



Email: sales@hiveplastics.com
Website: www.hiveplastics.com
Phone: 435-522-3366

INSTALLATION AND USE GUIDE

ABOVE GROUND VERTICAL TANK

1. Receiving and Handling

- **Inspection:** Immediately upon receipt, inspect the tank and accessories for any obvious damage, defects, or missing parts. Note any discrepancies on the driver's bill of lading and report them to the manufacturer or authorized dealer within three days.
- **Unloading:** **Never drop a tank off a truck onto the ground**, as this can cause severe damage and void your warranty.
- **Using Lifting Lugs:** For tanks with capacities of 1,500 gallons or more, use the integrally molded lifting lugs to move the tank from a horizontal to a vertical position. Use a crane or forklift with a spreader bar and properly sized slings/cables forming a 40°–50° lifting angle.
- **Empty Tanks Only:** The tank must be completely empty before lifting or moving.
- **Dome Safety:** **Never stand or work on top of the tank dome.** The surfaces are flexible and slippery, there is no load rating, and it presents a severe fall hazard.

2. Foundation and Location

- **Pad Requirements:** Position the tank on a flat, level, and smooth foundation that fully supports the entire tank bottom with no deflection. While a concrete pad is standard, a firmly compacted base made of construction-grade utility sand or finer is also acceptable. The base must be completely uniform and swept clean of any lumps, debris, or protruding objects of any kind. If using a sand base, it must be contained and designed to prevent any erosion, wash-away, or deterioration of the material from under the tank over time. Failure to provide and maintain a proper foundation voids the warranty.
- **Pad Sizing:** The foundation should be at least 2 feet larger in diameter than the tank itself.

3. Plumbing and Flexible Connections

- **Mandatory Flexible Connections:** Because polyethylene tanks expand and contract from temperature changes, pressure, and pump vibrations, rigid hard-piping can crack and destroy the tank. You **must** install flexible connections (expansion joints or hoses) on all



Email: sales@hiveplastics.com

Website: www.hiveplastics.com

Phone: 435-522-3366

lower 1/3 sidewall fittings, or on any tank larger than 600 gallons, to preserve your warranty.

- **Expansion Allowance:** Flexible connections must be designed to allow for a minimum of **4% tank movement** (both outward radius expansion and downward elevation changes).
- **Independent Pipe Support:** Piping must be independently supported so that the flexible connection and tank nozzle do not bear any of the piping weight. Place pipe supports directly after the flexible connection.
- **Valves:** Install an isolation valve as close to the tank as possible, before the flexible connection, to prevent loss of product during maintenance or in case of a leak.

4. Venting

- **Atmospheric Pressure Only:** Polyethylene tanks are designed for atmospheric pressure only. Proper venting is essential to prevent over-pressurization or vacuum damage during filling and emptying.
- **Sizing Rules:** For mechanically filled tanks larger than 1,000 gallons, the vent size should exceed the largest fill or discharge fitting by at least 1 inch.
- **Pneumatic Filling:** If the tank is filled pneumatically (via pressurized tanker truck), you must install emergency pressure relief or a mushroom vent, to handle the air surge and prevent the tank from "ballooning".
- **Routing:** Keep 90-degree bends in the vent line to a minimum (three or fewer are recommended) and ensure the line remains clear of obstructions like bird nests or debris.

5. Start-up and Testing

- **Torque Check:** Verify that all fittings are tightened to the manufacturer's recommended torque values.
- **Hydro-Test:** Before introducing any chemicals, perform a hydrostatic water test. Fill the tank with water to brim-full capacity and let it sit for a minimum of 24 hours to verify there are no leaks.
- **Drain and Dry:** Once the test is successful, thoroughly drain and remove all test water to prevent any dangerous chemical reactions with the product you are about to store.

6. Operation and Maintenance



Email: sales@hiveplastics.com

Website: www.hiveplastics.com

Phone: 435-522-3366

- **Temperature Limits:** Standard tanks are designed for a maximum continuous product operating temperature of 100°F. Temperatures above this limit reduce the tank's structural strength and require specialized wall thickness designs.
- **Annual Inspections:** Conduct a routine visual inspection at least once a year. The tank must be empty and neutralized prior to inspection.
- **What to Look For:** Use a bright light to inspect both the interior and exterior for signs of crazing, stress cracking, or a brittle appearance. Pay special attention to the "corners" where the sidewall meets the dome and bottom, as well as the areas around fittings. Inspect all gaskets, flexible connections, and vents for deterioration or obstructions.

6. Chemical Capability

- **Temperature Limits:** The end user is responsible for chemical capability of stored liquid with the tank and accessory materials. EDPM gaskets are the default for all Hive bulkheads.