



# Fiberglass Storage Tanks for Water Applications



# The ZCL | Xerxes Advantage

We are the largest manufacturer of fiberglass underground storage tanks in the world. We have nearly 40 years of industry experience and have manufactured more than 200,000 tanks that protect the environment.

## 1 Environmental peace of mind

- Corrosion resistant, inside and out
- No lining, inspection or maintenance needed

## 2 Watertight protection

- Factory-assembled as single-piece tank
- Optional watertight testing available

## 3 Structural integrity

- Rated for H-20/HS-20 traffic loads
- Integral rib design creates structural strength
- Standard 7' burial; deep burial available upon request
- 5 To 1 safety factor

## 4 Easy shipping and installation

- Structurally strong but lightweight
- Cost-effective shipping
- Less heavy or specialized equipment needed
- Easy to install in remote and hard-to-access sites

## 5 Flexible design and installation options

- Single-, double- and triple-wall models
- Up to 60,000 gallons/227,000 liters
- Underground and aboveground installations

## 6 100% premium resin and glass

- No fillers used
- Carefully selected material suppliers
- Ongoing product quality improvements

## Industry requirements

We can design our tanks to meet NFPA 20, 22 and 1142 standards.

We are NSF-, IAPMO-, UL- and ULC-listed.



# The **Fiberglass** Advantage

Our fiberglass storage tanks offer customers significant design and performance advantages that make them a superior choice to concrete and other tanks.

## **+ONLINE**

Visit **zcl.com** to learn more about the benefits of composite tanks.

## Fiberglass versus concrete

- **Corrosion resistant:** Porous concrete, and the steel reinforcement that is typically required, can be subject to aggressive corrosion. Concrete is also vulnerable to cracks and leaks. In certain applications, it requires expensive liners that need inspection and maintenance. Corrosion-resistant fiberglass tanks don't require ongoing maintenance and last many years longer.
- **Watertight design:** Concrete tanks require partial assembly during installation, with a seal to join them. But our tanks are fully-assembled and tested before they leave the factory so they can be installed quickly and easily once the excavation is prepared.
- **Superior structural design:** Buried flat-top, precast concrete tanks are usually not rated for traffic load conditions. A design upgrade may be necessary, which increases costs. Our tanks are rated for H20/HS20 traffic loads.
- **Easier installation:** The majority of precast concrete tanks are limited to small capacities. Most larger tanks are formed and poured in the field, involving many days of site work, often in less-than-ideal conditions. Our **one-piece**, factory-manufactured fiberglass tanks can be installed in far less time, saving money.

## Fiberglass versus steel

- **Corrosion resistant:** Metal can't match the corrosion resistance of composites. With buried tanks, both internal and external tank corrosion are serious concerns. Coatings and linings are the traditional protective choices with steel, which add to the cost and long-term maintenance. Also, coatings and linings are only as good as their surface preparation and application.
- **Easier installation:** Underground steel tanks weigh considerably more than fiberglass tanks of the same size. This adds to installation and shipping costs, and potentially limits the locations where steel tanks can be used. Lightweight fiberglass tanks call for smaller and much less expensive lifting equipment, allowing for installation even under difficult site conditions.

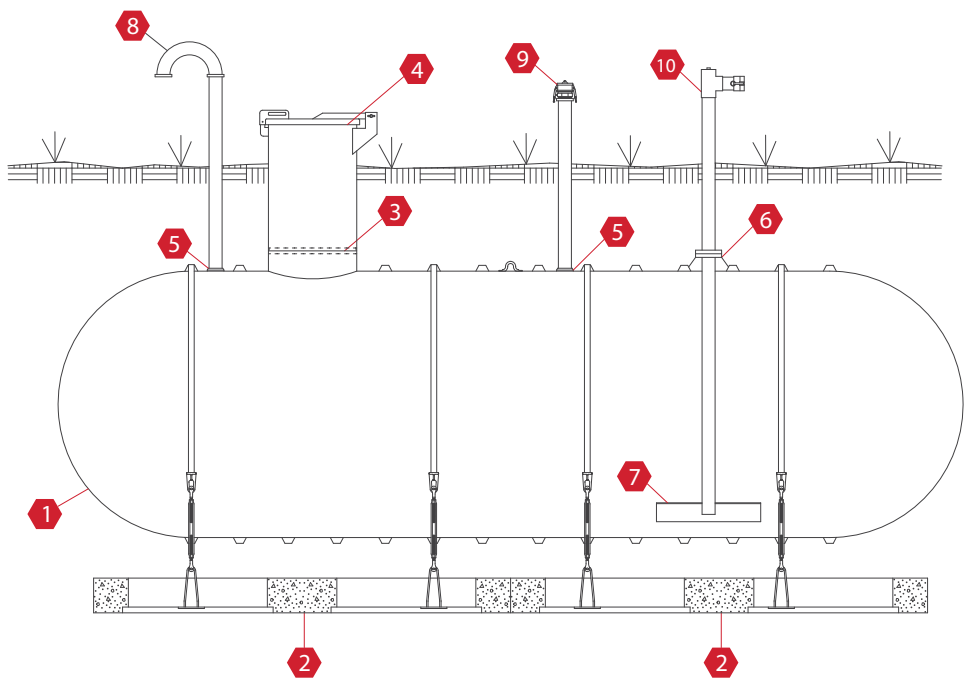
# Fire Protection Tanks

Building codes require that standby water sources be available to firefighters to either establish or supplement a water supply.

Fire protection tanks are often installed in commercial, housing and industrial developments that are far from municipal water supplies. A dry hydrant connection to the tank allows fire trucks quick access to the water source.

Sprinkler systems rely on municipal water supplies. If this primary water source isn't able to provide adequate water supply or pressure, our tanks can store the additional water source.

Fire protection tanks can be under or above ground. Aboveground tanks can be inside or outside a building.



NO.	DESCRIPTION
1	ZCL   XERXES SINGLE-WALL FRP TANK
2	ZCL   XERXES PRECAST DEADMAN SYSTEM W/ ANCHOR STRAP AND TURNBUCKLE ASSEMBLY
3	30" I.D. ACCESS OPENING WITH ALIGNMENT RING
4	30" FRP RISER PIPE WITH HINGED & LOCKABLE TOP & GEL COAT

5	4" NPT SERVICE FITTING
6	4" FRP FLANGED & GUSSETED DOWN PIPE
7	FRP ANTI-VORTEX PLATE
8	4" VENT PIPE WITH BIRD SCREEN
9	4" FILL W/CAM LOCK CONNECTION
10	4" SUCTION WITH FIRE DEPARTMENT CONNECTION

## Case study:

As Stantec developed the design for a Toronto college's new aerospace center, they realized that the available fire protection flow from the onsite water system did not meet the city's criteria for water supply. Three ZCL | Xerxes 35,000-gallon/135,000-liter tanks provide the supplemental water. Despite the large volume needed, it was an easy installation that took less than four hours from offloading to burying the tanks.



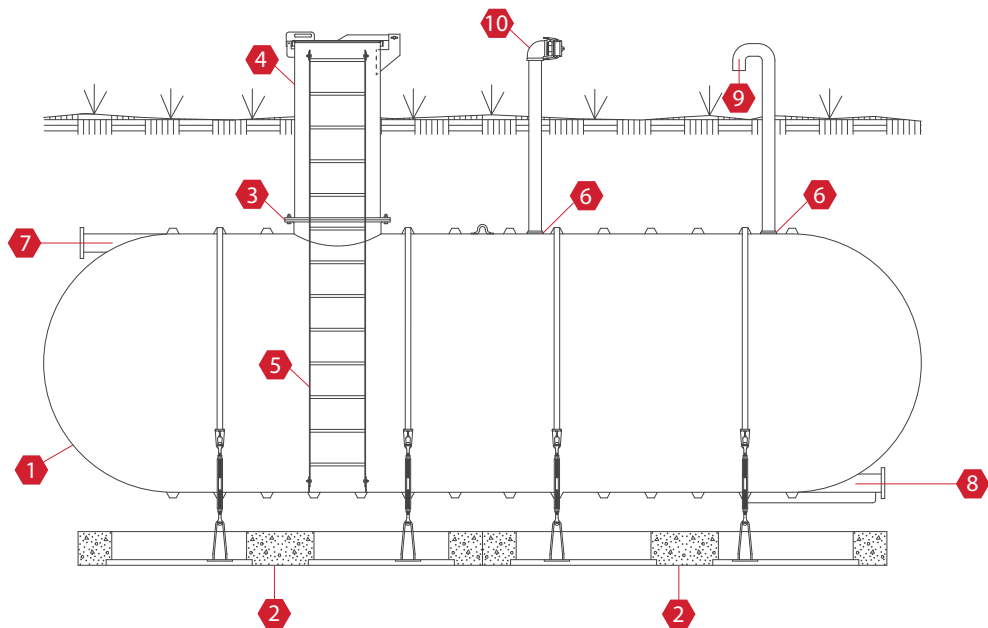


# Potable Water Tanks

Whether the application is a residential water tank or a municipal water system, engineers and designers need the assurance that a potable water tank offers maximum safety. Our potable water tanks meet today's highest standards for stored potable water.

## Application highlights:

- 30-year warranty
- NSF-listed tank designs
- NSF-certified manufacturing plants



NO.	DESCRIPTION
1	ZCL   XERXES SINGLE-WALL FRP TANK
2	ZCL   XERXES PRECAST DEADMAN SYSTEM W/ ANCHOR STRAP AND TURNBUCKLE ASSEMBLY
3	30" MANWAY WITH (BLANK COVER FOR TANK TESTING ONLY)
4	30" MANWAY EXTENSION ACCESS WITH HINGED & LOCKABLE TOP (UV PROTECTED)
5	NSF-APPROVED FRP LADDER

6	4" NPT SERVICE FITTING
7	6" NSF-APPROVED TANGENTIAL NOZZLE
8	6" NSF-APPROVED TANGENTIAL FULL BOTTOM DRAIN NOZZLE
9	4" VENT PIPE WITH GOOSENECK AND BUG SCREEN
10	4" AUXILIARY FILL W/CAM LOCK CONNECTION



## Case study:

When the US Forest Service needed to install potable water tanks in national parks, they came to ZCL | Xerxes because they needed corrosion-resistant tanks with an NSF-61 label. They also needed lightweight tanks. Remote sites like these require tanks that are easy to offload in a parking lot or narrow road and then move to the excavation with a small crane or excavator. We provided hinged, lockable lids, and gel coated them to blend into the forest environment.

# Water Collection Tanks

## Case study:

Four ZCL | Xerxes 20,000-gallon tanks collect water from a 60,000-square-foot glass rooftop of the Milwaukee County Greenhouses in Wisconsin. They are part of a system that filters, disinfects and redistributes water for year-round irrigation inside the greenhouses. This translates into the capture and reuse of up to one million gallons of rainwater each year.



## Greywater systems

Building codes are changing to accept greywater plumbing designs to maximize water-use management. Greywater systems capture drainage from sinks and showers, which can be filtered and reused for nonpotable water purposes like toilet water. Greywater collected in a fiberglass tank is distributed through a parallel plumbing system.

## Rainwater harvesting systems

Rainwater collection tanks help reduce water consumption and provide sustainable benefits for homes, businesses and communities. Captured water is often used for irrigation purposes, reducing the use of potable water.

## Stormwater management

When stormwater runs directly into sewer systems, it can result in groundwater contamination or an infrastructure overload. When allowed to run directly into watersheds, it can be a major source of pollution.

Many applications require stormwater runoff retention, rather than just capture and reuse. This retention often requires treating or filtering the water to improve its quality before it leaves the property. The collected stormwater can also be used for other applications, such as landscape irrigation.

A fiberglass tank has two distinct advantages over stormwater retention ponds: safety and space-saving. Our tanks are rated for H-20/HS-20 traffic loads, so they can be installed underground.

Our fiberglass tanks can be manufactured as both open-end and dome-end sections that are joined in the field. This allows for easy shipment and installation of a massive, multitank, watertight system (with unlimited capacities) for commercial, industrial, residential and public projects.

## Case study:

A concept home in Texas incorporated two of our tanks for rainwater harvesting, which is especially important in this drought-prone area. The homeowner and designer chose 20,000-gallon/75,700-liter ZCL | Xerxes tanks because we could provide an NSF-listed label for the tanks that would provide the family's sole source of potable water. The collected rainwater goes through a three-step process to create potable water. Some of the harvested water is used to irrigate the property, particularly the vegetable garden the family planted above the underground tanks.

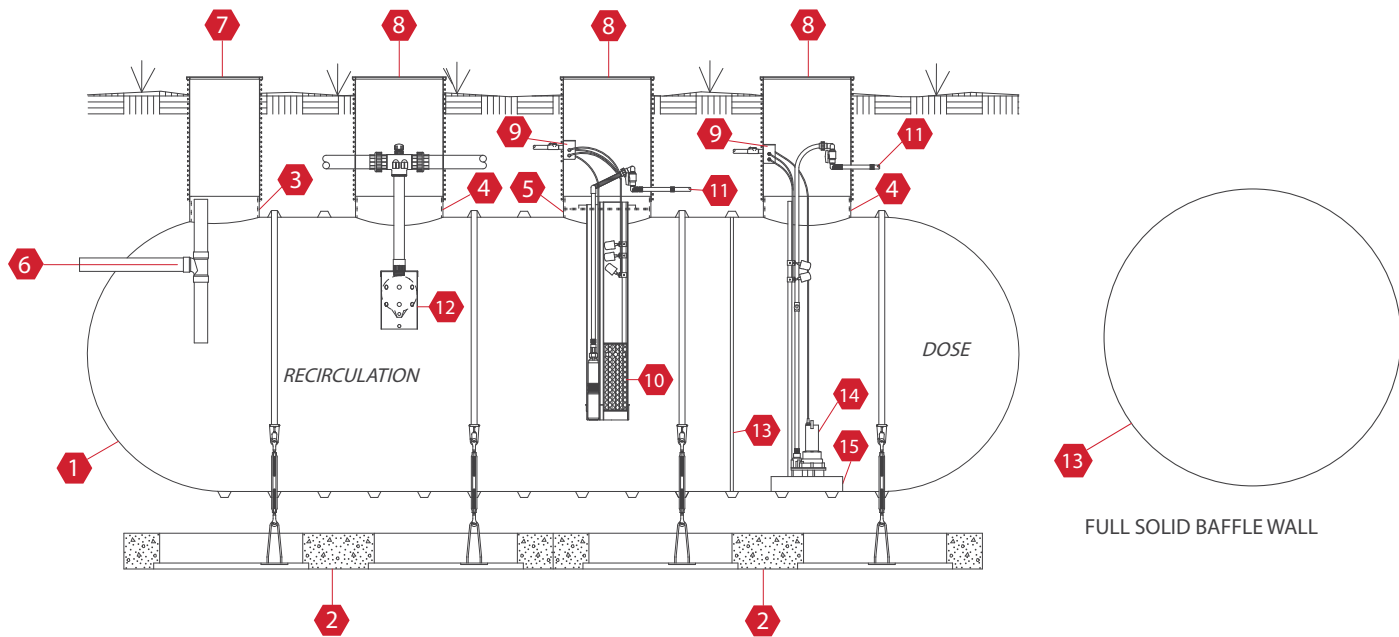


# Wastewater Tanks

Community and commercial projects need a reliable, watertight storage solution for collecting and processing corrosive wastewater. Large municipal wastewater systems need an excess storage system in place for stormwater surges. In addition, pretreatment is often required on site before release to the treatment plants.

## Application highlights:

- Corrosion resistant inside and out to handle wastewater
- Wide range of capacities to support diverse applications



NO.	DESCRIPTION
1	ZCL   XERXES SINGLE-WALL FRP TANK
2	ZCL   XERXES PRECAST DEADMAN SYSTEM W/ ANCHOR STRAP AND TURNBUCKLE ASSEMBLY
3	24" FRP OPENING
4	30" FRP OPENING
5	30" FRP OPENING W/ INTERNAL FLANGE
6	4" SCH. 40 PVC INLET PIPING W/ SANITARY TEE
7	24" RIBBED PVC RISER W/ FRP LID

8	30" RIBBED PVC RISER W/ FRP LID
9	PVC SPLICE BOX W/ CORD GRIPS
10	SUSPENDED EFFLUENT PUMP W/ FILTER & LEVEL CONTROL FLOAT ASSEMBLY
11	EFFLUENT DISCHARGE
12	RECIRCULATION SPLITTER VALVE
13	FULL SOLID FRP BAFFLE WALL
14	BASE-MOUNTED EFFLUENT PUMP W/ LEVEL CONTROL FLOAT ASSEMBLY
15	24" x 24" FRP PUMP PLATFORM



## Case study:

Wastewater treatment at a regional park in Hawaii required a watertight, corrosion-resistant storage tank because of the heavy rainfall and saltwater conditions in this sensitive wetland habitat. Three of our 15,000-gallon/57,000-liter tanks became part of the solution for the treatment system.

# Interceptor and Separator Tanks

## Solids/sand interceptors

Some facilities need a two-step separation process to obtain efficient separation of grease or oil before waste enters the wastewater system. Two of our fiberglass tanks can provide an ideal solution. The first tank (a solids/sand separation tank) separates out the solids, and a second tank separates out the grease or oil. Together, the tanks provide safe, efficient separation for a variety of sites.

### Common applications

- Car-wash bays
- Hospitals
- Schools and universities
- State, provincial and municipal transportation facilities
- Grocery and convenience stores
- Correctional institutions

## Oil interceptors

Our oil interceptors are designed for maximum performance in capturing and storing harmful liquids and solids, including hydrocarbon oils, that are the waste products from car washes, garages, parking facilities and vehicle maintenance facilities. Our tanks are corrosion resistant and durable, making them the safest long-term storage solution.

### Common applications

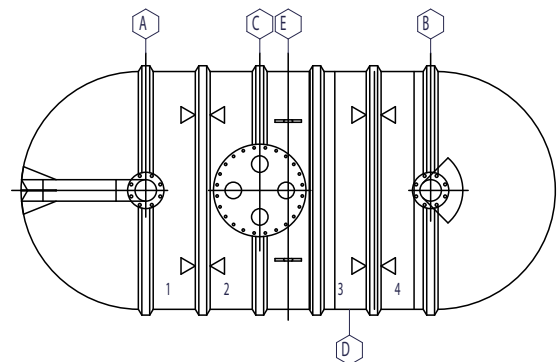
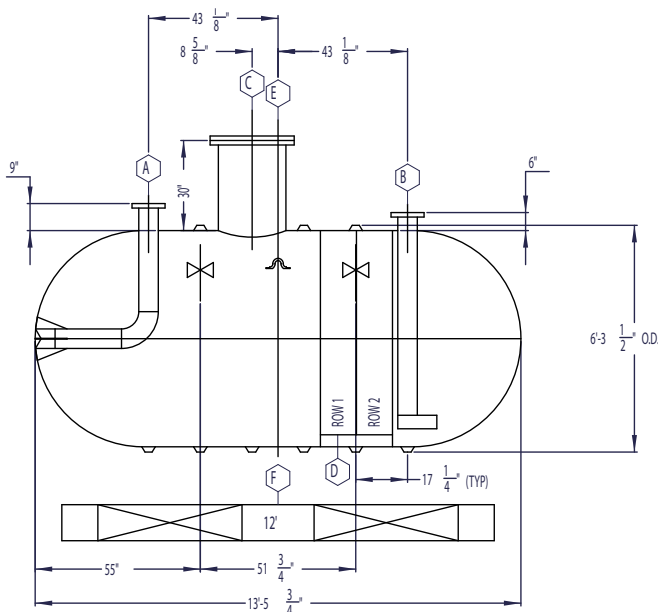
- Auto dealerships
- Car washes
- Vehicle maintenance facilities
- Parking decks
- State, provincial and municipal transportation facilities

## Oil-water separators

Our oil-water separators incorporate unique refinements within the vessel to remove free-floating oils and settleable sands from oil-water mixtures. We use a coalescer designed to produce effluent quality acceptable to most regulatory requirements for water runoff. Our oil-water separators are available as UL-listed (2215) and a ULC-listed (S656) models.

### Common applications

- Parking lots
- Equipment washdown stations
- Vehicle repair garages
- Bulk fuel plants
- Truck stops







## Grease interceptors

Restaurants, cafes and fast-food outlets are increasingly required to install grease interceptors to collect corrosive fats, oils and grease (FOG) before the waste enters the municipal wastewater systems. Because of outdated systems and regulations, many food businesses have failing and non-compliant systems that need to be replaced. When they are not functioning properly, businesses and local governments can pay enormous costs for repair, replacement and long-term maintenance.

Hydrogen sulfide and sulfuric acid generate bacteria growth in porous concrete. In fiberglass, you have less odor, no pressure washing and no scraping. The rounded shape of our tanks allows for easier pump outs. Our grease interceptors come with a 30-year warranty.

### Common applications

- Restaurants
- Grocery stores
- Food-processing plants
- Sports stadiums
- Schools and universities
- Hospitals and clinics
- Assisted-living facilities
- Correctional institutions

### Case study:

**Most restaurants and food-processing facilities need a single grease interceptor. However, larger projects can require more. We provided 20 grease interceptors to an upscale mall in Northern California. In this highly regulated, environmentally-sensitive coastal location, our corrosion-resistant tanks provide maximum environmental protection.**



# Industrial Wastewater Tanks

Our corrosion-resistant fiberglass tanks are ideal for factory wash down, emergency spills and landfill leachate runoff. Double-wall tanks with interstitial monitoring systems greatly reduce the risk of expensive leak-related cleanups and maintenance at these facilities.

We also manufacture tanks to store hazardous chemicals such as aqueous film-forming foam (AFFF).

## Common applications

- Food-processing facilities
- Aircraft tarmacs
- Shower decontamination
- Landfills



## Decontamination tanks

Medical centers and laboratories remove or neutralize chemical and biological contaminants on personnel, clothing, equipment, floors and other surfaces using our drain collection and decontamination tanks.

## Common applications

- Hospitals
- Laboratories
- Medical facilities
- Medical examiner offices

## Options and Accessories

Our wide selection of turnkey accessories, monitoring options and fittings can support a variety of project and site requirements.

Our customer service, sales and engineering support teams help customers find the right solution for their projects and avoid costly, time-consuming, third-party ordering.

### Accessories:

- Custom fittings
- Fiberglass anchor straps
- Engineered and supplied deadman system
- Baffles and partition walls
- Access risers
- Pump platforms
- Anti-vortex plates
- PVC or fiberglass fittings
- Additional accessories available



## Xerxes Tank Data

	Nominal tank capacities (gallons)	Single-wall and double-wall tank lengths	Single-wall tank weights (lbs)	Double-wall tank weights (lbs)
4-foot-diameter tanks	600	6'-11 7/8"	600	900
	1,000	11'-3 7/8"	900	1,400
	1,500	16'-0"	1,400	2,100
6-foot-diameter tanks	1,500	10'-7 1/4"	1,000	1,700
	2,000	13'-5 3/4"	1,300	—
	2,500	13'-5 3/4"	—	2,200
	3,000	16'-4 1/4"	1,600	2,600
	4,000	21'-11 1/8"	2,200	3,600
	5,000	26'-5"	2,600	4,300
	6,000	30'-8 3/4"	3,000	5,000
8-foot-diameter tanks	3,000	12'-3"	1,400	2,100
	4,000	15'- 1/2"	1,800	2,700
	5,000	17'-8 1/2"	2,200	3,200
	6,000	20'-6 1/2"	2,600	3,700
	7,000	23'-1"	3,000	4,300
	8,000	26'- 1/2"	3,400	4,800
	9,000	28'-9"	3,800	5,400
	10,000	31'-6 1/2"	4,200	5,900
	11,000	34'-4"	4,700	6,400
	12,000	37'- 1/2"	5,100	7,000
	13,000	41'-2"	5,600	7,600
	14,000	43'-11 1/2"	6,000	8,200
	15,000	46'- 9"	6,600	9,100
10-foot-diameter tanks	10,000	21'-5 1/4"	4,500	4,900
	11,000	22'-9 3/4"	4,800	5,200
	12,000	24'- 1/4"	5,100	5,600
	13,000	25'-6 3/4"	5,500	5,900
	14,000	26'-11 1/4"	5,800	6,300
	15,000	29'-5 3/4"	6,600	7,000
	20,000	37'-8 3/4"	8,600	9,000
	22,000	42'- 3/4"	9,700	10,500
	25,000	47'-6 3/4"	11,100	11,800
	30,000	55'-9 3/4"	13,200	14,000
	35,000	64'- 3/4"	15,400	16,500
	40,000	73'-8 1/4"	17,900	19,000
12-foot-diameter tanks	20,000	29'-4"	9,200	14,000
	25,000	35'-7"	10,800	16,600
	30,000	43'-1"	13,100	19,900
	35,000	49'-4"	14,700	22,500
	40,000	54'-4"	16,100	24,600
	48,000	65'-7"	19,300	29,500
	50,000	68'-1"	20,000	30,500

## ZCL Tank Data

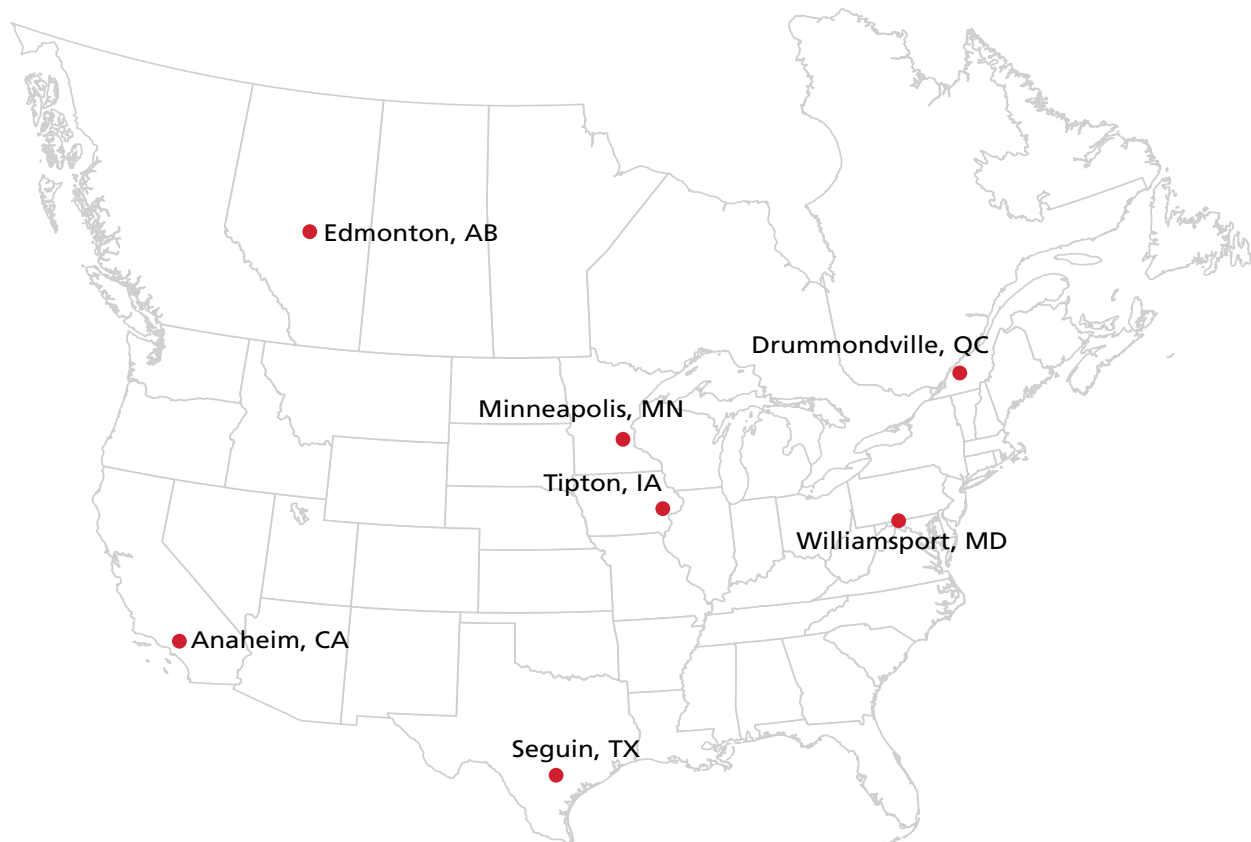
	Nominal tank capacities (liters)	Single-wall and double-wall tank lengths (millimeters)	Single-wall tank weights (kilograms)	Double-wall tank weights (kilograms)
4-foot-diameter tanks	2,500	2,295	300	400
	3,900	3,395	400	500
	5,000	4,380	500	600
6-foot-diameter tanks	10,000	4,520	500	900
	15,000	6,604	800	1,300
	20,000	8,465	1,000	1,700
	25,000	10,420	1,300	2,200
8-foot-diameter tanks	15,000	3,994	600	900
	20,000	5,137	900	1,200
	25,000	6,090	1,100	1,400
	30,000	7,264	1,300	1,700
	35,000	8,185	1,500	2,000
	40,000	9,392	1,800	2,300
	45,000	10,363	1,900	2,500
	50,000	11,328	2,100	2,700
	60,000	13,500	2,600	3,400
	65,000	14,522	2,900	3,700
10-foot-diameter tanks	50,000	7,449	2,600	2,900
	55,000	8,280	2,900	3,200
	60,000	8,827	3,100	3,300
	65,000	9,576	3,400	3,600
	70,000	10,395	3,600	3,900
	75,000	10,903	3,800	4,100
	80,000	11,582	4,000	4,400
	85,000	12,268	4,200	4,700
	90,000	13,068	4,500	5,000
	100,000	14,345	5,000	5,400
	110,000	15,723	5,400	5,900
	115,000	16,097	5,500	6,100
	135,000	18,745	6,400	7,100
12-foot-diameter tanks	150,000	21,406	7,300	8,100
	80,000	8,941	4,200	6,400
	95,000	10,846	4,900	7,600
	120,000	13,132	6,000	9,100
	135,000	15,037	6,700	10,300
	150,000	16,561	7,400	11,200
	185,000	19,990	8,800	13,400
	190,000	20,752	9,100	13,900



# Multiple Facilities

Customers can rely on timely manufacturing and delivery of tanks and accessories.

With six manufacturing facilities throughout North America, we're never far from customers when they need fiberglass tanks and accessories shipped. Our US and Canadian facilities can provide tanks with UL, ULC, NSF and IAPMO listings to our customers.



## Contact Us

**On the web:**  
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### Manufacturing Facilities:

#### Canada

Edmonton, AB  
Drummondville, QC

#### USA

Anaheim, CA  
Seguin, TX  
Tipton, IA  
Williamsport, MD



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