



General Chemical Resistance Chart

Listing of Common Materials Safe to Store in Peabody Tanks

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The following chart lists the most common materials safely stored in Peabody Tanks & other products. Please review the list and use as a general guideline to determine the most suitable material for your specific application. **Please consider this chart only as a guide due to the infinite range of chemical combinations, concentrations and temperatures.** If you don't see your chemical listed, please contact our customer service department for assistance. We have a library of chemical charts we have compiled over the years and may be able to provide you with more information so you can make the best decision. If in doubt, contact your chemical supplier or ask us for a test container to insure compatibility prior to storing your product in a Peabody product.

All chemicals listed are at ambient temperature (70° F) and elevated temperatures (140° F). Some chemicals react differently at elevated temperatures, so use caution in making your decision. Mixed chemicals also react differently, so even if two chemicals stored independently may be compatible, mixing them together changes the way they react with other materials. Peabody tanks are not recommended for storage of materials under pressure; they are recommended for atmospheric storage only. Each of our materials has a high temperature limit) as follows: LLDPE - 120°F/49°C, HDLPE - 130°F/54°C, HDXLPE - 130°F/54°C, PPL - 180°F/82°C, PVDF - 200°F/93°C. Generally, all materials are acceptable for storage of cold liquids to 32°F/0°C, but as tanks cool, some material may lose impact resistance and could be damaged by impact or water hammer, so please use caution in low temperature applications.

Although we have made every effort to provide the most current, accurate and up to date data available, we offer no assurance of compatibility with any specific manufacturer's products, as there are too many variables with respect to the manufacture of chemicals and therefore, the final decision is your sole responsibility. PEABODY ENGINEERING & SUPPLY, INC. MAKES NO WARRANTY AS TO FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ANY MATERIALS PURCHASED. Materials should be tested under actual service conditions before the user makes a determination of suitability for a particular purpose.



General Chemical Resistance Chart

Chemical Name	CONC	TANK MATERIALS							
		LLDPE & HDLPE		PPL		HDXLPE		PVDF	
		70 °F	140 °F	70 °F	140 °F	70 °F	140 °F	70 °F	200 °F (-1)
Acetic Acid*	60%	A	A	A	A	A	A	A	A
Acetic Acid*	80%	A	B	A	A	A	A	A	A
Aluminum Chloride		A	A	A	A	A	A	A	A
Aluminum Sulphate		A	A	A	A	A	A	A	A
Alums	all types	A	A	A	A	A	A	A	A
Ammonium Carbonate		A	A	A	A	A	A	A	A
Ammonium Chloride	sat'd	A	A	A	A	A	A	A	A
Ammonium Fluoride	sat'd	A	A	A	A	A	A	A	A
Ammonium Hydroxide	28%	A	A	A	A	A	A	A	A
Ammonium Nitrate	sat'd	A	A	A	A	A	A	A	A
Ammonium Sulphate	sat'd	A	A	A	A	A	A	A	A
Ammonium Sulfide	sat'd	A	A	A	A	A	A	A	A
Arsenic Acid		A	A	A	A	A	A	A	A
Ascorbic Acid	10%	A	A	A	A	A	A	A	A
Barium Salts		A	A	A	A	A	A	A	A
Beer		A	A	A	A	C	C	A	A
Benzoic Acid		A	A	A	A	A	A	A	A
Biodiesel	B80	A	B	A	A	A	A	A	A
Bleach Lye	10%	A	A	A	A	A	A	A	A
Borax	sat'd	A	A	A	A	A	A	A	A
Boric Acid		A	A	A	A	A	A	A	A
Brine		A	A	A	A	A	A	A	A
Calcium Carbonate	sat'd	A	A	A	A	A	A	A	A
Calcium Chlorate	sat'd	A	A	A	A	A	A	A	A
Calcium Chloride	sat'd	A	A	A	A	A	A	A	A
Calcium Hydroxide	conc.	A	A	A	A	A	A	A	A
Calcium Hypochlorite	bleach sol'n	A	A	A	B	B	B	A	A
Calcium Nitrate	50%	A	A	A	A	A	A	A	A
Castor Oil	conc.	A	A	A	A	A	A	A	A
Chlorine Dioxide		B	B	-	-	-	-	A	A
Chlorine Water +	2% sat'd sol.	A	A	A	B	A	A	A	A
Chromic Acid	50%	A	B	A	A	A	B	A	A
Chromic Acid	10%	A	A	A	A	A	A	A	A
Citric Acid*	sat'd	A	A	A	A	A	A	A	A
Cola Concentrates*		A	A	A	A	A	A	A	A
Copper Chloride	sat'd	A	A	A	A	A	A	A	A
Copper Cyanide	sat'd	A	A	A	A	A	A	A	A
Copper Nitrate	sat'd	A	A	A	A	A	A	A	A
Copper Sulphate	sat'd	A	A	A	A	A	A	A	A
Corn Oil*		A	A	A	A	A	A	A	A
Cottonseed Oil*		A	A	A	A	A	A	A	A



Chemical Name	CONC	TANK MATERIALS							
		LLDPE & HDLPE		PPL		HDXLPE		PVDF	
		70 °F	140 °F	70 °F	140 °F	70 °F	140 °F	70 °F	200 °F (-1)
Cyclohexylamine		A	-	-	-	A	-	-	-
DEAE – diethylaminoethanol		A	-	-	-	A	-	-	-
Deionized Water	5 Megohm	A	A	A	A	A	A	A	A
Detergents, Synthetic*		A	A	A	A	A	A	A	A
Developers, Photographic		A	A	A	A	A	A	A	A
Emulsions, Photographic*		A	A	A	A	A	A	A	A
Ethyl Acetate*#	100%	B	C	B	B	B	C	B	B
Ethyl Alcohol*	100%	A	A	A	A	A	A	A	A
Ethyl Alcohol*	35%	A	A	A	A	A	A	A	A
Ethylene Glycol*		A	A	A	A	A	A	A	A
Ferric Chloride	sat'd	A	A	A	A	A	A	A	A
Ferrous Chloride	sat'd	A	A	A	A	A	A	A	A
Ferrous Sulphate	20%	A	A	A	A	A	A	A	A
Fish Solubles*		A	A	A	A	A	A	A	A
Fluosillic Acid	conc.	A	B	A	B	A	B	A	A
Formic Acid		A	A	A	A	A	A	A	A
Fructose	sat'd	A	A	A	A	A	A	A	A
Glycerine*		A	A	A	A	A	A	A	A
Glycol*		A	A	A	A	A	A	A	A
Hydrochloric Acid	0-48%	A	A	A	A	A	A	A	A
Hydrofluoric Acid*	60%	A	A	A	A	A	A	A	A
Hydrofluosilicic Acid	0-26%	A	A	A	A	A	B	A	A
Hydrogen Peroxide	0-50%	A	B	A	C	B	C	A	A
Hydrogen Sulphide		A	A	A	A	A	A	A	A
Hypochlorous Acid	conc.	A	A	A	A	A	A	A	A
Inks #		A	A	A	A	A	A	A	A
Isopropyl Alcohol	100%	A	B	A	A	A	B	A	A
Lactic Acid*	20%	A	A	A	A	A	A	A	A
Lime		A	A	A	A	A	A	A	A
Magnesium Chloride	sat'd	A	A	A	A	A	A	A	A
Magnesium Hydroxide	sat'd	A	A	A	A	A	A	A	A
Methyl Alcohol*	100%	A	A	A	A	A	A	A	A
Milk		A	A	A	A	C	C	A	A
Molasses		A	A	A	A	A	A	A	A
Morpholine		A	-	-	-	A	-	-	-
Motor Oil		A	A	A	A	A	A	A	A
Nickel Chloride	conc.	A	A	A	A	A	A	A	A
Nitric Acid	0-30%	A	A	C	C	A	A	A	A
Nitric Acid +	30-50%	A	B	C	C	A	B	A	A

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		LLDPE & HDLPE		PPL		HDXLPE		PVDF	
		70 °F	140 °F	70 °F	140 °F	70 °F	140 °F	70 °F	200 °F (-1)
Nitric Acid +	70%	C	C	C	C	B	B	A	A
Phosphoric Acid	0-85%	A	A	A	A	A	B	A	A
Photographic Solutions		A	A	A	A	A	A	A	A
Plating Solutions*		A	A	A	A	A	A	A	A
Cadium		A	A	A	A	A	A	A	A
Chromium		A	A	A	A	A	A	A	A
Copper		A	A	A	A	A	A	A	A
Gold		A	A	A	A	A	A	A	A
Indium		A	A	A	A	A	A	A	A
Lead		A	A	A	A	A	A	A	A
Nickel		A	A	A	A	A	A	A	A
Rhodium		A	A	A	A	A	A	A	A
Silver		A	A	A	A	A	A	A	A
Tin		A	A	A	A	A	A	A	A
Zinc		A	A	A	A	A	A	A	A
Potassium Bromide	conc.	A	A	A	A	A	A	A	A
Potassium Carbonate	50%	A	A	A	A	A	A	A	A
Potassium Chlorate	conc.	A	A	A	A	A	A	A	A
Potassium Chloride	conc.	A	A	A	A	A	A	A	A
Potassium Cyanide	conc.	A	A	A	A	A	A	A	A
Potassium Fluoride	conc.	A	A	A	A	A	A	A	A
Potassium Hydroxide	conc.	A	A	A	A	A	A	C	C
Potassium Nitrate	50%	A	A	A	A	A	A	A	A
Potassium Sulfate	conc.	A	A	A	A	A	A	A	A
Potassium Sulphide	conc.	A	A	A	A	A	A	A	A
Potassium Sulfite	conc.	A	A	A	A	A	A	A	A
Salicylic Acid	sat'd	A	A	-	-	A	A	A	A
Sea Water		A	A	A	A	A	A	A	A
Silver Nitrate Solution		A	A	A	A	A	A	A	A
Soap Solution*		A	A	A	A	A	A	A	A
Sodium Bisulphate	sat'd	A	A	A	A	A	A	A	A
Sodium Bisulphite	sat'd	A	A	A	A	A	A	A	A
Sodium Bromide	dilute	A	A	A	A	A	A	A	A
Sodium Carbonate	conc.	A	A	A	A	A	A	A	A
Sodium Chlorate	sat'd	A	A	A	A	A	A	A	A
Sodium Chloride	sat'd	A	A	A	A	A	A	A	A
Sodium Cyanide		A	A	A	A	A	A	A	A
Sodium Fluoride	sat'd	A	A	A	A	A	A	A	A
Sodium Hydroxide	0-50%	A	A	A	A	A	A	A	A
Sodium Hypochlorite +	< 16.5%	A	B	B	C	C	C	A	A
Sodium Nitrate		A	A	A	A	A	A	A	A



Chemical Name	CONC	TANK MATERIALS							
		LLDPE & HDLPE		PPL		HDXLPE		PVDF	
		70 °F	140 °F	70 °F	140 °F	70 °F	140 °F	70 °F	200 °F (-1)
Sodium Sulphate		A	A	A	A	A	A	A	A
Sodium Sulphide	sat'd	A	A	A	A	A	A	A	A
Sodium Sulphite	sat'd	A	A	A	A	A	A	A	A
Sodium Thiosulfate	40%	A	A	A	A	A	A	A	A
Starch Solution*	sat'd	A	A	A	A	A	A	A	A
Sulphuric Acid	0-50%	A	A	A	B	A	A	A	A
Sulphuric Acid +	70%	A	B	A	B	A	B	A	A
Sulphuric Acid +	80%	B	B	B	B	C	C	A	A
Sulphuric Acid +	96%	B	B	C	C	C	C	A	B
Sulphuric Acid +	98-conc.	B	C	C	C	C	C	A	B
Tannic Acid*	sat'd	A	A	A	A	A	A	A	A
Triethylene Glycol*		A	A	-	-	A	A	A	A
Urea	30%	A	A	A	A	A	A	A	A
Urine		A	A	A	A	A	A	A	A
Vanilla Extract*		A	A	A	A	A	A	A	A
Vinegar		A	A	A	A	A	A	A	A
Water w/ozone	up to 10ppm	A	A	A	A	A	A	A	A
Wetting Agent*		A	A	A	A	A	A	A	A
Wines*		A	A	A	A	A	C	A	A
Zinc Salts		A	A	A	A	A	A	A	A

TANK MATERIAL TERMINOLOGY

LLDPE	Linear Low Density Polyethylene
HDLPE	High Density Linear Polyethylene
PPL	Polypropylene
HDXLPE	High Density Cross Link Polyethylene
PVDF	Polyvinylidene Fluoride

CHART LEGEND

- A Resistant, no indication that serviceability would be impaired
- B Variable resistance, depending on conditions of use, consult factory
- C Unresistant, not recommended for service applications under any conditions
- Information not yet available

(-1) For applications over 100 °F, consult factory for specific limitations

Plasticizer

Certain types of chemicals are absorbed to varying degrees by polyethylene causing swelling, weight-gain, softening and some loss of yield strength. These plasticizing materials cause no actual chemical degradation of the resin. Several of these chemicals have a strong plasticizing effect (e.g. aromatic hydrocarbons benzene), whereas others have weaker effects (e.g. gasoline). Certain plasticizers are sufficiently volatile that if they are removed from contact with the polyethylene, the part will "dry" out and return to its original condition with no loss of properties.

+ Oxidizers

Oxidizers are the only group of materials capable of chemically degrading polyethylene. The effects on the polyethylene may be gradual even for strong oxidizers and short-term effects may not be measurable. However, if continuous long-term exposure is intended, the chemical effects should be checked regularly.

*Stress Crack Agent

Certain surface active materials, although they have no chemical effect on the tank material, can accelerate the cracking of plastic materials when they are under stress. Although our tanks are generally stress-free, caution should be used when large tanks are unsupported and when welded fittings are used with these chemicals.

General Chemical Resistance Chart

Peabody Engineered Tanks

Peabody Engineering has built a reputation over the past 30-plus years as the premier fabricator of engineered plastic process tanks for all chemical, oilfield, mining, high purity and wastewater applications. Our expert staff has collectively over 100 years' experience in custom fabrication of engineered tank systems. Using the latest technology in thermopneumatic welding, Peabody offers nozzles from ½" to 36" diameters, side manways, inverse level gauges, Heating/Insulation systems, Agitation, Ladders and platforms, Engineered, site-specific seismic restraint systems, process controls and more. Choose from single wall tanks or one of our DCS-II unitized dual containment systems, with the primary and secondary tank welded together for containment that is closed to the outside environment. Peabody offers Verticals from 10-gallons to 20,000-gallons, Horizontals from 35-gallons to 6025-gallons and Cone Bottoms from 5-gallons to 10,000 Gallons. Peabody's in-house fiberglass fabrication department can design and build custom rectangular FRP tanks or provide a fiberglass overwrap on an HDLPE tank for the most demanding of applications. Contact one of our friendly and experienced application engineers with your application today. Chances are we have built similar tanks before.

Frequently Asked Questions

[Do you have cut sheets and drawings for your products available on-line?](#)

Yes. We have all of our literature available on-line. Please email or call us for specific information if you can't find it on our website (www.etanks.com).

[Can I get help in determining which product is right for me?](#)

Our customer service department is available for phone consultation from 7:30AM to 4:00PM Pacific Time to assist you in deciding what product would work best for you or just email us some questions anytime.

[How can I get some literature on your products?](#)

Contact the Literature Department by phone, fax or email, or check our website (www.etanks.com).

[Does Peabody ship products internationally?](#)

Yes. Peabody distributes products internationally.

[How much will freight cost to ship my product?](#)

Due to the large size of most of our products relative to their weight, shipping cost varies widely depending upon where the product ships. We have a state of the art shipping logistics system that enables us to calculate freight cost quickly and efficiently. If you would like a freight quote before ordering, simply contact our customer service department and they will be happy to assist you.



What if I have a large project and I need a sales engineer to meet me at my jobsite?

We have qualified Sales Engineers available to meet with you and our Authorized Distributor on-site or in your office to assist you with specifications, logistics and any other details you need in determining the scope of your large projects. Just call or email us and ask for a Sales Engineer to contact you for your special projects.

Why should I choose a polyethylene tank for my application?

Polyethylene tanks are an excellent choice for atmospheric (non-pressure) storage of liquids ranging from water to food products to aggressive chemicals. They cost less than stainless steel, aluminum and fiberglass tanks and their seamless construction offers a durable, long-lasting choice for all of your tank requirements. Poly tanks are lightweight – less than half the weight of steel tanks, so installation and handling is a breeze. They have excellent impact and chemical resistance so they will never rust or corrode. Our tanks are made from 100% virgin FDA approved resins so they are ideal for storage and processing of drinking water, food and cosmetic products, as well as high purity chemicals. They are all molded with Ultra-violet (UV) inhibitors, so direct sunlight will not degrade them for a very long time. Our natural resins are translucent, so you can see the liquid level through the tank wall on all of our single-walled tanks.



Can I Store Chemicals Or Fertilizers In The Black Or Dark Green Water Storage Tanks?

No, these tanks are designed for water storage only. They are only rated at 8.4 pounds per gallon.

What is the life expectancy of my tank?

How long your tank will last depends upon your application. The chemical being stored, the temperature and what you are using the tank for (mixing, transport, storage, etc.) all affect the lifespan of your tank. Some chemicals will permeate the tank wall and accelerate the aging process by changing the molecular structure of the resin. An example of this is sodium hypochlorite (industrial or swimming pool bleach), which reacts with heat (elevated temperature) or light (UV) and releases free radical ions that attach to the polyethylene (or other) resin. Over a relatively short timeframe, these ions will weaken the tank wall and cause something called “environmental stress cracking” and the tank should be replaced. Periodic flushing of the tank will prolong the life, but it still won’t last as long as a tank holding water, for example.

The most common reason for pre-mature tank failure is a poor installation. Piping connections on poly tanks must be adequately supported with pipe supports and expansion joints or flexible connections to allow for thermal expansion and normal flexing of the tank wall. Installing the tank on a surface with foreign materials under the tank will puncture it when the tank is filled. The tank must be installed on a clean, flat surface and be fully supported to prevent the tank from sagging, which will create a shear point and ultimately a leak. Tanks should never be hung over the edge of a tank pad without ancillary support. Installing heavy equipment directly on the tank without adequate external support or reinforcement can also cause the tank to fail prematurely. Peabody’s highly trained staff can help you to properly design your tank system to eliminate these types of installation “no-no’s”.

Tanks used for transport or mixing will not last as long as tanks used for storage, due to the mechanical stress, wear and tear associated with these types of applications. Tanks stored indoors will last longer than those stored outdoors. We have seen tanks last from 3 to 20 years and longer, depending upon the application.

Contrary to the claims of other manufacturers, our linear polyethylene tanks are extremely durable and will last trouble-free for many years if properly installed. They have superior impact and chemical resistance and will never “unzip” and fail catastrophically. They also will not crack open and spill chemicals all over the ground under normal conditions. Our 30-plus

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year track record of providing poly tanks to a long list of satisfied customers supports the fact that our tanks are as good as you can get. We also offer other materials (like polypropylene, fiberglass and PVDF) of construction on some of our tanks. Check with customer service for specific application assistance.

Will my rectangular tank bulge when I fill it with liquid?

Rectangular plastic tanks do not have the same physical properties as fiberglass or steel and they are not designed to hold heavy loads on their sidewalls without support. Properly installed rectangular plastic tanks will give you years of trouble-free service, but you must support the tank with an external steel cage or a fiberglass overwrap. We can provide either option for you if you like. Most of our rectangular tanks have the standard fiberglass overwrap option listed on our website. Generally, tanks shorter than 18" tall do not require sidewall support, but if you're not sure, check with us before ordering.

What is the warranty on my tank?

Our standard tanks carry a full 3-year warranty and our heavy-duty tanks carry a 5-year full warranty. These warranties do not apply to special applications, such as sodium hypochlorite & bio-diesel. Please contact your Peabody sales representative for application-specific warranties.

Do your tanks hold Pressure?

No. Our standard tanks are designed for atmospheric storage only. We do offer reinforced tanks that are designed for a 2 PSI nitrogen blanket, but they are designed and built on application. If you have the need for a pressure rated tank, please contact our sales department.

Can your tanks be buried?

We have tanks specifically designed for burial, used primarily for septic and cistern tanks, but our standard above ground tanks are not designed for burial. The earthen load of the soil around an above ground tank wall will cause the sidewall to collapse. The only exception is if you build a vault and install the tank inside. A vault is a hole in the ground with reinforced walls (not supported by the tank).



Can your tank be used in below freezing temperatures?

Our tanks are made from polyethylene formulated for low temperature impact resistance. The resin is designed for use down to -20 degrees F per ASTM D 1998 (the specification used for tanks like ours) and ARM (The Association of Rotational Molders). Keep in mind that liquids expand when frozen due to entrapped air, so allow extra space in your tank to accommodate this in low temperature applications. The most likely part to crack on the tank is the bulkhead fitting which can be easily replaced.

Can I store products in your tanks at high temperature?

The common industry recommendation for storing hot liquids in polyethylene tanks is to not exceed 140 to 150 degrees F. We have found that all polyethylene tanks start losing sidewall

strength at about 120 degrees F. If you have an application that exceeds 120 degrees F, you may want to consider adding a fiberglass reinforcing on the sidewalls. We have a full fiberglass shop and can install a fiberglass wrap on any of our tanks. Adding the fiberglass wrap to your tanks will allow it to handle temperatures up to 175 degrees F in some applications.

I have a heavy material to store. Will Peabody tanks hold it?

Our standard tanks are rated for 1.5 specific Gravity (SG). This means that they are rated for materials weighing up to 1.5 times the weight of water (8.345404 pounds per gallon), or 12.518 pounds per gallon 73 degrees F (ambient). Our Heavy Duty tanks are rated for 2.0 SG, or 16.691 pounds per gallon at 73 degrees F (ambient). Please be aware that as the temperature of the tank contents increases, the SG rating decreases, due to the softening of the tank wall. Highly aggressive chemicals should always be stored in heavy duty tanks for an added measure of safety. A fiberglass wrap on the tank sidewall will also increase the tank's ability to hold heavy liquids. We can install a fiberglass wrap on any of our tanks. Call one of our tank specialists for help in determining if you can benefit from adding fiberglass reinforcing to your tank.



Can you put my Company branding or Logo on your tanks?

Yes we can! Just supply us with the artwork you want to use and we can produce tanks for you with your company logo or brand molded permanently right in the tank wall (on most tank sizes). Ask our customer service department for details.

Are your Tanks FDA compliant?

We use resins that meet the specifications of FDA 21 CFR, which addresses products used that come in contact with food (subject to limitations). We also offer many tank sizes for storage of potable water that are NSF 61 listed. Be careful when purchasing a tank for a product for human or animal consumption, because not all tanks are created equal. Crosslink polyethylene (HDXLPE) is NOT suitable for food applications and will impart a taste and odor in the product. Our tanks are made from High Density Linear Polyethylene (HDLPE), which is the right choice for all of your food applications.

Are Your Above Ground Tanks NSF Approved?

NSF International, founded in 1944 as the National Sanitation Foundation, is known for the development of standards, product testing and certification services in the areas of public health, safety and protection of the environment. Peabody has a full range of tanks with NSF/ANSI 61 certification, where applicable, for our tanks.

What is the wall thickness of your tanks?

Wall thickness is not a critical measurement when considering the quality of a poly tank. Most poly tank manufacturers today mold their tanks with a variable wall thickness (thicker in some spots and thinner in others) to allow for deflection and performance. When comparing one manufacturer with another, consider the weight rating of the tank and the reputation of the company you are dealing with. More important than weight is the type of resin used, the design and engineering capabilities of the molder and the quality control processes in place. Lower grade resins also require thicker walls to compensate for their inferior physical properties.



Is it normal for my tank to bulge on the bottom sidewall when I fill it up?

Yes. Polyethylene, by its very nature, is a flexible material. Flexibility is an inherent strength and helps compensate for protection from impact, deflection, water hammer or surge, temperature variations (expansion coefficient), etc. This is another reason that it's important to use expansion joints or other flexible connections when designing your piping system with your tank.

How Should I Plumb My Tank?

Flexible connections should be used between the tank fitting and the pump to allow for expansion and contraction of the tank as it is filled and as liquid is withdrawn. A good quality flexible hose is best. We also recommend proper support under heavy valves and fittings that may be attached to the tank fitting. Please refer to the warning labels on our tanks for details. These plumbing recommendations will also extend the life of the tank by reducing stress on the tank.

Can you assist me with specifications, detailed tank drawings, submittals and engineering for my tank application?

Yes. We have a staff of engineers and draftsmen that can help you to properly design a tank for your specific application. We routinely manufacture single and dual-walled tanks per ASTM-D1998 with seismic and wind restraint systems, special thermopneumatically welded (gasketless) nozzles, manways and a host of appurtenances with or without wet stamped engineering calculations and drawings per the Uniform Building Code and International Building Code. We use Solidworks CAD software to create detailed drawings, 3D modeling and Finite Element Analysis as required to insure a trouble-free installation and years of reliable service. Please contact our customer service department for more information or a copy of

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our standard tank specifications.

Can I put large fittings in my tank, 4" and larger?

When large compression style tank fittings are installed into polyethylene tanks, you need to have a flat surface available to mount the fitting on that will allow it to seat completely around the entire circumference of the fitting. If you try to install a large compression style fitting onto a curved surface, the fitting cannot seal and you will have leaks. In addition, if you try to tighten the fitting down in an attempt to get a good seal and you "flatten out" the tank wall in the process, you will create a stress area and eventually cause a stress crack in that area. So, how can a large fitting be installed in a small diameter tank? The answer is thermopneumatically welding the fittings into the tank. We can weld couplings or flanges into any tank in sizes from ½" up to 48" and larger, depending on the application. Ask your sales representative for assistance in designing your process tank and fitting configuration.

What Type Of Surface Is Required For Placement Of A Vertical Tank?

Inspect the surface to ensure a smooth, level area that will supply full bottom support. A properly constructed concrete pad that is capable of supporting the contents of the tank is the best support and is recommended above 2,000 gallons. Other materials such as very flat blacktop, or contained, packed sand or pea gravel have been used successfully. All surfaces must maintain uniform support through freeze/thaw, erosion and other disturbances.

When I put fittings on the dome of my tank, they point off at odd angles and it's hard to connect piping to them. What can I do about this?

Thermopneumatically welded fittings are the answer. We can weld any size fitting on to a curved surface and install it level for you. We can also install fittings on a tangent off the dome or sidewall if you have a special requirement for that. We can also install gussets and special pedestals and supports as needed by welding them to your tank. In some cases, you may need multiple fittings lined up and connect them to parallel piping in your process. By using our Thermopneumatically welded fittings, we can maintain a consistent angle and a precise centerline for all of your process nozzles.

How often should I inspect my tank for cracks or wear?

You should routinely inspect your tank visually every time you fill it for potential leaks or damage that may have developed from external unknown factors or normal wear. A thorough visual test should be conducted at least annually, which includes checking all fittings for visual damage or leakage, inspecting the tank wall for small stress cracks or potential damage caused from stresses of loading from piping or valves, mechanical wear from mixers or pumps or exposed edges where the tank may be hanging over a ledge or corner. Liquid found around the base of a tank does not necessarily mean your tank is leaking. Most of our vertical tanks have a convex (dished) bottom that pops up in the center of the tank floor when empty. If condensation forms on the tank, it tends to migrate to the bottom and underneath the tank. When the tank is filled, the bottom flattens out and forces trapped moisture out the sides, appearing to be a leak. Likewise, if a tank is overfilled or you have a loose or leaking tank fitting or piping connection on the top or side of the tank, the liquid will also migrate underneath the tank and appear somewhere else on the tank. Careful inspection of these possibilities is important to consider before assuming your tank is actually leaking. If you are not sure, give us a call and we will do our best to help you determine if your tank is leaking and if so, if it can be repaired.

Can I get full drain fittings installed in my tank?

Yes, you can. We have some special bolted style fittings that will allow full drainage in cone tanks. We can also weld fittings into tanks, that are flush on the inside, allowing for full drainage. We can also weld fittings into the sides of tanks, very low, for almost complete drainage. Please be sure to specify if you need full drainage when ordering.

Can I get help in specifying all of my fittings, accessories and installation recommendations to assure a quality installation and a long-term service life?

Peabody Engineering has been providing tank systems for over 30 years for a wide range of demanding applications to companies ranging from small manufacturers to Fortune 100 Corporations. From wastewater treatment chemicals to high



purity chemicals for pharmaceutical and semiconductor companies. From Taiwan to Tulsa. We offer design and engineering assistance, CAD design and FEA using Solidworks design software and can even help you source ancillary products from other manufacturers.

Common Do's And Don'ts With Poly Tanks:

Do not over tighten tie down straps or bands which may cause excessive stress on the tank. A "snug" fit is best.

Do not attach heavy valve and plumbing fittings directly on a tank fitting without proper support. Always use flexible connections to allow the tank to expand and contract.

Always water test the tank before using with your chemicals or liquids to be sure fittings are sealed tight.

Do not over tighten the bulkhead fitting. Fittings are installed to proper torque ratings at the time of manufacturing but may become loose through movement in shipping. When you get your tank, hand-tighten the fitting and then give it 1/4 of a turn to make sure it's tight.



Peabody Engineering's commitment is to provide the most intuitively designed, high quality products to our customers available anywhere.

We will work with "No Boundaries" in honoring God by serving people in need through integrity and a passion for excellence in all we do.



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Commit to the Lord whatever you do and your plans will succeed. Proverbs 10:3

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