

# Sample Installation Guide (102,000 gallon tank)



Figure 1 Crates for 100k

## Unboxing the Crate

- Step 1. Bring Edge Beam/ Liner/ Antivortex to the center of the Tank Pad (see Figure 2).
- Step 2. ALWAYS start with sheets from SMALLER Tank Crate.
- Step 3. Lay out 1st Ring of Double Lam Sheets to create the shape of the tank.
- Step 4. Lay out the "Middle" Uprights and Small Joiners equal distance around the base of the Tank Pad. (see Figure 3)
- Step 5. Start forming the first ring of the Tank. (Man on the inside always overlaps the sheet in his right hand over the sheet in his left. "Right Hand Inside." (see figure 4)



Figure 2 Edge Beam, Liner, Etc. in middle of Tank Pad



Figure 3 "Middle Upright" With Small Joiner



Figure 4 "Sheet in Right Hand Inside" Weaving 5



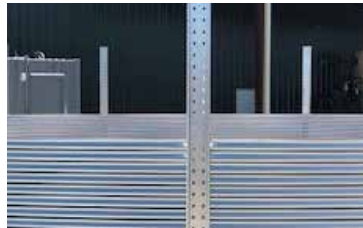
Figure 5 Forming the First Ring of Tank

# Creating the Tank Structure

- Step 1. Start forming the first ring of the Tank. Man on inside always overlaps the sheet in his right hand over the sheet in his left. 1st and 2nd Rings are 2 Double Lam.
- Step 2. Using the "Middle" Upright, bolt the two sheets together.
- Step 3. Attach small Joiner to the Middle Upright but leave top two bolt rows open. Will Create stability for the tank structure. (see Figure 6)
- Step 4. Take Vapor Barrier Strips place under the first ring of Tank.
- Step 5. Attach the 2nd Ring of panels.
- Step 6. Attach Large Upright to the outside, weave the 2nd ring in with the first. (see Figure 7)
- Step 7. Attach the 3rd Ring of Panels, these are single sheets, weave sheets in with the 2nd ring.
- Step 8. Attach the 4th Ring of Panels, these are single sheets, weave sheets in with the 3rd ring.
- Step 9. Attach Ring Beam Brackets on top of the Uprights while installing the 4th row.
- Step 10. Attach Edge Beam, placing the beam inside the brackets. (See Figures 8 and 9)



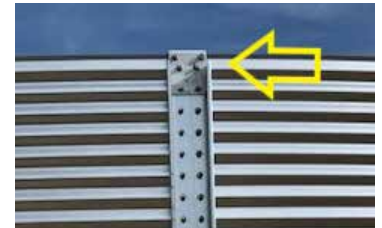
*Figure 6 First Ring with Middle Upright and Joiner*



*Figure 7 First and Second Ring with Large Upright attached*



*Figure 8 Installing Edge Beam on Top of Upright on 4th Ring of Panels*



*Figure 9 Edge Beam Installed on Top of Upright on Top of Ring of Panels*

# Trusses

(If possible, assemble Trusses inside the Tank, if attaching Trusses by Hand)

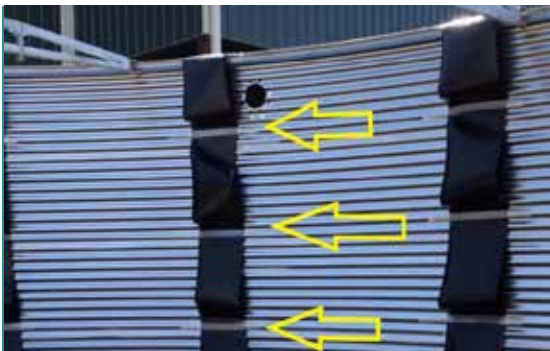
- Step 1. Match Trusses by their corresponding Letter & Number.
- Step 2. Start with, feeding in the nut and bolt, by hand, in the top covered hole.
- Step 3. Lightly thread down all bolts, until Truss pieces are connected, then tighten down all bolts for the entire Truss.
- Step 4. Attach the two longest Trusses, directly in the middle of the Tank equal distance from each other, to the Edge Beam. Then bolt down.
- Step 5. Then attach the two shorter Trusses on either side of the longest ones, then bolt down. (See Figure 10)
- Step 6. Once the Trusses are all in place and bolted down, tighten down all bolts.



*Figure 10 Shorter Truss Attached to Tank Edge Beam*

# Prepping The Tank for Liner

- Step 1. Remove ALL unnecessary items from middle of Tank.
- Step 2. Grab all the Tape and the Tank Wall Poly Cover Strip Rolls that were given in crates, bring all inside the Tank .
- Step 3. Place two Tank Wall Poly Cover Strip Rolls and put in front of each bolt section (precut the tape off of the rolls for faster assembly).  
(See Figure 11)
- Step 4. Take the Fiber Tape (clear tape) and tape over the seams of all the rings (3 seams to be covered in 102k).
- Step 5. Take One Tank Wall Poly Cover Strip Rolls (Curling).
- Step 6. Precut 5 strips of Tape place next to the hanging Tank Wall Poly Cover Strip.
- Step 7. Take one piece of Tape and press onto the Tank Wall Poly Cover Strip (over the taped seam) pull up and tape a corrugation above it.  
Do this over every seam overlapping the bolts, 3 times as pictured.
- Step 8. When the first Tank Wall Poly Cover Strip runs out. Tape to the Tank Wall, giving the strip slack. And attach the second Tank Wall Poly Cover Strip on top of it.
- Step 9. Do this till it reaches the Tank bottom, cut off excess.
- Step 10. Attach lifting straps to Antivortex and string up on a Truss out of the way but close to the needed placement.
- Step 11. Remove all trash from inside the Tank.



*Figure 11 Tank Wall Poly Cover Strip covering the Bolts, Taped to the Tank Wall with Slack*

# Installing the Liner

- Step 1. Re-rake gravel to make Tank Pad as level as possible. Push gravel up against the Tank Wall to create a lip.
- Step 2. Unroll the large Geotextile Fabric from the Liner.
- Step 3. Situate large Geotextile Fabric over the base of the Tank Pad.  
» DO NOT DRAG ON TANK PAD FLOOR.
- Step 4. Roll the edges of the Large Geotextile Fabric up and push against the Tank Wall.  
(See Figure 12)
- Step 5. Place Liner (Still Rolled Up) directly in the middle of the Tank Pad.
- Step 6. Unroll Liner (Remove the small Geotextile Fabric covering, place it outside the Tank, but save it for Roof Hatch installation).
- Step 7. Place the Liner's Seam perpendicular to any Bulkheads located inside the Tank.  
(See Figure 13)  
» TAKE OFF SHOES, REMOVE ALL SHARP TOOLS FROM INSIDE TANK.
- Step 8. Unfold the Liner.
- Step 9. With 2 (or more) men located inside the Tank and 2 men outside the Tank on ladders, those inside the Tank will push up the Liner's sides to those on the outside » Make sure the Circumference Seam is at the base of the Tank Wall and not where any Bulkhead will be cut.
- Step 10. Those outside the Tank will tape down the excess liner over the outside Tank Wall.
- Step 11. Tape down the Liner over each Upright (This piece will secure the Liner when cutting off the excess).
- Step 12. Once Liner is up and secured down by tape, the outside men will cut off the excess Liner off. Cut the Line to match up with the inside of the Tank.
- Step 13. Once the Liner is cut all the way around the perimeter of the Tank, place the Dust and Vermin on top of the cut Liner, which is on top of the Edge Beam » Leave a section of Dust and Vermin off where you will be sliding the Roof Metal Panels over.  
» BEFORING LEAVING THE INSIDE OF THE TANK, THOSE INSIDE SHOULD PLACE THE SMALLER GEOTEXTILE FABRIC DOWN WHERE THE ROOF HATCH WILL BE CUT.



Figure 12 Rolling the Geotextile Up on the Tank Wall



Figure 13 Liner Rolled out perpendicular to bulkheads

# Bulkheads: Antivortex, Over Flow, Inlet and Outlets

- Step 1. To install there should be one man should be outside the Tank and one man on the inside.
- Step 2. Lower the Antivortex down from the Truss and carry to where the customer has indicated the connection line will be.
- Step 3. Install all Bulkheads, making sure to avoid cutting on any seam of the Liner.



*Figure 14 6" Antivortex*



*Figure 15 2" Inlet and 2" Outlet*



*Figure 16 6" Overflow*

# Roof

There will be 17 Roof Sheets in total for this Tank. The longest will be 535" or 44.58 Feet, this sheet will go over the longest distance across the top of the Tank.

- Step 1. Slide Roof Metal sheets up on top of the Tank, sliding over the spot where there is no Dust and Vermin. (See Figure 17)
- Step 2. Once the Longest sheet has been situated in the right spot, place the missing dust and vermin under the Roof Metal.
- Step 3. Follow the Roof Drawing attached below, making sure to match the corrugations of each sheet.
- Step 4. Using Tex Screws attach the Roof Sheets to the Trusses and Edge Beam.
- Step 5. Once all the Roof Sheets are secure, place the Grinder backwards and make marks around the perimeter of the Tank. (See Figure 18)
- Step 6. Use the Nibbler to follow cut markings to cut off excess roof metal. (See Figure 19)  
While someone is on top of the Roof cutting off the excess, someone else start the assembly of the Roof Hatch.
- Step 7. Once the Roof Hatch, Ladder and Tank Level Indicator are installed, have someone climb inside the Tank and collect the geotextile fabric and anything left inside the Tank. Take a magnet to collect all shavings.



Figure 17 Putting on 535" Roof Sheet (1st Sheet)

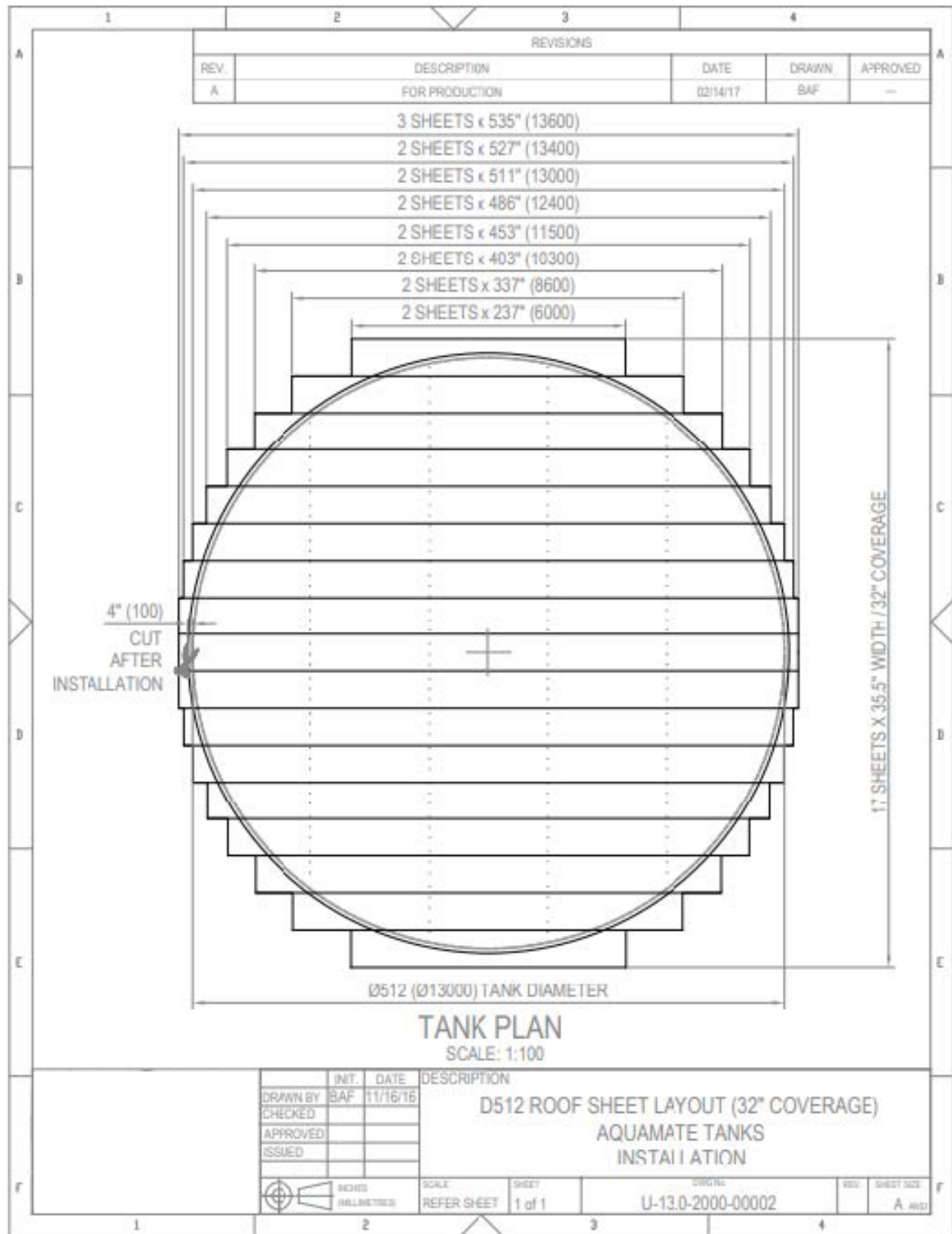


Figure 18 Using Grinder to mark the Roof



Figure 19 Cutting Roof with Nibbler

# Roof Drawing





## Finishing the Tank

Once inside the Tank is cleared of EVERYTHING, start feeding in water.



- THE TANK NEEDS TO BE FILLED 10% WITH WATER BEFORE LEAVING AND NOT INDICATING ANY SIGNS OF LEAKAGE.
- Apply all stickers to the outside of the Tank. Apply FDC Metal Sign (if needed).
- Collect all scraps from the Tank Site and neatly place in crates.
- Go around the perimeter of the Tank with a magnet to collect any small shavings of metal.
- Take North/South/East/ West photos of Tank, along with pictures of Bulkheads, and picture of the front of the Tank.
- Contact customer, inform him/her that the install is complete and walk Site with him/her.

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