

# Fiberglass Aboveground Products



**XERXES**®  
CORPORATION

# Xerxes Fiberglass Aboveground Products

## Fiberglass aboveground tanks – a long-term storage solution

Since the 1960s, employees at the Xerxes Aboveground Products (AGP) Division in Anaheim, California, have designed and manufactured corrosion-resistant, fiberglass products aimed at protecting the environment. In the early 1960s, Century Fiberglass, a precursor of the Xerxes Aboveground Products Division, played a key role when the fiberglass industry addressed corrosion-related issues of aboveground chemical storage tanks.

Both at its Anaheim location and its other strategically located facilities, Xerxes Corporation has a reputation as an industry leader, in part because the company constantly examines the needs of the marketplace in order to provide innovative solutions to customers' ever-changing needs. As communities, industries and regulating bodies solve their liquid storage needs while protecting the environment, Xerxes is there with products that meet those needs. Today, Xerxes aboveground fiberglass products include storage and process tanks, piping, ductwork and custom-fabricated equipment, as well as a full line of accessories and fittings.

Customers choose Xerxes aboveground products because they are engineered and manufactured to be long-lasting, corrosion-resistant, durable, cost-effective solutions for a wide

variety of aboveground storage and production applications. Customers also choose Xerxes fiberglass products because, unlike polyethylene products, they easily lend themselves to a wide variety of fitting configurations. And, unlike steel aboveground products, they are easy to ship and easy to install because they are lightweight yet structurally strong. A further advantage of choosing a Xerxes tank is that Xerxes offers field service, including field installation of additional tank accessories after tank installation.

### Xerxes Anaheim is RTP-1 accredited

Xerxes' Anaheim facility has been an American Society of Mechanical Engineers (ASME) RTP-1 accredited manufacturer since 1997. This ASME Reinforced Thermoset Plastic accreditation, the most stringent fiberglass-tank specification for manufacturers, is held by only a select number of companies in the world. The Xerxes Aboveground Products Division is one of a handful of U.S. companies that continue to meet the stringent and evolving RTP-1 standards by successfully passing the shop qualifications, surveys and annual audits necessary for accreditation.





## Products designed and manufactured by a long-time industry leader

Xerxes Corporation has long been a leader in the design and manufacture of high-quality, cost-effective fiberglass products that help protect the fragile relationship between humans and their environment. Xerxes Corporation manufactures both aboveground and underground storage tanks. Headquartered in Minneapolis, Minnesota, Xerxes operates several manufacturing facilities strategically located to provide prompt delivery and quality service, both economically and efficiently. The Xerxes Aboveground Product Division is located at Xerxes' Anaheim, California, facility.

For decades, Xerxes has been well-known as a major tank supplier to the petroleum industry, with more than 150,000 underground tanks installed. Many of the world's largest oil companies rely on Xerxes to supply environmentally safe underground tanks for storage of gasoline at their retail service stations. Throughout the neighborhoods and communities of America, Xerxes underground products are in place, simultaneously storing liquids and protecting the environment.

More recently, Xerxes has become a major supplier of underground storage tanks for water and wastewater applications. This product line includes septic, recirculation, dosing, holding, leachate and chemical tanks, as well as tanks designed for potable water, fire-protection water, irrigation water, stormwater and emergency-supply water.

All the while, Xerxes has also been a major supplier of fiberglass aboveground tanks to a variety of companies and municipalities throughout the western United States. Every time a Xerxes fiberglass tank – whether aboveground or underground – is delivered to a customer, the same performance standard has been met – a vessel for safe storage and careful protection of the environment.

### Features of Xerxes Aboveground Tanks

- 1 Can be manufactured with ASME RTP-1 stamp
- 1 Constructed of long-lasting fiberglass
- 1 Manufactured to requirements of ASTM D 3299 and D 4097 standards
- 1 Manufactured to meet customers' needs with accessories that meet specific requirements – including PS 15-69
- 1 Can be manufactured to meet NSF Standard 61 requirements (potable water tanks)
- 1 Designed for all seismic zones
- 1 Available in single-wall and double-wall models
- 1 Available in horizontal and vertical models
- 1 Available in diameters up to 14 feet
- 1 Available in capacities up to 50,000 gallons
- 1 Easy to ship and install

### Xerxes – for today and tomorrow

Each Xerxes tank represents decades of innovation and proven experience developing and fabricating fiberglass tanks. At Xerxes, excellence in service is as highly valued as excellence in product design and manufacturing. Xerxes' commitment to quality is the foundation of the strong, long-lasting relationships we have with our customers. Unlike less durable goods, Xerxes tanks must perform to standards for decades. We believe in going the extra mile for our customers. Our commitment to customer satisfaction and quality products makes Xerxes an excellent choice in both aboveground and underground storage – for today and tomorrow.

# A full range of products for a variety of applications



## Aboveground fiberglass tanks

Xerxes aboveground fiberglass vessels and piping are widely used by municipalities and manufacturers because of their ability to handle corrosive chemicals. For instance, wastewater treatment facilities use aboveground fiberglass storage tanks and piping because they safely contain and transport harsh chemicals such as sodium hypochlorite (bleach), alum and ferric chloride. In addition, aboveground fiberglass corrosion-resistant stacks are used to ventilate wastewater treatment facilities.

On the other end of the spectrum, food manufacturers favor fiberglass products because they keep their products free from contamination. Applications of aboveground fiberglass tanks, piping and equipment include the storage of such diverse items as bleach, food, chemicals and brine, as well as the collection of refinery spills.

## Aboveground fiberglass piping

Xerxes also manufactures a full line of custom fiberglass piping and pipe fittings. Pipe ends are available with plain-end, bell-guide and flanged connections. Xerxes specializes in small-diameter to mid-diameter piping applications, up to 60 inches in diameter. Xerxes also offers factory spooling to greatly reduce field-assembly costs.

The piping is complemented by a full line of lightweight, easy-to-install, filament-wound and hand-lay-up fittings, including elbows, tees, crosses, flanges and reducers. Piping 3 to 12 inches in diameter is rated at 150 psi. Piping 14 inches in diameter and larger is available in pressure ratings of 50, 100 and 150 psi. The dimensions for bolt circles and bolt-hole sizes meet ANSI B16.1 requirements.

## Custom fabrication

While Xerxes offers a full line of standard tank and pipe sizes, it also is able to fabricate a wide range of engineered fiberglass structural products to meet specific customer requirements.

Examples of this custom fabrication are contact-molded tanks, piping, ductwork, free-standing exhaust stacks, air-stripping towers, scrubbers, precision-built transportation cases, wastewater holding tanks, food-processing tanks and brine makers.

### Typical Aboveground Applications

- 1 chemical storage (sodium hypochlorite, etc.)
- 1 chemical processing and mixing
- 1 manufacturing processes
- 1 ultrapure water storage
- 1 wastewater treatment
- 1 potable water and fire-protection water storage
- 1 emergency water for health care facilities
- 1 food processing and storage (vinegar, mustard, etc.)
- 1 latex-paint storage
- 1 brine
- 1 agricultural product storage (olives, pickles, tomatoes, etc.)

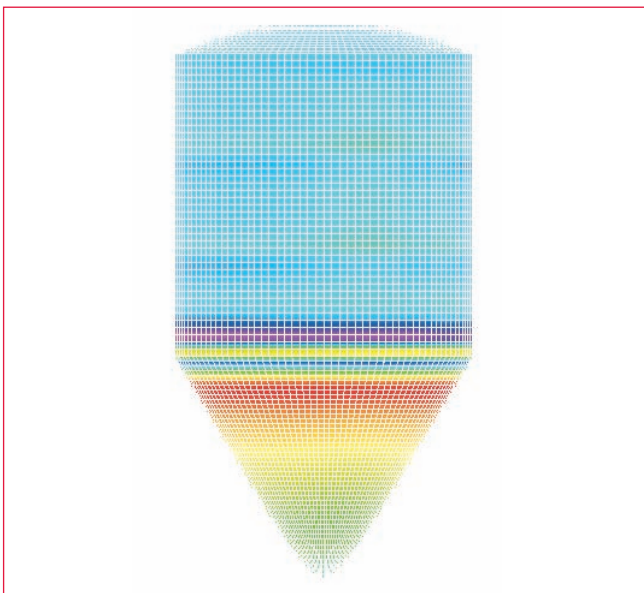
## Aboveground products offering the benefits of fiberglass

Xerxes Aboveground Products Division uses premium materials to manufacture its tanks, piping and accessories. Xerxes fiberglass products are manufactured of high-quality resins and glass, resulting in durable laminated products. Other benefits of fiberglass are that it is inherently corrosion-resistant and essentially maintenance-free.

Also, compared to other options in aboveground tanks – such as steel, stainless steel or concrete – fiberglass offers customers a cost-effective and easy-to-ship alternative. For example, an aboveground fiberglass tank weighs about one-third of what a steel tank of equal capacity weighs, yet, as a composite, the material of construction is three to six times stronger than steel on a pound-for-pound basis. As a protection against ultraviolet-ray degradation, the exterior of all Xerxes aboveground tanks have either a resin-based, clear-wax coating or gel coat that can be tinted according to customer preference.



## Technology to fit the changing needs of the marketplace



Xerxes aboveground tanks are designed to meet load conditions specified by customers, which can include building codes such as the Uniform Building Code, the International Building Code and local codes. The analysis performed for these prescribed loads is based on finite-element models, as generated for specific tank and vessel geometries and operating conditions. The computer-generated, finite-element models provide a realistic and accurate analysis of the vessels and tanks, thus allowing for optimum design of the various tank elements – such as wall thickness, material selection and anchoring systems.

Through the use of different glass fabrics and glass roving, each tank or vessel laminates are optimized to satisfy not only the building codes, but also various fiberglass specifications, such as those prescribed by ASME RTP-1 and ASTM (American Society for Testing and Materials).



## Filament-wound layers for structural strength



The majority of Xerxes aboveground tanks are filament-wound. A typical Xerxes filament-wound tank has at least four layers. First, the inner surface of the tank is 20 mils thick, with a 90 percent, resin-rich surface reinforced with either a glass or synthetic veil. The second layer is a resin-rich, random-oriented, chopped-strand glass layer no less than 80 mils thick. This layer has an approximately 65 percent resin content and 35 percent glass content. Together, these first two layers create a 100-mil corrosion barrier. The resin for this barrier is determined by the specific liquid being stored and that liquid's required temperature limits.

The third layer involves the process of filament winding. Resin-impregnated, continuous strands of fiberglass are applied to a rotating mandrel. The filaments are applied at approximately 70 degrees to the tank's longitudinal axis. This filament-wound layer is approximately 70 percent glass and 30 percent resin. The final layer of each tank is either a 10-mil, resin-based, pigmented or clear gel coat that protects the tank from ultraviolet-ray degradation.

In some applications, additional or adjusted layers are required to meet specific site or usage requirements. For instance, continuous filaments of resin-impregnated glass can be applied at a 90-degree angle to the tank's longitudinal axis (rather than the earlier described 70-degree angle). This provides hoop strength and allows tapering of the tank-wall thickness in dis-

cret steps. When tanks need to be designed and manufactured to protect against wind and earthquake conditions, unidirectional layers, comprised of resin-impregnated glass fibers, are applied along the longitudinal axis of the tank to provide additional reinforcements against buckling due to seismic or other loads. A tank can also be insulated with foam and covered with a fiberglass jacket.



## Xerxes standard nonseismic tanks

All Xerxes aboveground standard filament-wound tanks are designed to meet ASTM D 3299, Type I, Grade 2 requirements for hydrostatic loads with a specific gravity of 1.2 (maximum hoop strain of .0010 in./in.). Tanks are designed for 100 mph windload when anchored. Tank tops are designed for a 250-pound manload and/or for snow at 25lbs./sq.ft. In terms of pressure and vacuum, tanks are designed for service at atmospheric pressure; however, a slight internal pressure (to 0.5 psi) is allowed as long as the tank is positively vented and properly anchored.

## Tanks designed for seismic conditions

Xerxes aboveground tanks can also be designed for seismic zones 1, 2A, 2B, 3 and 4, as well as various specific gravities and pressures up to 15 psi. All seismic tanks are designed according to the latest applicable building codes and RTP-1, ASTM D 3299 and/or according to other customer requirements or specifications.

Hoop and axial stresses and strains due to hydrostatic and seismic loads are computed by means of a finite-element computer program. The filament winding primarily provides the required hoop strength. Since seismic loads also produce large axial stresses, each Xerxes seismic filament-wound tank includes a special lug design appropriate for the size of the tank. Xerxes seismic tanks exceed the applicable design requirements of American Petroleum Institute API 650 (Tanks for Oil Storage).



## Manufacturing standards for AGP tanks

Xerxes aboveground tanks can be designed and manufactured to meet the following standards, as well as other customer requirements and specifications:

- 1 American Society of Mechanical Engineers
  - 1 ASME RTP-1
- 1 American Society for Testing and Materials
  - 1 ASTM D 3299
  - 1 ASTM D 4097
- 1 National Bureau of Standards
  - 1 NBS PS 15-69
- 1 National Sanitation Foundation
  - 1 NSF Standard 61

# Typical models of Xerxes fiberglass aboveground tanks

Shown on these pages are Xerxes' most commonly ordered cylindrical aboveground tank models. A Xerxes aboveground tank can be manufactured to exact customer specifications, including fittings and accessories. (See pages 9-11 for information on fittings and accessories.)

Xerxes aboveground tanks may be ordered in single-wall or double-wall models, for a full range of seismic conditions, insulated or not, in diameters up to 14 feet, and in capacities up to 50,000 gallons. When an aboveground tank is ordered with saddles, legs or a skirt, those components are manufactured of fiberglass.

Xerxes aboveground tanks can be designed and manufactured with the following options:

- 1 vertical or horizontal models
- 1 open, flat or dome tops
- 1 flat-bottom, dish-bottom, cone-bottom or sloped-bottom
- 1 leg-supported, skirt-supported or saddle-supported
- 1 single-wall or double-wall models.

**Vertical, flat-bottom, dome-top tank**



figure 1

**Horizontal, dome-end, fiberglass-saddle tank**

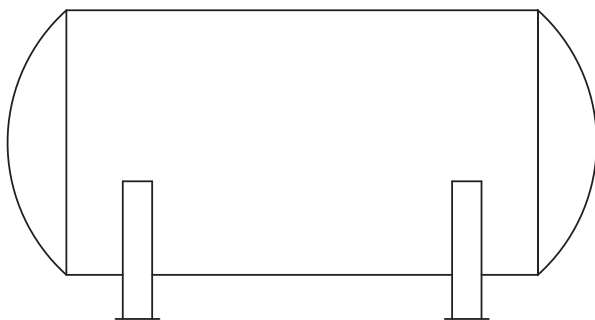


figure 2

**Vertical, dish-bottom, dome-top, fiberglass-skirt tank**

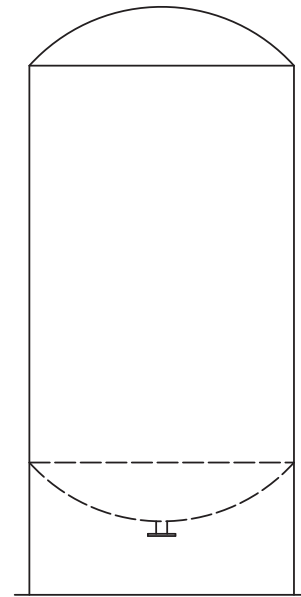


figure 3

**Vertical, cone-bottom, dome-top, fiberglass-leg tank**

(Cone-bottom tanks can be ordered with varying degrees of cone angle.)

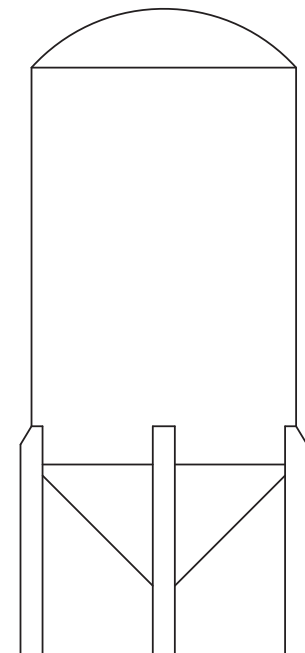


figure 4



**On the left**

Shown here are flanged spools that include pipe, elbows, tees and crosses used for a fume scrubbing application. The piping was factory-assembled to reduce field labor.

**Below**

Xerxes manufactures a wide variety of aboveground piping and ductwork. Shown here are examples of custom piping with a clear coating.



**Below**

This horizontal aboveground tank with fiberglass saddles was specified with a ladder and work platform. These accessories are shop-fit, then disassembled for shipping and field installation.



## Typical accessories for Xerxes aboveground fiberglass tanks

Xerxes designs and manufactures a complete line of accessories and fittings to equip tanks for a variety of applications and to meet the building codes in any geographical area. Mounting brackets and other structural accommodations can be factory-fitted to facilitate field installation of special accessories, such as a variety of float-gauge systems, internal piping or electronic sensors.

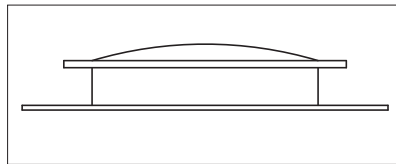
All tanks must have a vent, and manways are required for horizontal and closed-top vertical tanks to allow internal bonding of dome ends and tops. Unless otherwise specified, a Xerxes aboveground tank carries a label showing date of manufacture, capacity, resin system, inner-liner data, temperature limits and serial number.

Customer-specified items, such as logos, may generally be added to tank exteriors. See page 11 for placement of frequently ordered accessories.



### Manways

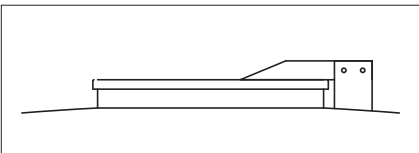
Standard side and top manways are available in both 20-inch and 24-inch diameters. Larger-diameter man-



ways are also available. Manways are designed to meet all requirements of ASTM D 3299, ASTM D 4097 or ASME RTP-1. Cadmium-plated bolts, nuts and washers, and flat-faced neoprene gaskets are standard on manways. Stainless-steel hardware is available for an additional charge. Manways are required for horizontal and closed-top vertical tanks to allow internal bonding of dome ends and tops.

### Hinged manways

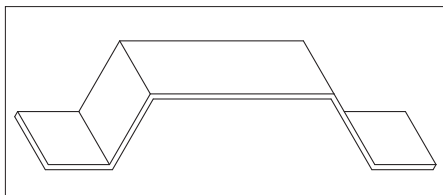
Hinged manways offer quick and easy access to tank interiors through the tank top. The



hinged manway does not offer an airtight or watertight seal. However, when seated and locked down, this manway prevents rainwater and contaminants from entering the tank.

### Mounting brackets

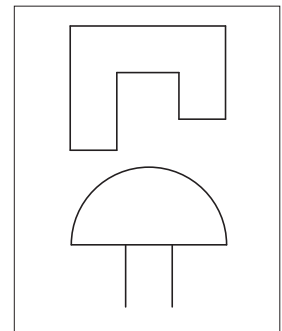
The mounting brackets provide the necessary restraint for both internal and external accessories, such as piping and instru-



mentation. Unless otherwise specified, they are fiberglass. Valves, controllers or other heavy items connected to tank nozzles should be independently supported.

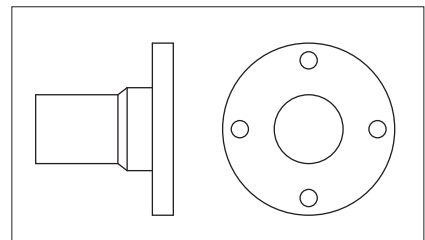
### Vents (gooseneck and mushroom)

All Xerxes aboveground tanks must be vented to prevent serious damage from the excess pressure or excess vacuum that typically occurs during loading or offloading of liquids. Xerxes offers two standard vent styles – the common gooseneck vent and the mushroom vent. Both vent types are equipped with birdscreens. Minimum vent size should exceed the size of the largest inlet or outlet nozzle.



### Flanged nozzles

Xerxes supplies both hand-lay-up and filament-wound flanges. Flanged nozzles are available in 1-inch through 42-inch internal diameters.



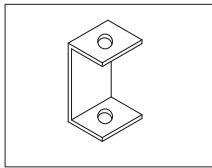
When required, nozzles can be strengthened by either plate or conical gussets. All Xerxes flanges meet ASTM D 3299, ASTM D 4097, ASME RTP-1 or NBS PS 15-69 standards, as specified. Flange dimensions (except thickness) and bolting correspond to ANSI B16.1. Mating flanges must be flat-faced using a full-face gasket. Xerxes can also manufacture custom flanges.

### Ladders

For access to tank tops, ladders are available in fiberglass, aluminum or carbon steel. All ladders are factory-fitted to the tank but disassembled for shipment and subsequent field installation by others. Ladders that are 20-feet high and higher must be ordered with safety cages. Safety cages can also be ordered for shorter ladders. (See page 11 for ladder illustration.)

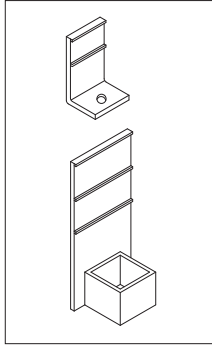
## Lifting lugs

Unless otherwise specified, all tanks are equipped with two opposing galvanized-steel lifting lugs. Fiberglass lifting lugs are available for certain sizes of tanks. Some tie-down lugs can be used as lifting lugs when unloading the tank.



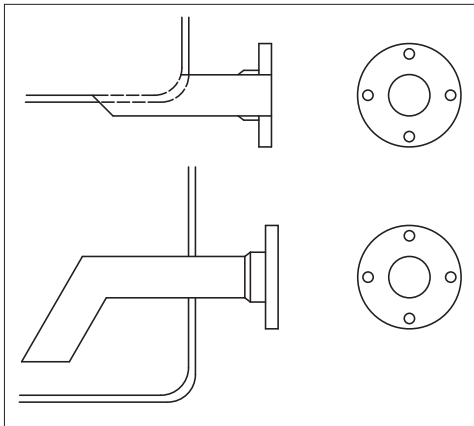
## Tie-down lugs

Xerxes offers six different designs of galvanized steel tie-down lugs. These lugs are incorporated into the design for each vessel to fit the vessel's specific requirements, whether it be for seismic, non-seismic and/or wind-load conditions. These lugs are usually filament-wound onto the outside of the completed tank wall. Lugs are also available in fiberglass and special metals.



## Drains

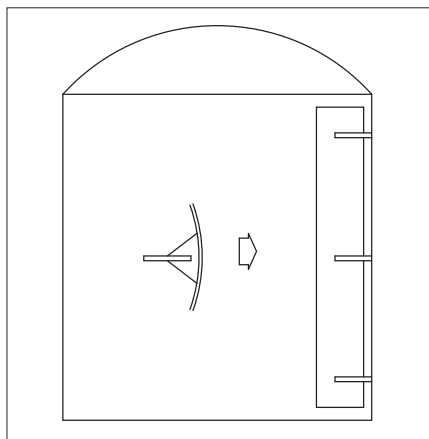
Xerxes supplies several different styles of drain fittings. The two most popular styles are the siphon drain (which is installed in the sidewall of the vessel and has internal piping that terminates close to the in-



side bottom of the tank) and the full drain (which is installed with the centerline level with the tank bottom). Full drain nozzles are equipped with three plate gussets and require a notch in the foundation. Other drain styles include the side bottom drain, side shell drain, bottom drain and bottom elbow drain.

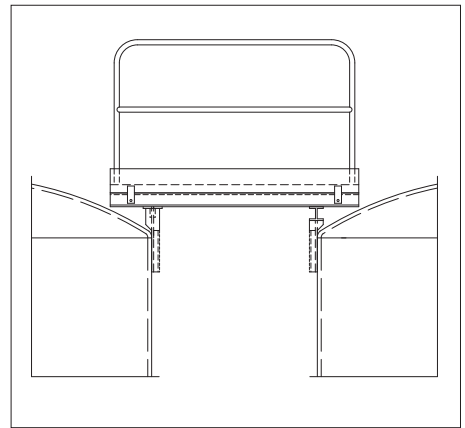
## Baffles

Fiberglass baffle assemblies can be installed inside the tank to promote mixing. Baffles are available in both custom designs and a standard stand-off baffle configuration, with standard widths of 1/12 the tank diameter.



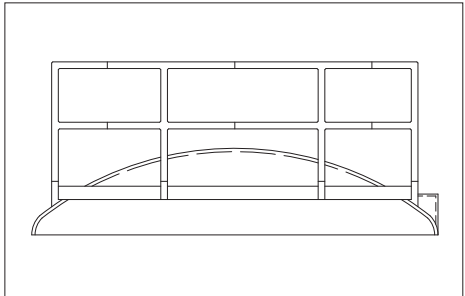
## Work platforms and catwalks

Work platforms and catwalks that connect two or more tanks provide access to tank tops (and meet current OSHA specifications). They are available in fiberglass, aluminum or carbon steel. These accessories are shop-fit to the tank but disassembled for shipment and subsequent field installation by others.

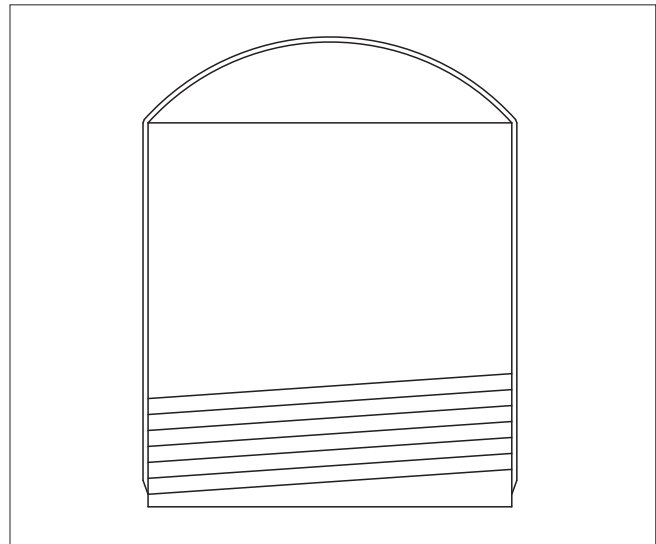


## Handrails

Handrails are available in fiberglass, aluminum or carbon steel. They are shop-fit to the tank but disassembled for shipment and field installation by others.

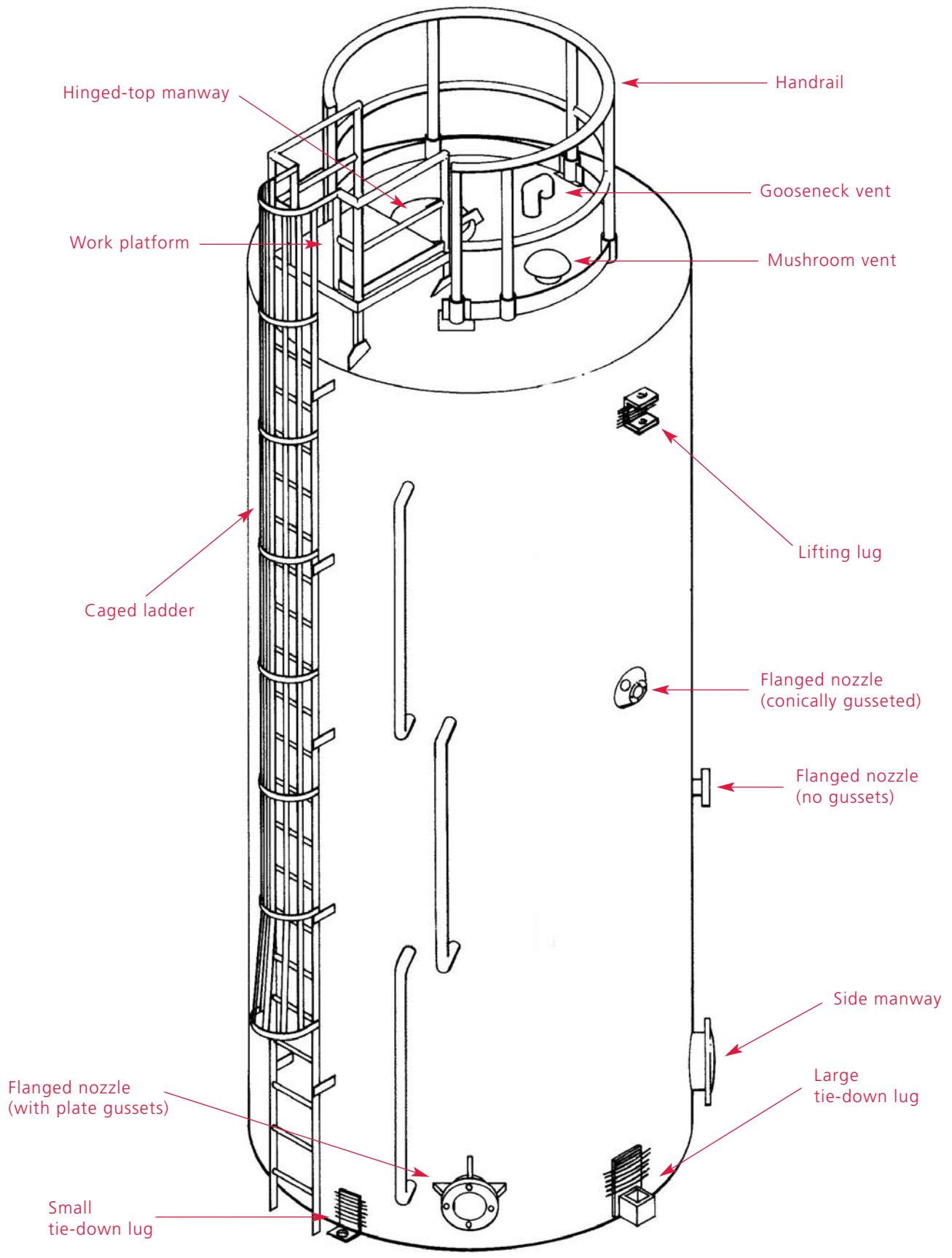


## Heating and insulation



Self-regulating heater cable, designed for each application, is attached to the tank with aluminum tape. The heating cable distributes the heat to hold liquids to desired temperature minimums. Along with the heating unit, insulation conserves energy and provides temperature stability. Heating tape is applied to the tank's external wall (typically on the lower quarter). Agitators or some type of liquid recirculation may be required to achieve temperature requirements, depending on the application and environment.

# Typical vertical flat-top tank showing accessories and fittings



## Aboveground Tank Data (nominal)

6-foot -diameter

Tank Shell Height * (feet)	Vertical Flat-Bottom Tank Capacity (gal.)	Vertical Dish-Bottom Tank Capacity (gal.)	Horizontal Tank Capacity (gal.)	Flat-Btm., Dome-top Weight (lbs.) **
6	1,260	1,460	1,660	480
7	1,470	1,670	1,870	520
8	1,680	1,880	2,080	560
9	1,890	2,090	2,290	600
10	2,100	2,300	2,500	640
11	2,310	2,510	2,710	680
12	2,520	2,720	2,920	720
13	2,730	2,930	3,130	760
14	2,940	3,140	3,340	800
15	3,150	3,350	3,550	840
16	3,360	3,560	3,760	880
17	3,570	3,770	3,970	920
18	3,780	3,980	4,180	960

8-foot -diameter

8	2,960	3,440	3,920	890
9	3,330	3,810	4,290	940
10	3,700	4,180	4,660	990
11	4,070	4,550	5,030	1,040
12	4,440	4,920	5,400	1,080
13	4,810	5,290	5,770	1,130
14	5,180	5,660	6,140	1,180
15	5,550	6,030	6,510	1,230
16	5,920	6,400	6,880	1,280
17	6,290	6,770	7,250	1,360
18	6,660	7,140	7,620	1,420
19	7,030	7,510	7,990	1,480
20	7,400	7,880	8,360	1,540
21	7,770	8,250	8,730	1,600
22	8,140	8,620	9,100	1,660
23	8,510	8,990	9,470	1,760
24	8,880	9,360	9,840	1,830

10-foot -diameter

10	5,800	6,620	7,400	1,390
11	6,380	7,200	7,980	1,460
12	6,960	7,780	8,560	1,530
13	7,540	8,360	9,140	1,600
14	8,120	8,940	9,720	1,670
15	8,700	9,520	10,300	1,790
16	9,280	10,100	10,880	1,870
17	9,860	10,680	11,460	1,960
18	10,440	11,260	12,040	2,050
19	11,020	11,840	12,620	2,180
20	11,600	12,420	13,200	2,280
21	12,180	13,000	13,780	2,380
22	12,760	13,580	14,360	2,480
23	13,340	14,160	14,940	2,630
24	13,920	14,740	15,520	2,750
25	14,500	15,320	16,100	2,860

## Aboveground Tank Data (nominal)

12-foot -diameter

Tank Shell Height * (feet)	Vertical Flat-Bottom Tank Capacity (gal.)	Vertical Dish-Bottom Tank Capacity (gal.)	Horizontal Tank Capacity (gal.)	Flat-Btm., Dome-top Weight (lbs.) **
10	8,200	8,970	9,740	1,740
11	9,020	9,790	10,560	1,820
12	9,840	10,610	11,380	1,910
13	10,660	11,430	12,200	2,010
14	11,480	12,250	13,020	2,110
15	12,300	13,070	13,840	2,220
16	13,120	13,890	14,660	2,320
17	13,940	14,710	15,480	2,480
18	14,760	15,530	16,300	2,620
19	15,580	16,350	17,120	2,720
20	16,400	17,170	17,940	2,840
21	17,220	17,990	18,760	3,020
22	18,040	18,810	19,580	3,160
23	18,860	19,630	20,400	3,300
24	19,680	20,450	21,220	3,440
25	20,500	21,270	22,040	4,060
30	24,600	25,370	26,140	4,890
31	25,420	26,190	26,960	5,060
36	29,520	30,290	31,060	6,000

13-foot -diameter

10	10,300	12,020	13,740	2,290
11	11,330	13,050	14,770	2,375
12	12,360	14,080	15,800	2,460
13	13,390	15,110	16,830	2,580
14	14,420	16,140	17,860	2,685
15	15,450	17,170	18,890	2,790
16	16,480	18,200	19,920	2,890
17	17,510	19,230	20,950	3,025
18	18,540	20,260	21,980	3,145
19	19,570	21,290	23,010	3,260
20	20,600	22,320	24,040	3,380
25	25,750	26,540	28,260	4,080
30	30,900	31,490	33,210	4,740
35	36,050	36,440	38,160	5,445
40	41,200	41,390	43,110	6,170

### Chart notes:

These charts provide details for commonly ordered tanks. However, there are many other tank sizes, models and configurations – for example, 14-foot made-to-order (MTO) tanks. For more information, contact the Xerxes Aboveground Products Division. (See back cover for contact information.) See additional notes below for information related to chart details.

\* The tank shell height given in these charts is for the shell only. To determine height of tank with dome, add:

- 1 1' 4" for a 6-foot-diameter tank
- 1 1' 8" for an 8-foot-diameter tank
- 1 2' 1" for a 10-foot-diameter tank
- 1 2' 0" for a 12-foot-diameter tank
- 1 2' 5" for a 13-foot-diameter tank.

\*\* The weight given in the charts is for a dry, flat-bottom, dome-top, nonseismic, vertical tank without fittings or accessories. For information on weights for other types of tanks and for tanks with accessories and fittings, contact the Xerxes Aboveground Products Division. (See back cover for contact information.)

## Limited Warranty

### Aboveground Products

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Xerxes Corporation (“Xerxes”) warrants to the original owner (“Owner”) that all aboveground tanks, accessories, pipes, ducts or other goods (collectively “Goods”), if installed, used and maintained in the United States in accordance with Xerxes’ published specifications, installation instructions and operating guidelines, Owner’s specifications, and all applicable laws and regulations, will not fail due to material defects in materials and workmanship for a period of one (1) year from date of original delivery by Xerxes.

Owner’s sole and exclusive remedy for breach of warranty relative to any Goods proved upon Seller’s inspection to have been defective when shipped is limited at Seller’s option to: (a) repair of the defective Goods, b) delivery of replacement Goods to the point of original delivery, or c) refund of the original purchase price. A claimant must give Seller the opportunity to observe and inspect the Goods and system prior to removal, or the claim will be forever barred. All claims must be made in writing promptly and in any event within one (1) year after failure of the Goods, or be forever barred. No allowance will be granted for any repairs or alterations made by Owner without Seller’s written consent.

The foregoing warranty does not extend to Goods damaged due to acts of God, fire, flood, earthquake, war, terrorism, or failure of Goods caused, in whole or in part, by misuse, improper installation, storage, servicing, maintenance, or operation in excess of their rated capacity, or contrary to their recommended use, whether intentional or otherwise, or any other cause or damage of any kind not the fault of Xerxes. Xerxes only warrants repairs or alterations performed by Xerxes or its authorized contractors. Xerxes does not warrant any product, components or parts manufactured by others.

This warranty does not extend to Goods damaged by chemical reaction or other wear caused by the presence of materials or conditions not included in the Owner’s specifications provided to and accepted in writing by Xerxes, or to Goods which have been repaired or altered in any manner without Xerxes’ prior written consent.

THE FOREGOING WARRANTY CONSTITUTES XERXES’ EXCLUSIVE OBLIGATION AND XERXES MAKES NO OTHER WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, WITH RESPECT TO THE GOODS, REPAIR, REPLACEMENT, MATERIALS OR ANY SERVICE, ADVICE OR CONSULTATION, IF ANY, FURNISHED TO OWNER BY XERXES OR ITS REPRESENTATIVES, WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE. THE SELLER (XERXES) UNDERTAKES NO RESPONSIBILITY FOR THE QUALITY OF THE GOODS, EXCEPT AS OTHERWISE PROVIDED IN THIS CONTRACT. THE SELLER (XERXES) ASSUMES NO RESPONSIBILITY THAT THE GOODS WILL BE FIT FOR ANY PARTICULAR PURPOSE FOR WHICH YOU (OWNER) MAY BE BUYING THESE GOODS, EXCEPT AS OTHERWISE PROVIDED IN THE CONTRACT. THE REMEDIES SET FORTH IN THE ABOVE WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON OR ENTITY FOR BREACH OF WARRANTY OR FOR BREACH OF ANY OTHER COVENANT, DUTY, OR OBLIGATION ON THE PART OF XERXES. XERXES SHALL HAVE NO LIABILITY OR OBLIGATION TO ANY PERSON OR ENTITY FOR BREACH OF ANY OTHER COVENANT, DUTY, OR OBLIGATION UNDER THIS WARRANTY EXCEPT AS EXPRESSLY SET FORTH HEREIN. IT IS EXPRESSLY AGREED THAT THIS WARRANTY DOES NOT FAIL OF ITS ESSENTIAL PURPOSE. XERXES SHALL HAVE NO LIABILITY FOR COSTS OF INSTALLATION OR REMOVAL OF GOODS, ENVIRONMENTAL CONTAMINATION, FIRES, EXPLOSIONS, OR ANY OTHER CONSEQUENCES ALLEGEDLY ATTRIBUTABLE TO A BREACH OF WARRANTY, OR INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR OTHER DAMAGES OF ANY DESCRIPTION, WHETHER ANY SUCH CLAIM OR DAMAGES BE BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER TORT, OR OTHERWISE. IN NO EVENT SHALL XERXES TOTAL LIABILITY HEREUNDER EXCEED THE ORIGINAL PURCHASE PRICE OF THE GOODS WHICH GAVE RISE TO SUCH LIABILITY.

Consumer Notice: This warranty gives you (Owner) specific legal rights. You (Owner) may also have other rights which vary from state to state.

Effective: 6/1/05

# **XERXES<sup>®</sup>** CORPORATION



Xerxes fiberglass products are designed and fabricated in the Xerxes manufacturing facility located in Anaheim, California. One of Xerxes Corporation's four manufacturing operations, this 84,000-square-foot plant occupies a six-acre lot and is among the leading production facilities of its type in the world.



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