

GENERAL INFORMATION & INSTALLATION GUIDE LINE

1. Temperature: service temperature suggested is general guide line. It is highly recommended to check the suitability before commercial use.

2. Pressure: Polyethylene tanks are designed and rated for **atmospheric pressure only**. Proper venting alleviates pressure or vacuum from developing as the tank is filled or emptied.

3. Hydro test: Before introduction of chemical, hydro test (water test) tank system for 24 hours before loading with chemical.

4. LOCATE the tank in a SAFE PLACE

▪ **Locate the tank wisely**

Minimal employee and equipment traffic near tank.

- ◆ Safe distance away from heat, flames
- ◆ Ease of future maintenance and inspection.
- ◆ Ability to remove and replace tank cost effectively in the future.

(Do not “trap” tank in building or by other equipment)

- Incorporate **chemical industry “best practices”** for product being stored.
- Provide **flat, level and smooth foundation** adequate for weight of chemical to be stored.
- Utilize **secondary containment** of proper size and chemical resistance. Comply with local, state, and federal regulations.
- Place **valves** as **close to tank** as possible.
- Be sure **valves** can be **easily accessed**.
- Utilize **flexible connections** to allow tank to expand and contract and for protection from pump vibration.
- **Adequately support** valves, piping, and flexible connections.

- Use **guards, shields, barriers, and walkways** to protect tank, fittings, and piping from damage by impact and to protect personnel from chemical release.
- **Vent tanks** to prevent pressure or vacuum. Follow PPC venting guidelines.

5.INSTALL the tank in a SAFE MANNER

- Incorporate **chemical industry “best practices”** for product being stored.
- Polyethylene tanks are **HEAVY**.
 - Use adequate equipment and properly trained personnel to off load and place tanks in final position.
 - Keep personnel clear of tanks when they are being lifted.
 - Fully drain tanks before lifting.
- Accessory items are **HEAVY**. Use adequate equipment and properly trained personnel to off load and install internal pipe stabilizers, emergency vent lids, ladders, and other accessory items.
- **Do not stand or work on top of tank.** The tank surfaces are flexible and slippery and a dangerous fall could occur. There is no weight or load rating for the domes of tanks.
- **Tanks are confined spaces.** Follow proper entry procedures. Establish an adequate retrieval plan.
- **Confirm compatibility of tank, fittings and gaskets** for chemical to be stored **before** permanent installation. If necessary test the tank, fitting and gasket material against the chemicals and under the specific conditions of your application.
- Place **valves** as **close to tank** as possible.
- Be sure valves can be **easily accessed**.
- Install **flexible connections** to allow tank to expand and contract and for protection from pump vibration.
- **Adequately support** valves, piping and flexible connections.
- Install **guards, shields, barriers and walkways** to protect tank, fittings, and piping from damage by impact and to protect personnel from chemical release.
- **Vent tanks** to prevent pressure or vacuum. Follow PPC venting guidelines.
- **Properly secure ladders top and bottom.** Use adequate lifting equipment and fall protection equipment when installing to protect personnel.
- **Hydro tests** the tank for at least 24 hours prior to loading with chemical.

6.USE and SERVICE the tank in a SAFE MANNER

- **Hydro tests** the tank for at least 24 hours prior to loading with chemical.
- Follow **chemical industry “best practices”** for product being stored.
- **Confirm compatibility of tank, fittings, and gaskets** for chemical to be stored **before** permanent installation. If necessary test the tank, fitting and gasket material against the chemicals and under the specific conditions of your application.
- Obtain and retain **Material Safety Data Sheets (MSDS)** for the chemical to be stored.
- **Do not change chemical being stored** unless certain there will be no hazardous chemical reaction.
- **Fill vertical tanks only to top of sidewall.**
- **Prevent over pressurization of tank** during pneumatic or mechanical filling.
- **Prevent excessive heat** near or inside the tank. Polyethylene tanks are designed for a maximum continuous temperature of 38°C.
- Maintain **secondary containment** of proper size and chemical resistance. Comply with local, state and federal regulations. Protect personnel from possible chemical release.
- Maintain **guards, shields, barriers, and walkways** to protect tank, fittings, and piping from damage by impact and to protect personnel from chemical release.
- **Keep vents and vent lines clear** of obstructions to prevent pressure or vacuum.
- **Service fume scrubber systems** to prevent tank over pressurization.
- Accessory items are **HEAVY**. Use adequate equipment and properly trained personnel when servicing internal pipe stabilizers, emergency vent lids, ladders and other accessories.
- **Do not stand or work on top of tank.** The tank surfaces are flexible and slippery and a dangerous fall could occur. There is no weight or load rating for the domes of tanks.
- **Tanks are confined spaces.** Follow proper entry procedures. Establish an adequate retrieval plan.
- **Conduct annual inspections** of tank. Look for and address stress cracking, especially on **interior** surface, worn or leaking fittings and flex connections, stuck, leaking or poorly working valves, restricted vent lines, and needed repairs to ladders, support brackets and stands, and other accessories.

7. ANNUAL TANK INSPECTION CHECKLIST

Even relatively new polyethylene tanks should receive routine and careful visual inspections. These inspection Guidelines should be followed at least annually to ensure the safety of personnel and the preservation of the chemical stored. **The tank should be replaced if it displays stress cracking, crazing, or embrittlement.**

- Empty the tank. Neutralized any chemical remaining. Thoroughly clean the exterior and interior of the tank. A dirty tank cannot be properly inspected.
- Examine the exterior and the interior of the tank for cracking, crazing, and brittle appearance.
- Pay particular attention to areas around fittings, and where different portions of the tank radius into one another. In other words, give special attention to “corners” where sidewall and dome meet and where sidewall and bottom meet.

If a confined space entry is not feasible, use a bright light source to inspect the tank interior from the manway opening. An interior inspection is essential because stress cracks normally show up on the inside of a tank before appearing on the outside.

- Don't forget to inspect areas of the tank that never actually come in contact with the chemical stored. With fume-emitting chemicals, oxidation and resulting embrittlement of the dome can occur without any actual contact with the chemical stored.

Inspect fittings, flexible connection hoses, and gaskets for leaks and signs of general corrosion or deterioration.

- Inspect vents and fume scrubbers to ensure adequate venting for pressure and vacuum. Ensure end of scrubber piping is never submerged in more than 6-inches of liquid.

Confirm that filling of the tank from tanker trucks is not causing over pressurization and not ending with a line purge that “balloons” the tank.

- Confirm secondary containment is appropriate for chemical stored, adequate in size, and in good repair.

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WARNINGS

Failure to adequately support tank, fittings, valves, piping and flexible connections and protect them from impact can cause chemical release resulting in serious injury or death.

Chemical fumes may be present in the area of the manway opening.

A tank is a confined space. Do not enter tank without a confined space entry and retrieval plan. Use lift equipment and/or fall protection to prevent fall into or away from tank. Do not stand or work on top of tank. Dome surfaces are flexible and slippery. The dome may be embrittled. A dangerous fall could occur.

