



PLASTIC TANK INSTALLATIONS

Plastics at any temperature are susceptible to damage when improperly handled. Plastic tanks can be brittle when cold and can soften at elevated temperatures and could be susceptible to distortion. Your tank has been fabricated from the best plastics, by experienced craftsmen and designed to perform in the service to which it is intended.

To ensure that its quality is in no way compromised, the following methods of handling are necessary to protect the tank during installation. Improper handling of the tank will void the warranty.

TYPICAL TANK INSTALLATIONS:

- Polypropylene (PP)
- Polyethylene (PE)
- Polyvinyl chloride (PVC)
- Fiberglass Reinforced Plastic (FRP) and Fiberglass Armored Thermoplastics

A. HANDLING

1. Measure area into which plastic tank is to be placed to ensure that adequate space has been provided to accommodate the tank. Plastic tanks expand and contract due to heating and cooling at a greater rate than steel, therefore more clearance is required around the perimeter of the tank. Care must be taken to avoid bumping against obstructions or forcing the tank into restrictive areas. The physical properties of the plastic and/or welds can be seriously affected due to improper handling.
2. Plastic tanks must be lifted in such a way so as not to impose stress on the welds. When lifting tanks from overhead, spreader beams must be used. The use of hook and eye lifting devices with spreader beams is an acceptable way to lift plastic tanks.
3. The lifting force must be equal at all points of attachment and in a vertical line above each sidewall in order to avoid undue pressure and stress.
4. The lifting and lowering action must be smooth without abrupt starts and stops that could impart stresses attributable to whip, torque or impact.
5. The lifting points for freestanding tanks must be at the lifting lugs provided on the tanks for subsequent attachment to spreader beams. For drop-in tank liners, if lifting lugs are not provided,

tanks must be lifted with non-metallic slings running beneath the tank and affixed to spreader beams located as follows:

Tank Length	Location of Lifting Points
Less than 30 ft.	@ 1/3 points
30 to 40 ft.	@ 1/4 points
40 to 50 ft.	@ 1/5 points
50 to 60 ft.	@ 1/6 points

6. When lowering the plastic tanks into place, care must be taken not to drop the tank but to set it gently in place.

B. INSTALLATION

1. Plastic tanks are thermal sensitive. Tanks must be positioned within a building to ensure that they are not exposed to excessive draft and thermal differentials during operation.
2. Plastic tanks must be set on a flat, smooth and level surface and free of any protrusions, ridges or depressions that can restrict free movement of the tank due to expansion or contraction. The supporting surface on which the tank will be placed must be continuous and structurally capable of supporting the total weight of the tank and contents without deflecting. If the substrate onto which the tank is to be placed is structurally acceptable, but the surface does not meet the described criteria, consult ATLAS' Engineering Department for assistance. ATLAS manufactures and will recommend the proper monolithic, machinery grout or polymer concrete required to solve the problem of substrate defects.
3. It is recommended that an appropriate plastic drip pan be placed under the tanks to provide a slip plane. This pan will facilitate the movement of the tank caused by expansion or contraction.
4. Piping and other external connections to the tank must not restrict expansion or contraction of the tank. Piping and other connections to the tank must be approved in writing by ATLAS.
5. Cutting, drilling or any other alterations to the tank or support structures must also be approved by ATLAS. Placement of equipment or other fixtures on the tank that would add loads for which the tank was not designed must be avoided.

6. Contact ATLAS' Engineering Department for assistance before proceeding should any questions arise about the acceptability of the installation, site or conditions.

C. STORAGE

1. Tanks that are placed in storage when received, must be handled and placed as described in Items A and B.
2. Tanks must be protected from damage during storage.
3. Tanks must not be used as temporary storage containers.
4. **Do not** store plastic tanks that were designed for indoor use outdoors without providing adequate protection from sunlight and weather. Plastic tanks can be designed for outside usage.

D. PLACING INTO SERVICE

1. Solution heaters must be located so they do not rest against the sides or bottom of the tank. The location must allow sufficient space for adequate transfer of heat into the solution without causing hot spots on the tank walls or bottom.
2. Avoid exposing the tank to thermal shock. Massive dumps of hot or cold liquids into the tank will impart stresses that can cause sheet or weld failure.
3. Before adding liquids to the tank, the temperature of the tank shell must be 60°F (16°C) to 90°F (32°C). Liquid temperature must be 60°F (16°C) to 90°F (32°C) during initial filling of the tank. Maximum tank liquid filling rates are as follows:
 - First 6 feet of depth - 24 inches per hour
 - Above 6 feet of depth - 12 inches per hourAfter filling the tank, **HEAT LIQUID TO OPERATING TEMPERATURE AT A RATE NOT TO EXCEED 25°F (14°C) PER HOUR.** When heating the solution, adequate circulation must be provided to ensure uniform solution temperature throughout the tank. Maximum temperature variation of the solution at any point in the tank must not exceed 10°F (6°C). Care must be taken to provide adequate circulation (pump, sparger, etc.) at heater pockets to prevent overheating at tank walls. Thermostatically controlled heating units are recommended for heating tank solutions. Direct steam sparging, for heating solutions, is not recommended.
4. Plastic tanks can be damaged by excessive heat or open flame. Welding or burning of steel in the vicinity of a plastic tank must be avoided unless precautionary protection is provided to protect the tank.
5. Tanks are designed for specific operating conditions. Consult ATLAS' Engineering Department before making any change in operating conditions that could affect load, impact, solution temperature or composition of the chemical solution.

Note: Changes in prescribed methods of handling, installation, storage and placing of tank, as well as operations will void ATLAS' warranty. Consult ATLAS' Engineering Department before making any such changes.

WARRANTY

ATLAS warrants that its products will be free from defects in workmanship and materials under normal use for a period of one (1) year from the date of shipment by ATLAS (provided the products are installed before the expiration of the shelf life). THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR THE PURPOSE FOR THIS PRODUCT WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. ATLAS' LIABILITY FOR ALLEGED BREACH OF THIS WARRANTY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT (BUT NOT INCLUDING REMOVAL OF THE DEFECTIVE PRODUCT OR INSTALLATION OF REPLACEMENT PRODUCTS). ATLAS SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES DURING THE WARRANTY PERIOD OR THEREAFTER. **ATLAS' WARRANTY IS VOIDED IF PAYMENT FOR PRODUCT IS NOT RECEIVED IN FULL.**

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