and is fully into the area under the tank sump.

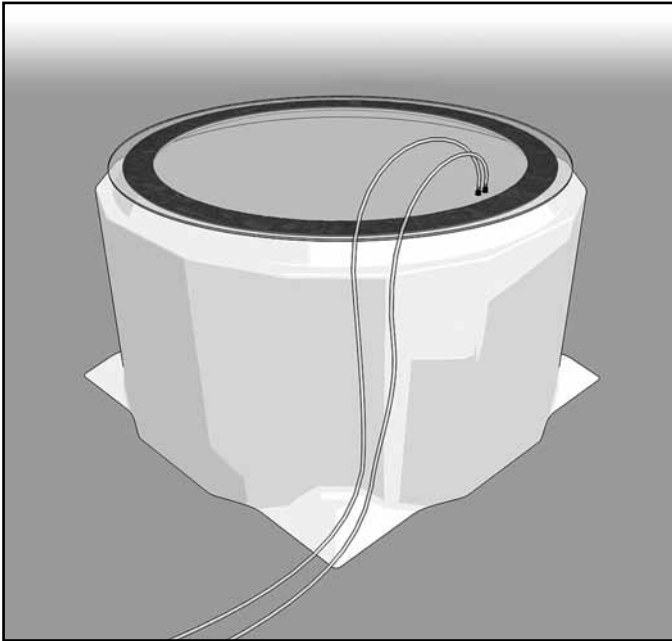


Figure 9: Vacuum Test

8. Vacuum test using UPP Vacuum Test Unit to prove joint between tank collar and tank sump base. Recommended depth setting: 1 ft.

Note: Make sure plugs in tank manway are in position and sealed.

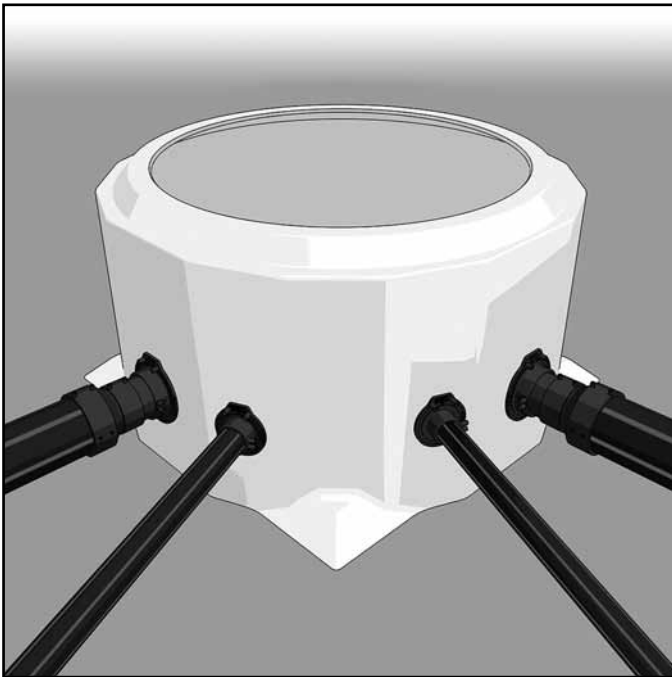


Figure 10: Fit Pipework

9. Install Pipework per customer specification.
10. Vacuum test to prove all entry seals are tight.

Installing a UPP Electrofusion Tank Sump/Chambers Riser

1. Scrape weld area on base with hand scraper. Clean weld area with acetone.

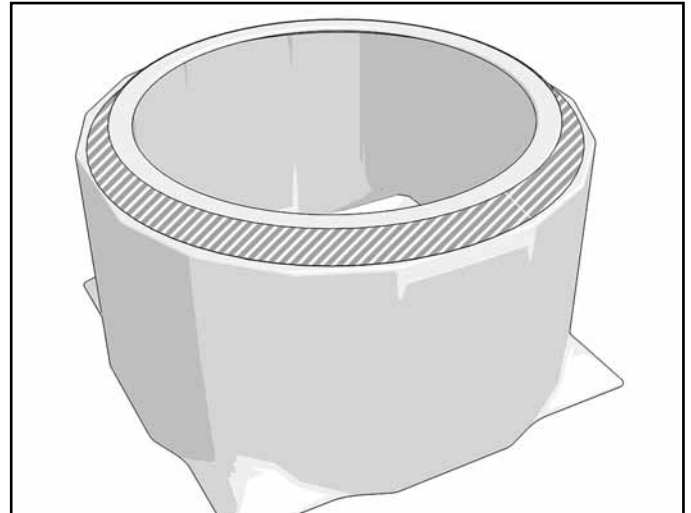


Figure 11: Scrape Weld Area on Base

2. Clean weld area on the riser with acetone.



Figure 12: Clean Weld Area on Riser

3. Place riser on base and ensure it is mounted squarely.

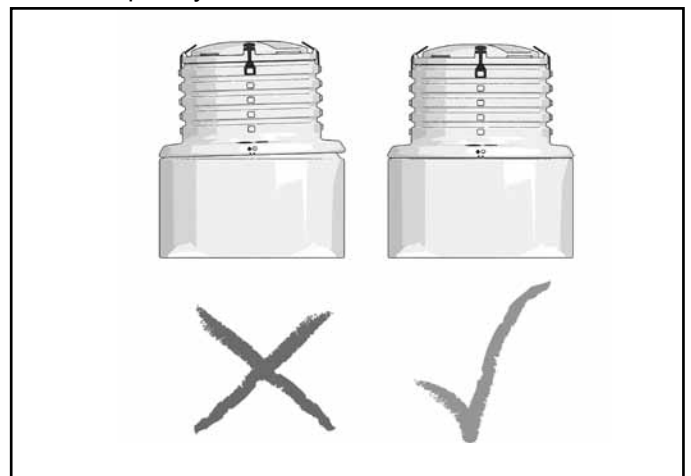


Figure 13: Place Riser Squarely on Base

Attaching a harness assembly



Figure 14: For Deep Burial, pass the harness over the riser and position the top strap above the lower rib.

4. Attach the harness assembly

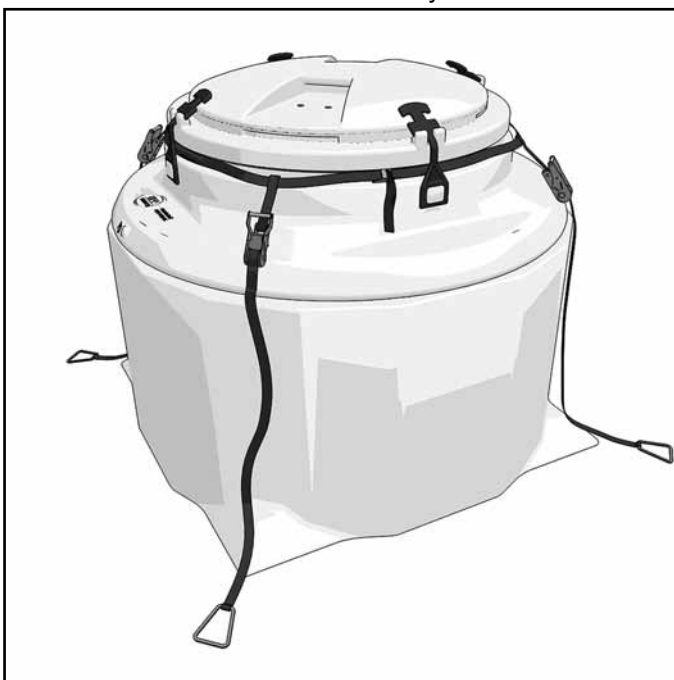


Figure 15: For Shallow Burial, pass the harness over the riser and position top strap below top rib.



Figure 16: Pull top strap tight with cam buckle

5. Pull the top strap tight with cam buckle.



Figure 17: Position 4 Drop Straps

6. Position 4 drop-straps in line with base corners.

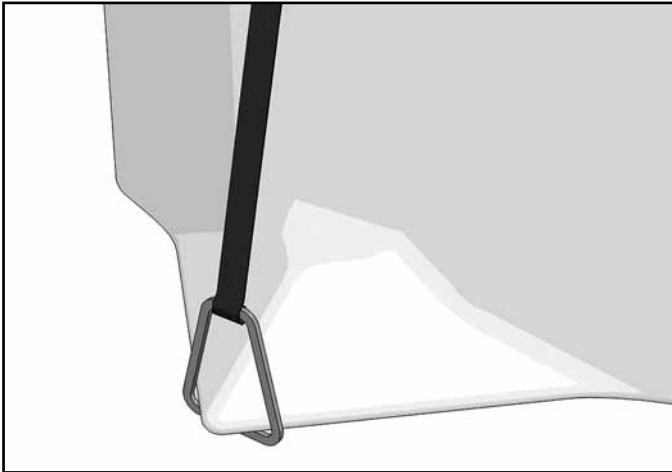


Figure 18: Loop Harness Rings over Corners

7. Loop harness rings over corners.



Figure 19: Riser Must Sit Squarely

8. Ensure riser sits squarely on the base.

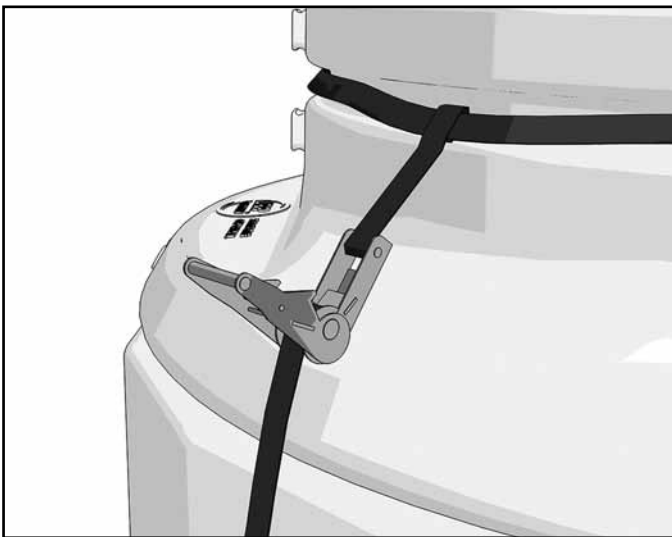


Figure 20: Pull Strap In Tension

9. Pull strap in tension and then gently ratchet until webbing has wound itself and is locked in place. From this point add two full ratchets.



Figure 21: Repeat for Opposite Corners

10. Repeat for opposite corner and two remaining corners, ensuring riser is still sitting squarely.

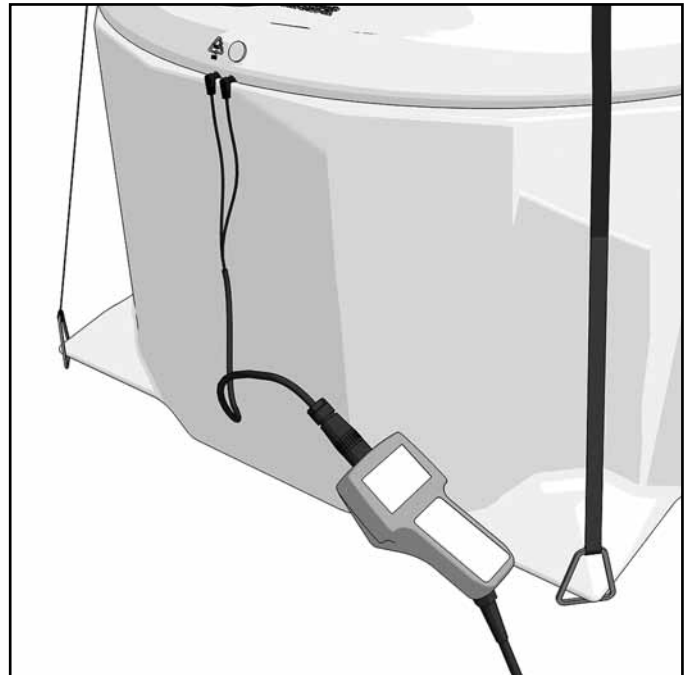


Figure 22: Connect leads and Weld

11. Connect the white welding lead to the terminals. Begin weld. EF1 orange units will stop automatically after 6 minutes. Mark the time near the weld terminals. Refer to manual FFS-0123 for Electrofusion Instructions.

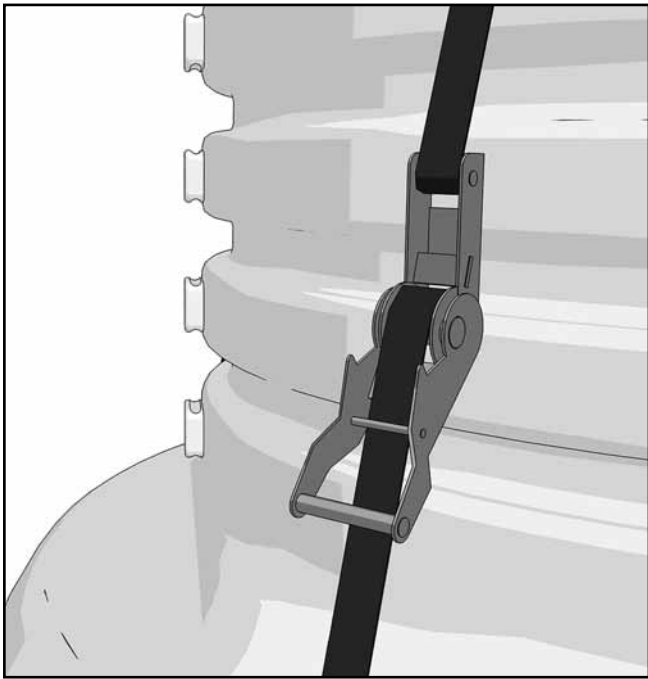


Figure 23: Release Harness Straps

12. After a minimum of 20 minutes cooling time, release harness by pulling and holding release tabs on top assembly to override ratcheting function.

Follow Vacuum testing procedure.

Height adjustment to Suit Final Grade

Trim the Riser.

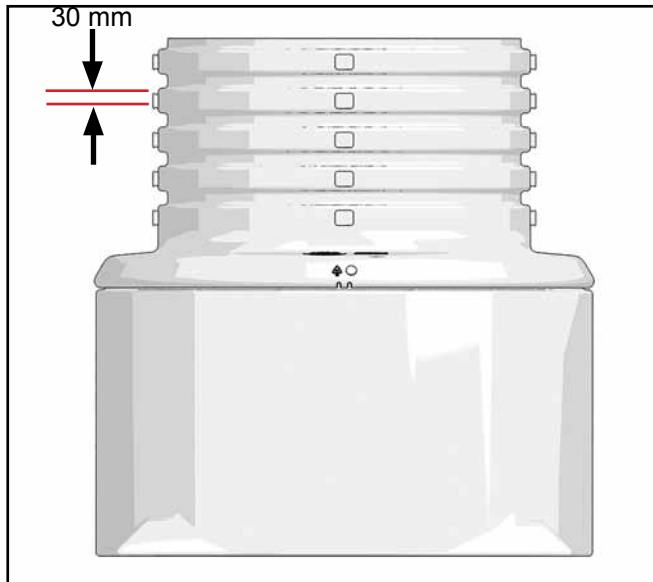


Figure 24: Trim Riser

1. Select the trim mark closest to the desired height.
2. Highlight Trim mark on riser with a marker pen.
3. Trim riser using highlighted trim mark as a guide and ensure cut edge is square and flat. Remove any burrs using hand scraper.
4. Maintain 30 mm (1.2") clear vertical rise to ensure water tight lid location is correct.

Note: Trim using handsaw or jig saw ONLY.

Attach the Gasket

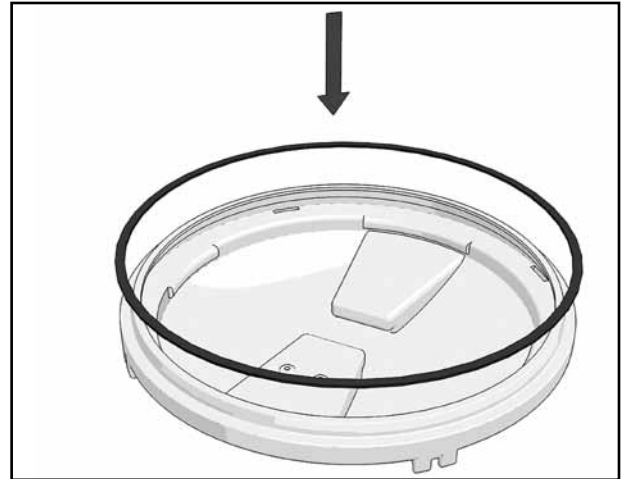


Figure 25: Attach the Gasket

5. Clean groove with Acetone / IPA.
6. Attach gasket to channel in underside of lid.
7. Position ends of gasket together first and work the gasket around the channel.

Place Lid on Riser and Attach Latches

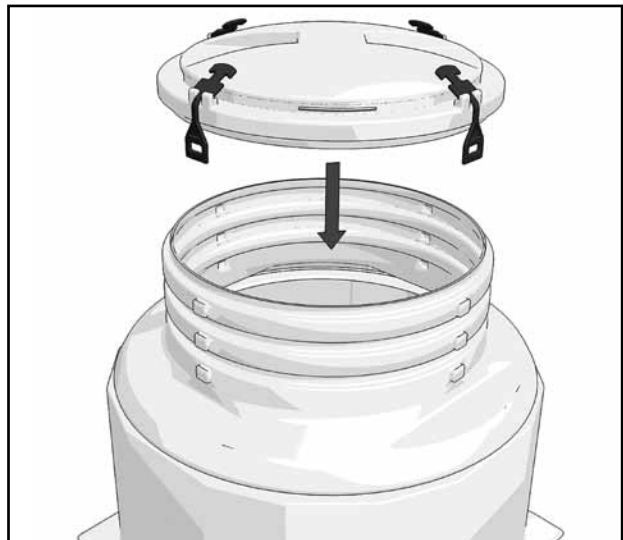


Figure 26: Place Lid on Riser

8. After welding riser to tank sump base, vacuum test to verify tightness of the complete sump.
 9. Recommended Depth Setting: 1ft Max (305mm).
- Ensure plugs are replaced in Test Ports after testing to maintain liquid tight system.

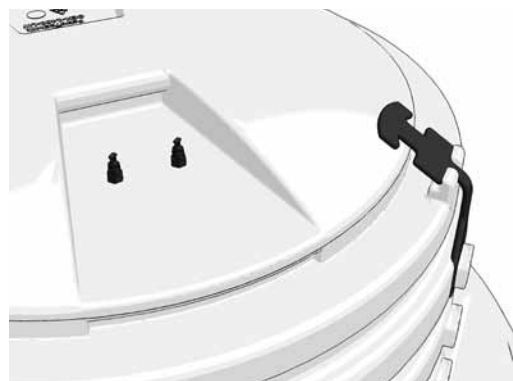


Figure 27: Replace Plugs in Test Port

Final Backfilling

Prior to backfilling the chamber lid must be in position to prevent any deflection of the riser

Acceptable backfill materials are:

- Well-rounded pea gravel size 3 mm (1/8") to 20 mm (3/4").
- Crushed rock size 3 mm (1/8") to 16 mm (5/8").
- Clean washed sand.

Particular care should be taken to ensure enough backfill is laid down around the underside of the chamber should it overhang the tank containment collar.

IMPORTANT: Backfill material should fully support UPP pipe-work and be free from ice or organic silt or peat, which could disappear over time causing voids or possible ground movement. No mechanical compactors should be used such as vibrating plates, compactors or road rollers.

Installing a UPP Mechanical Tank Sump/Chambers Riser

1. Cut riser to required height using ribs as a guide.

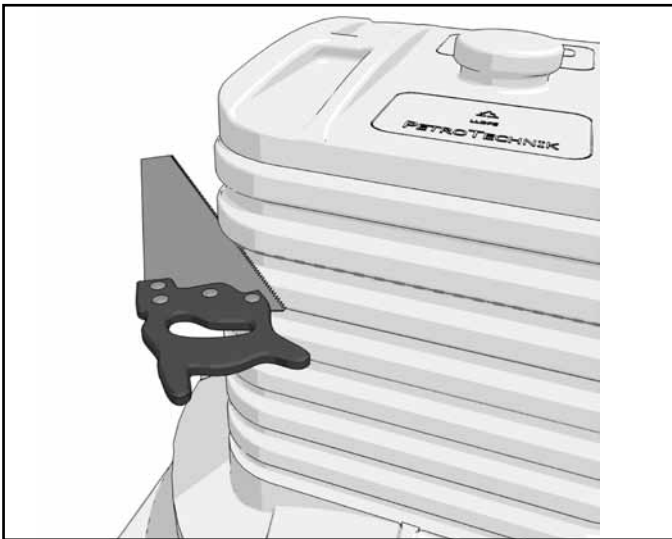


Figure 28: Cut Riser to Required Height

2. Clean gasket surfaces of chamber base and riser using cleaning solvent (Acetone).

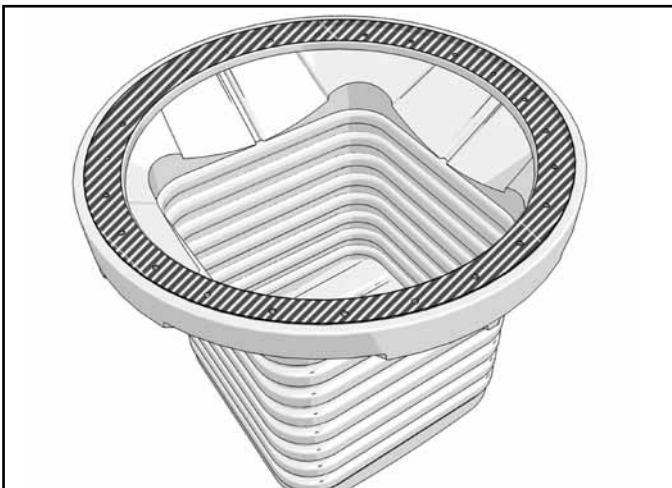


Figure 29: Clean Gasket Surface

3. Apply the quarter circle gasket pieces one by one to top of chamber base - ensure holes in gasket line up with holes in chamber for best fit and make sure all joints between gasket quarter circles are butted together to make a water-tight seal.

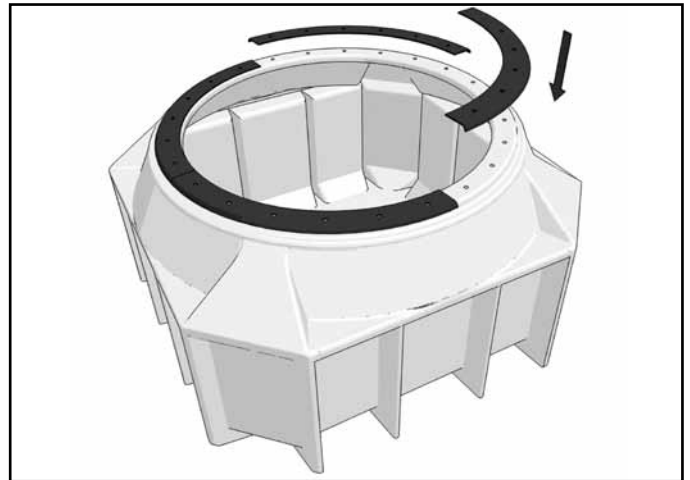


Figure 30: Apply Quarter Circle Gasket

4. Place riser on base and line up bolt holes.

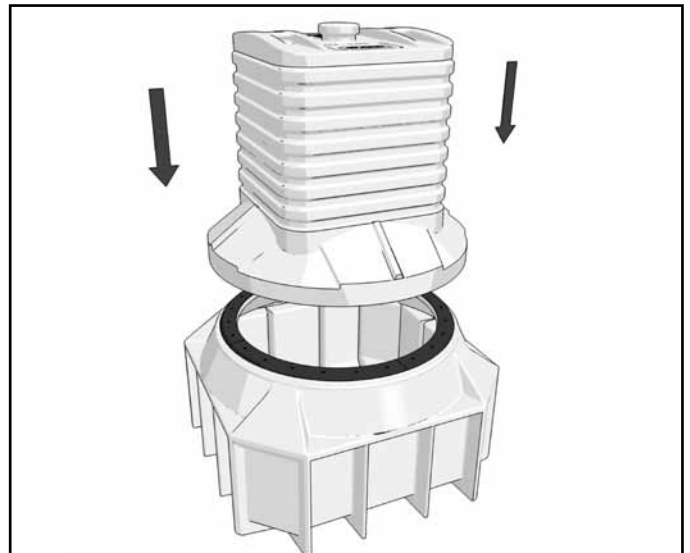


Figure 31: Place Riser on Base

5. Tighten all bolts around chamber initially before repeating to make sure all bolts are fully tightened.

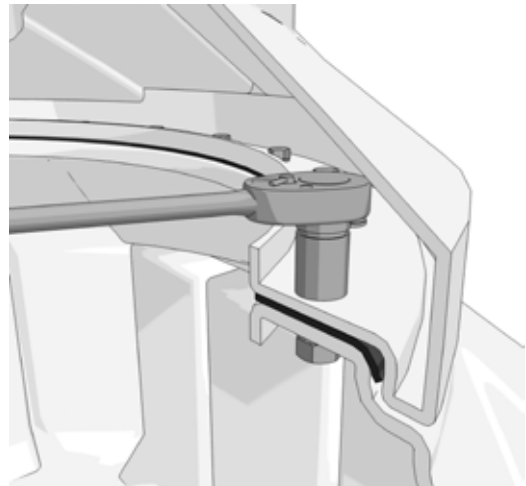


Figure 32: Tighten all Bolts Around the Sump/Chamber

Composite Access Cover with Skirt

Parts and Materials Required

Part Number	Description	Cure Times
PCC-90, PCC90-DIP	Composite Cover	
PCC90-SK	Fibreglass Skirt	
U-POL SMC UP0779, E32, 3M 08689	UPP recommended bonding agent - Refer to Material Safety Data Sheet.	U-POL - 20 mins E32 - 24 hrs 3m 08689 - 2 hrs 50% RH
CM200PF	2 Part polyurethane sealant - refer to Material Safety Data Sheet	Traffic time 36 hrs
	Packing piece or clean sand	
Basic kit	Nitrile gloves, adhesive applicator gun, 80/120 grit abrasive paper, approved cleaning solvent.	

Product preparation

1. Remove protective packaging from the cover and place on clean level surface.
2. Remove cover from frame.
3. Make sure the frame and cover are not damaged prior to installation.
4. Abrade and clean areas to be bonded with Acetone.

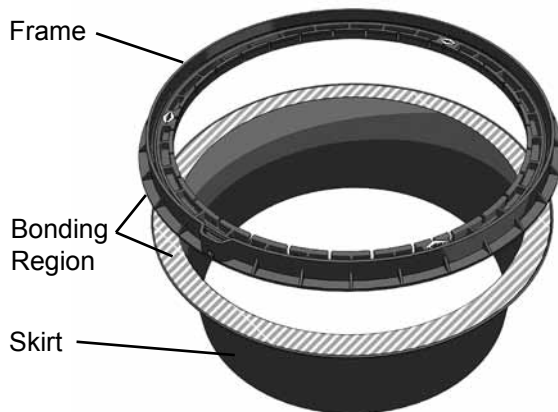


Figure 33: Skirt Preparation

5. Use UPP recommended bonding agent to fix the frame onto the skirt ensuring that the frame is centered and within the skirt recessed profile.
6. Allow skirt and frame to bond fully before continuing (see material data sheet).

Area preparation

7. Prepare the area ready for the installation of the cover and place skirt or equivalent on top of the backfill taking account of the frame burial depth and desired finished surface level.

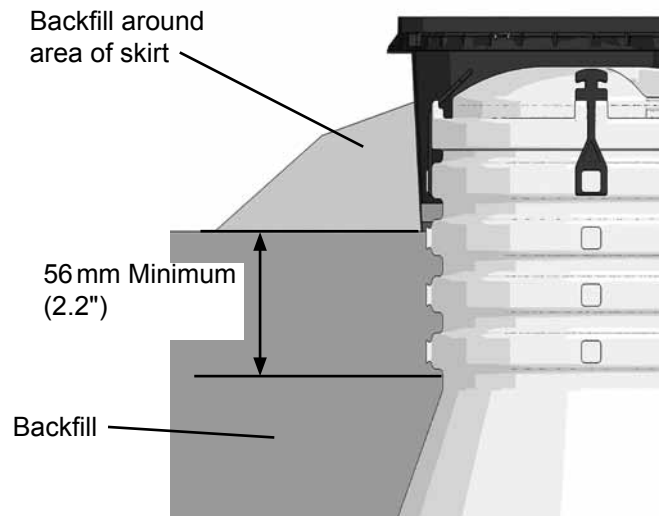


Figure 34: Area Preparation

8. A minimum of 56 mm (2.1/5 inches) clearance is recommended between the bottom of the skirt and the horizontal surface of the tank sump chamber to allow for tank movement.
9. Backfill around the area of the skirt to secure its position.

Apply sealing compound

10. Fit foam packing piece between skirt and chamber riser on top of the backfill, or cover backfill with a layer of well compacted sand.

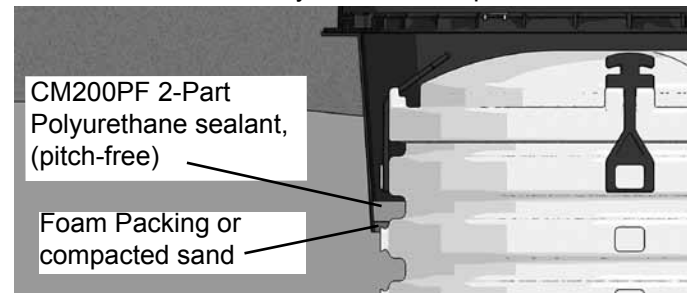


Figure 35: Apply Sealing Compound

11. Apply 2 part polyurethane sealing compound. Allow to cure for recommended time (refer to the compound's material data sheet).

Prepare the Forecourt Surface

- Install a minimum finished base thickness of 200 mm in C 30-35 concrete to achieve maximum load capabilities of EN124 C250 covers.

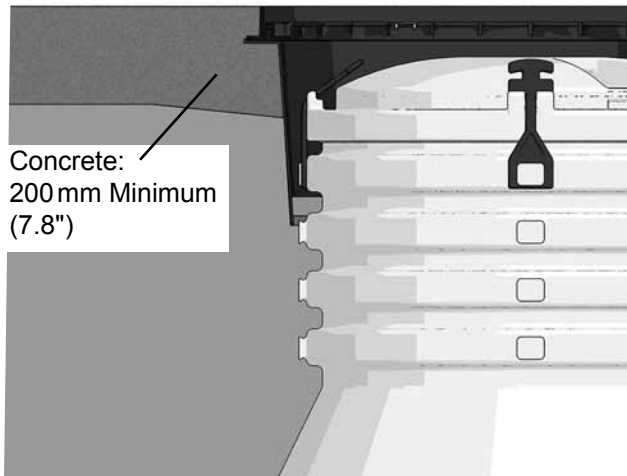


Figure 36: Concrete Thickness

Crowning

- The dispersion of water away from the cover can be improved by crowning the cover slightly above the finished surface level.

Grade Level + Crowning Allowance

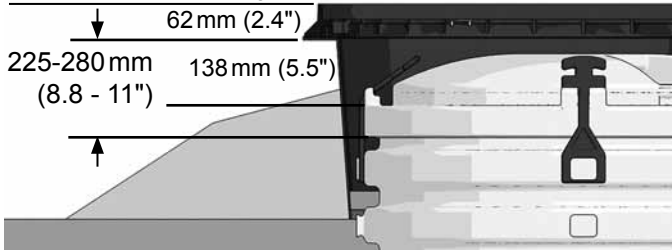


Figure 37: Installation Dimensions

- Typically a crown of 5-10 mm over a distance of 300 mm (1/5 - 2/5 inches over 11 inches) around the perimeter of the cover is found to be effective.
- Upon completion of the primary installation, the cover and frame should be thoroughly cleaned to remove excess concrete. Special care should be given to the area around the seal and corresponding sealing face of the cover.

Maintenance

- Composite Access Cover seals are replaceable and are considered a service spare. The existing seal can be easily removed and the sealing channel cleaned of all silicon mastic.
- A continuous bead of silicon mastic should be applied in the groove as bedding prior to fitting the new seal.

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