Receiving, Handling & Installation of Vertical Fiberglass Tanks

The following Canwest Tanks fiberglass handling and installation instructions are designed to help customers install fiberglass vertical storage tanks properly and in a minimum amount of time. Proper handling and installation are extremely important for long corrosion resistance and low maintenance over the tank life. Handling and installation instruction outlined in this bulletin are only recommendations and do not relieve the purchaser from full responsibility for the proper inspection, handling, and installation of the tank. Unknown situations and conditions not covered in this bulletin are also the responsibility of the purchaser. Failure by the purchaser to take the precautions outlined in these instructions will invalidate the tank warranty.

Shipment will be considered complete when the truck arrives at the jobsite and prior to removal of the tanks by the purchaser. Canwest Tanks employees or representatives will not direct nor be responsible for the removal of tanks from commercial trucks. The presence of a Canwest Tanks employee or representative at the delivery or installation site does not relieve the purchaser of any of his responsibility for the proper handling and installation.

Preparation for Shipment

Canwest Tanks will take every precaution possible when preparing a tank for shipment. Movement will be by slings or lifting lugs. Large vertical and horizontal tanks are shipped in a horizontal position.

Inspection

The customer should arrange for an inspector or a responsible person at the jobsite to inspect and also supervise the offloading of the tank. If damage has occurred during transit, it should be noted on the bill of lading prior to signing acceptance. If damage has occurred, a claim should be filed promptly with the delivery carrier by the purchaser. If no claim is filed, the customer accepts all future responsibility for a damaged tank. If damage has occurred and is not first repaired by Canwest Tanks prior to the tank being put into service, the purchaser accepts all future responsibility for the effects of tank failure resulting from such damage.

Receiving Inspection

The following should be used as a guideline in making an inspection of the tanks prior to offloading. Inspection should be made both inside and out.

1. Check the load for any signs of breakage, abrasion, shifting, or rotation that may have resulted in damage to the tank.
2. If shipping cradles are used, check for any signs that they may have moved, shifted, or rotated resulting in cracks or crazes at point of contact.

General Handling Instructions

The tanks are designed to withstand normal handling procedures. Here are some normal precautions to follow to prevent damage to the tank.

1. Operators of hoist equipment should follow proper rigging procedures at all times. Care should be taken to prevent the tank from swinging out of control.
2. Always lift, never roll or slide a tank.
3. When moving a tank, do not drop or allow hard impact.
4. Never let tools strike or drop on either the inside or the outside of the tank.
5. Ladders used inside the tank should be wood or have rubber protectors.
6. Workmen entering a tank should wear soft-soled shoes.
7. Never use cables or chains around the tank.
8. Never lift a tank by using any fittings or appurtenance other than the lifting lugs. When lift lugs are not provided as part of the equipment, woven fabric rigging slings of 3-inch minimum are recommended.
9. In storing tanks prior to installation, tie down securely. Tank should be placed only on firm level surfaces which are free of stones, tools and other small hard objects, because these cause high stress points. When stored outdoors, tanks should be adequately secured to prevent movement due to wind or water floatation.
10. Do not allow cables, hooks, or spreader bar to swing against the tank.

Unloading

A spreader bar and lines to appropriate lifting lugs or a clevis and lines to lifting lugs shall be used to unload tanks shipped on a flatbed trailer. The angle between the lifting lines and top of the tank must always be 60° or greater. When lifting lugs are not provided, tanks should be lifted off using two canvas or nylon slings or straps and a spreader bar, which is attached to the hoist cable.

Large tanks should be righted by hoisting with a spreader bar and lines to the lifting or clevis and lines to lifting lugs. Adequate padding is necessary to protect the pivot point. Workmen should keep control over the tank with guidelines to ensure the tank is gently brought to rest upon its base. Use a spreader bar and lines or clevis lines to appropriate lifting lugs to move tank when in an upright position. Ensure size of lifting equipment, lines, and clevises are capable of handling the weight of the tank.

On-site Storage (Before Installation)

1. Vessel can be stored in either the vertical or horizontal position, whichever site conditions allow.
2. Should the vessel be stored in the vertical position, it must be anchored or tied-off to prevent it from overturning. The vessel’s lower flanges can be blinded and the vessel

filled with 1 to 2 feet of water to weigh it down. If preferred, the vessel lifting lugs can be used as “guy” points to tie the tank off to anchor points.

3. Should the vessel be stored in the horizontal position, it should be tied-off or strapped to prevent rolling due to wind. Do not use cable or chains.

Installation

1. The support base for flat bottomed vertical vessels should provide full and uniform support over the entire bottom areas. The support base should be properly designed to prevent settling or deflection under maximum design loads.
2. The support base surface should be nonporous and free of cracks, depressions, and vertical projections. Reinforced concrete is often used as a support base.
3. All flat bottom equipment should be secured in place by bolting to the base pad through hold down lugs. This precaution will minimize the chance of equipment damage at nozzle locations and areas of other attachments due to movement of the unit. Hand tighten bolting, fill tanks with water, then torque to 25 ft./lb. DO NOT tighten down hold down lugs until tank is filled.
4. Flanged nozzles have standard ANSI 150 lb. flange bolthole arrangement. Full-face gaskets are to be used. Metal washers should be used under all bolt heads and nuts, which would not otherwise be in contact with the FRP flanges.
5. Nut and bolt threads should be lubricated before tightening.
6. Bolting take-up torque should be applied uniformly, alternating 180° and rotating as near 90° as possible. A bolt torque pressure of 30 ft./lb. will normally be sufficient to affect a seal.