



**Corrosion Resistant Equipment CO., Inc.**

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## **HANDLING and INSTALLATION of ABOVE GROUND STEEL TANKS**

### **GENERAL**

The following instructions are provided to assist our customers in the proper offloading and installation of above ground storage tanks. These are recommendations only and ultimately the purchaser and/or installing contractor is responsible for the proper handling and installation of the tank(s). Improper handling and installation may result in tank damage and will void the tank warranty.

### **INSPECTION**

Prior to offloading the tank, carefully inspect the tank for any signs of damage caused during transit. Confirm all items shown on the packing slip are on site, including small boxes of hardware/accessory items. Note any shortages on the bill and contact us immediately. Any visible damage should be noted on the delivery receipt prior to offloading the tank and a claim should be immediately filed with the delivering carrier. Photos detailing the damage should be taken and included with the claim.

### **OFFLOADING**

Vertical tanks are typically shipped horizontally and must be offloaded, then tipped up to a vertical position and set in place. Tanks are supplied with lifting and handling lugs to facilitate offloading and setting of the tank. Refer to your specific tank drawing for details and locations of the lugs provided. NEVER use fittings or other tank attachments as lifting or handling points. Considerable tank damage can occur.

Utilize proper rigging equipment and procedures to offload the tank from the trailer. Equipment must be rated for the weight of the tank and include an appropriate safety factor. NEVER slide or roll a tank off the trailer or on the ground as significant damage can occur.

The use of a crane is recommended in lifting the tank from the trailer. The clearance between the head shackle of the crane and the tank should be at least equal to the span between the lugs used for lifting. If this is not possible, a spreader bar should be used to approximate the same angle in lifting. To assist in up-righting a vertical tank, a second crane or "double headed" crane is strongly suggested. A tailing line should always be used to prevent the tank from swinging wildly as it transitions from the horizontal to the vertical plane. Again, use only designated lifting lugs; **DO NOT USE FITTINGS OR OTHER TANK ATTACHMENTS!**

# HANDLING and INSTALLATION INSTRUCTIONS

Forklifts may be used provided the forks are long enough to offload the tank, a means of securing and stabilizing the tank on the forklift is employed, and the forklift is rated appropriately for the size of tank being offloaded. Forks should be padded or wrapped to prevent damage to the tank exterior. **Cranes are the preferred method of offloading tanks, particularly larger vessels.**

Accessory items (ladders, cages, piping assemblies, etc...) are typically shipped loose to prevent damage in shipment. See your specific drawings for accessory items supplied. Use sound rigging procedures depending on the item being offloaded.

The tank may be stored in the horizontal position prior to installation if needed. Care should be taken to protect the tank from damage while in storage (i.e. store on a padded surface, tarp if necessary) and the tank should be tied down or secured to prevent rolling due to wind or sloping ground.

## INSTALLATION

Tanks must be installed on a smooth, flat surface, designed to support the weight of the tank and its contents. Pad design is the responsibility of others. An intermediate "buffer" pad may be used (roofing felt, neoprene rubber, etc...) if needed due to slight irregularities in the pad surface.

After the tank is properly located on the pad, it should be anchored down as soon as possible, utilizing proper anchor bolts for the local site seismic and wind conditions. Anchor bolt design should be performed by a licensed engineer based on the local conditions and regulations. Please refer to your specific tank drawing for hold down lug details and locations. Hold down lugs should be grouted or shimmed to prevent excessive loads being transferred to the tank shell. Due to manufacturing tolerances, anchor bolts should NEVER be preset in a concrete pad. They should be installed only after the tank has been properly located.

Once the tank is properly located, accessory items (ladders, rails, gauges, etc...) can be installed on the tanks. See the connection details provided for your specific options on the tank drawings. **NOTE:** Working inside of a storage tank is considered a confined space and all OSHA and local regulations concerning confined spaces and workplace safety must be followed.



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## **OPERATION and MAINTENANCE of ABOVE GROUND STEEL TANKS**

### **OPERATION**

Your tank has been built for a specific service condition. Prior to making any changes to the service conditions, contact us to verify compatibility with your tank.

Do not exceed the pressure/vacuum ratings of your tank. For atmospheric tanks, care should be taken to insure that all vents remain open and unobstructed. Failure to maintain proper vents could cause the tank to experience excessive pressure or vacuum during the filling and draw down of the tank. For pressure vessels, relief valves, vacuum valves, and/or regulators should be used to control pressures coming into and out of the vessel.

Keep your tank clean. In addition to being aesthetically pleasing, any damage or problems will be more evident.

### **MAINTENANCE**

Although properly designed and installed tanks require very little maintenance, periodic visual inspections should be performed to alert the user of potential problems. Be alert to signs of spills, overflows, or leaking flanged or threaded connections. Correct as needed. Depending on the construction code (ASME, API, UL, etc...), more formal inspections can be performed by qualified individuals. Based on the severity of the conditions of service, an inspection schedule should be established and followed to insure maximum tank life and early warning to potential problems

Periodically check the tightness of all ladder/handrail attachment bolts to insure safety. Retighten as needed. Be alert to rusted, broken, or missing hardware and repair or replace as needed.

Spills, overflows, or other tank damage should be cleaned up and/or repaired immediately to prevent further damage to the tank surfaces, particularly for those tanks in corrosive service environments.

**When working on any storage tank, be sure to follow all OSHA and site specific rules for confined space entry, "hot work" (if applicable), lockout/tag out procedures, and all applicable procedures or regulations which may apply.**