

# Highland Aboveground Steel Storage Tanks



*Working for You and a Clean Environment*



**Highland Tank**

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# The Highland Advantage

Highland aboveground steel tanks provide superior structural strength, product compatibility and durability for all your storage tank needs. Highland offers a variety of industry-proven designs with single-wall, double-wall and fire-rated options. Each tank is backed by Highland Tank's team of professionals in engineering, design, fabrication, delivery, sales and service.

We are proud to offer you the security of decades of full service. In business since 1946, Highland Tank now operates seven state-of-the-art fabrication facilities.

dependability. Highland's tanks meet or exceed the Federal Environmental Protection Agency's regulations for aboveground storage tanks for petroleum and chemical products.

The enduring strength of our steel tanks, combined with our innovative design and engineering capabilities, assure you responsible solutions for your aboveground storage tank needs. Highland tanks are constructed to be compatible with the full range of petroleum products used today, including those with higher methanol and ethanol contents.

Highland also offers the security of a diversified product line and extensive fabrication capabilities. The primary aspect of The Highland Advantage is our reputation for timely delivery of high-quality tank products by our professional drivers experienced with tank handling.

Each tank is constructed, tested, and labeled in accordance with Underwriters Laboratories Standard for Safety for the Aboveground Storage of Flammable and Combustible Liquids. The UL Tank Construction Codes provide a long history of structural

With Highland Tank, you get historically proven steel design and construction that provide secure, responsible storage for the rigors of the aboveground environment. In addition, you have the flexibility of customizing the tanks to suit your individual needs.

Our tanks are competitively priced and readily available from our strategically located regional distributors and manufacturing facilities. Highland can effectively provide you with environmentally safe, structurally sound, aboveground storage tank solutions well into the 21st century and beyond.

## Horizontal Tank Construction

Highland Tank's Steel Aboveground Tanks are second to none in quality and design. Primarily designed for storage of flammable and combustible liquids, we manufacture tanks for a wide variety of applications. The following information describes standard construction and some of the fabrication options available.

### Single-wall UL-142

Single-wall tanks use a single sheet thickness of steel meeting ASTM specifications. Material thicknesses from 10 gauge to 3/8" of either mild carbon or stainless steel can be specified. Superior "ribbed" strength is achieved with lap joints employing a minimum 1/2" overlap. Flat-flanged heads are standard, as are continuous exterior fillet welds on all joints, a 5 psi factory air test and seam inspection.

UL-142 tanks are supplied with an emergency vent fitting of sufficient size to accommodate the intense increase in vapor pressure in the event of fire exposure. On large tanks, a unique 18" loose-bolt emergency vent is supplied. More sophisticated emergency vents specific to your needs are available and can be supplied by Highland Tank or your installation contractor.

### Double-wall UL-142

Double-wall (Type I) tanks consist of a primary steel tank wrapped by an exterior steel shell that may be in direct contact with the primary tank. Each tank wall employs the same construction methods as the single-wall tanks. All 360° of space between the tanks, known as the interstice, can be monitored to detect a leak in either tank using a Highland Monitoring System or manual probe

Both inner and outer tanks of a UL-142 Double-wall tank are supplied with appropriate emergency vent fittings. A unique 18" loose-bolt emergency vent is supplied on the primary tank of larger capacity tanks.

*Double-wall and Fireguard tank constructions are available with the 30 psi New York City, hydrostatically tested, dished-head design.*



**Bulkheads**  
*Bulkheads can create multiple compartments within a single tank. Available in single or double wall construction.*



**Dished Heads**  
*Dished heads provide additional strength to the tank shell.*

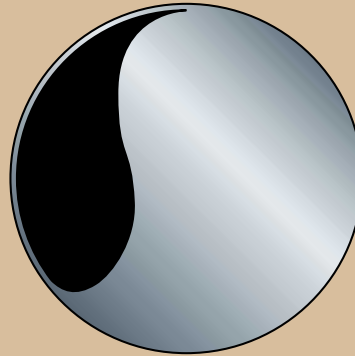


**Manholes**  
*24", 30" or 36" diameter manways are available for easy access to the inside of the tank.*

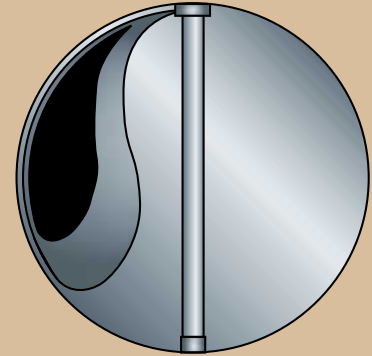
**Double-wall UL-2085**

Fireguard® fire-rated tanks are thermally insulated, secondarily-contained, double wall tanks. The notable difference is the interstice. Fireguard® tanks are constructed with a minimum 3" interstice around the inner tank. This interstice is completely filled with a lightweight, monolithic material which provides thermal insulating properties as well as interstitial monitoring capabilities. Both the inner and outer tanks are provided with emergency vent fittings. Highland is licensed to use this technology by the Steel Tank Institute (STI). Highland's quality control team and random inspections by STI ensure continuous quality control.

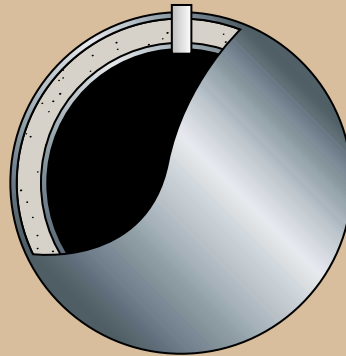
*All UL-142 or UL-2085 tanks are intended to be installed in accordance with NFPA 30, 30A, 31 & 37.*



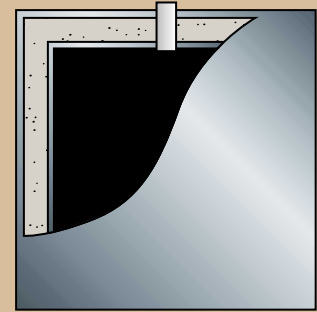
**Single-wall  
UL-142 Tanks**



**Double-wall  
UL-142 Tanks**



**Fireguard Double-wall UL-2085  
Insulated Cylindrical Tanks**



**Fireguard Double-wall UL-2085  
Insulated Rectangular Tanks**



**Fittings**  
*Fittings in a variety of sizes and styles are available for connection to external piping systems.*



**Flanges**  
*Flanges are available for added protection or on larger opening piping systems.*



**Overfill Protection**  
*Overfill protection containment chambers with or without locking lids are available.*

## Fireguard® Tanks

### The Aboveground Alternative

The Fireguard® Tank is an attractive alternative for complying with stringent underground tank regulations. The Fireguard® technology was developed through years of research by the Steel Tank Institute and its members, in conjunction with fire marshals, code officials and Underwriters Laboratories. The Fireguard® tank is Underwriters Laboratories UL-2085 labeled for Fire Protection, Impact Resistance, Ballistics Resistance and Secondary Containment.

### Technology

The Fireguard® tank employs the best available technology. Use it to reduce installation code setback requirements by at least 50%. Some jurisdictions require the fire protection Fireguard® affords when storing flammable or combustible liquids aboveground. The Fireguard® tank is a double-wall steel tank with a minimum of three inches of high efficiency insulating material between the two walls. This insulation provides thermal protection for the inner tank in the unlikely event of a pool fire or other extreme heat. The porous insulation material allows migration of any liquid through the interstice to the monitoring point. Unlike outdated concrete encased tanks, Fireguard®'s steel outer wall protects the insulation eliminating the problem of cracking and spalling concrete.

### Features

- UL-2085 Steel Secondary Containment Tank Passed:
  - 2-Hour Fire Test
  - Hose Stream Test
  - Impact Test
  - Ballistics Test
- Lightweight
- Pressure Testable
- 30-Year Warranty



## Fireguard® Meets or Exceeds

### These Requirements:

- UL-2085 Standard for Insulated Secondary Containment Aboveground Tanks
- Steel Tank Institute F941 Standard for Thermally Insulated Aboveground Storage Tanks
- UL-142
- Uniform Fire Code (UFC)
- NFPA 30 & 30A Codes
- CARB #G-70-162  
(California Air Resources Board)
- Building Officials and Code Administrators (BOCA)
- National Fire Prevention Code
- Southern Building Code Congress International (SBCCI)
- Standard Fire Prevention Code



**A complete line of pump and fill packages are now available!**

## Rectangular Design

Nominal Capacity (Gallons)	Inner Tank			Outer Tank			Thickness	Weight (lbs.)
	W	D	L	W	AOH*	L		
<b>500</b>	3'0"	3'0"	7'6"	4'0"	4'6"	8'6"	10 ga.	3,152
<b>1,000</b>	4'8"	3'0"	9'8"	5'2"	4'1"	10'3"	7 ga.	5,846
<b>2,000</b>	6'4"	4'0"	10'8"	6'10"	5'1"	11'4"	1/4"	10,580
<b>3,000</b>	5'5"	5'5"	13'8"	5'11"	6'5"	14'3"	1/4"	16,151
<b>4,000</b>	5'5"	5'5"	18'2"	5'11"	6'5"	18'9"	1/4"	20,544
<b>5,000</b>	5'5"	5'5"	22'9"	5'11"	6'5"	23'4"	1/4"	25,320
<b>6,000</b>	10'10"	5'5"	13'8"	11'4"	6'5"	14'3"	1/4"	24,372
<b>6,000</b>	5'5"	5'5"	27'4"	5'11"	6'5"	27'11"	1/4"	30,092
<b>8,000</b>	10'10"	5'5"	18'2"	11'4"	6'5"	18'9"	1/4"	31,432
<b>10,000</b>	10'10"	5'5"	22'10"	11'4"	6'5"	23'5"	1/4"	38,623
<b>12,000</b>	10'10"	5'5"	27'4"	11'4"	6'5"	27'11"	1/4"	44,663

## Cylindrical Design

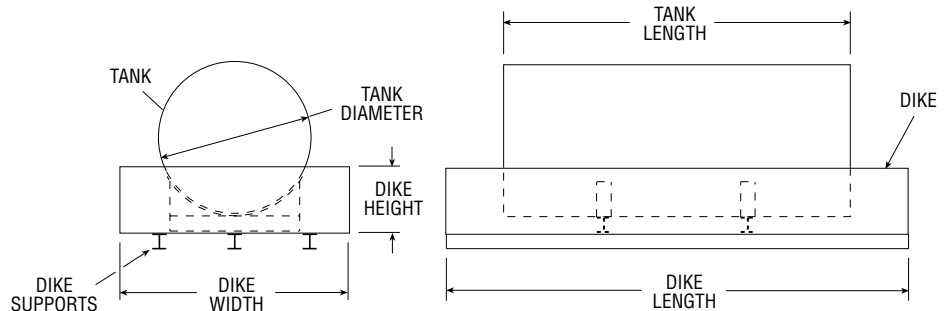
Nominal Capacity (Gallons)	Inner Tank		Outer Tank			Thickness	Weight (lbs.)
	Dia.	L	Dia.	AOH*	L		
<b>300</b>	3'2"	5'0"	4'2"	5'0"	6'0"	10 ga.	1,874
<b>500</b>	4'0"	5'5"	4'6"	5'4"	6'0"	10 ga.	2,824
<b>1,000</b>	4'0"	10'9"	4'6"	5'4"	11'4"	10 ga.	4,580
<b>1,000</b>	5'4"	6'0"	5'10"	6'8"	6'7"	7 ga.	4,753
<b>2,000</b>	5'4"	12'0"	5'10"	6'8"	12'7"	7 ga.	7,917
<b>3,000</b>	5'4"	18'0"	5'10"	6'8"	18'7"	7 ga.	11,079
<b>4,000</b>	5'4"	24'0"	5'10"	6'8"	24'7"	7 ga.	14,242
<b>4,000</b>	8'0"	10'8"	8'6"	9'4"	11'3"	1/4"	14,327
<b>5,000</b>	8'0"	13'4"	8'6"	9'4"	13'11"	1/4"	16,734
<b>6,000</b>	8'0"	16'0"	8'6"	9'4"	16'7"	1/4"	19,058
<b>8,000</b>	8'0"	21'4"	8'6"	9'4"	21'11"	1/4"	24,577
<b>10,000</b>	8'0"	26'8"	8'6"	9'4"	27'3"	1/4"	29,272
<b>12,000</b>	8'0"	32'0"	8'6"	9'4"	32'7"	1/4"	34,071
<b>15,000</b>	10'0"	25'6"	10'6"	11'4"	27'1"	1/4"	35,079
<b>20,000</b>	10'0"	34'0"	10'6"	11'4"	34'7"	1/4"	45,788
<b>25,000</b>	10'0"	42'7"	10'6"	11'4"	43'2"	1/4"	51,793
<b>30,000</b>	10'0"	51'2"	10'6"	11'4"	51'9"	1/4"	60,517

\*AOH - Approximate Overall Height

Additional capacities and dimensional sizes available upon request.

## Dike Tanks

Highland's Dike Tank is one of the most versatile solutions for your aboveground containment needs! Highland's innovative thinking made the first dike tank available in 1984. That same forward thinking continues today! Available in single or multi-tank modules, Highland Dike Tanks are quick to install and easy to relocate if necessary. Both tank and dike are ideal for the secure storage of petroleum, chemicals, hazardous wastes and fertilizers. The entire Dike Tank unit carries a UL 142 label of approval and meets NFPA 30 codes for secondary containment. Vertical dike tanks, custom designs, special coatings and stainless steel fabrication are also available. Some frequently specified options include: rainshields, rolled top canopies, ladders, platforms, walkways and pump mounts.



Nominal Tank Capacity (Gallons)	Tank Dimensions		Nominal Dike Capacity (Gallons)	Dike Dimensions L x W x H	Approximate Wt. Dike Only (lbs.)	Approximate Wt. Tank & Dike (lbs.)	Approximate Wt. Shelter Tank (lbs.)
	Diameter	Length					
240	3'2"	4'0"	264	4'0" x 5'9" x 1'8"	435	740	1,418
300	3'2"	5'0"	330	7'0" x 4'0" x 1'8"	619	944	1,395
500	4'0"	5'5"	550	7'5" x 6'0" x 1'8"	964	1,746	2,311
1,000	4'0"	10'9"	1,100	12'9" x 6'0" x 2'0"	1,826	3,227	4,269
1,000	5'4"	6'0"	1,100	9'2" x 8'0" x 2'0"	1,541	2,782	4,026
1,500	5'4"	9'0"	1,650	13'10" x 8'0" x 2'0"	2,278	4,047	5,615
2,000	5'4"	12'0"	2,200	16'0" x 8'0" x 2'4"	3,409	5,718	6,921
2,500	5'4"	15'0"	2,750	17'6" x 8'0" x 2'10"	3,600	6,384	7,942
3,000	5'4"	18'0"	3,300	22'0" x 8'0" x 2'8"	3,900	7,050	9,500
4,000	5'4"	24'0"	4,400	28'0" x 8'0" x 2'8"	4,815	8,725	12,543
5,000	8'0"	13'4"	5,500	17'0" x 10'10" x 4'0"	5,325	10,817	12,927
6,000	8'0"	16'0"	6,600	20'6" x 10'10" x 4'0"	6,314	12,552	14,993
8,000	8'0"	21'4"	8,800	27'6" x 10'10" x 4'0"	8,695	16,476	19,879
10,000	8'0"	26'8"	11,000	35'0" x 10'10" x 4'0"	10,869	20,044	24,351
12,000	8'0"	32'0"	13,200	36'8" x 12'0" x 4'0"	11,301	22,272	26,310
15,000	10'0"	25'6"	16,500	31'0" x 12'0" x 6'0"	11,813	24,671	27,261
20,000	10'0"	34'0"	22,000	41'0" x 12'0" x 6'0"	13,559	27,533	35,042
25,000	10'0"	42'6"	27,500	51'0" x 12'0" x 6'0"	18,088	32,385	43,475
30,000	10'6"	46'6"	33,000	61'4" x 12'0" x 6'0"	21,345	39,995	50,087

Note: Sizes and capacities are for 110% containment. 150% containment dikes are also available.

## Highland AREO-Style Dike Tanks

Maintenance is minimized by the AREO-Style Dike Tank's specially design rain and debris diverting system. The system maintains excellent ventilation while preventing rain water and other debris from accumulating and may need to be handled as contaminated substances. Any unexpected overflow from the emergency vent is safely contained as part of the patented design.

*U.S. Patent No.  
4,895,272*



### Complete Containment

Highland AREO-Style Dike Tanks provide complete and total containment of any spill due to overfilling and/or the unlikely event of a leak.

AREO-Style Dike Tanks are ideal for the secure storage of petroleum, chemicals, hazardous wastes and fertilizers. Compartmented configurations for secure multiple product storage are available. Highland AREO-Style Dike Tanks are easy to install and can be relocated, if necessary. The entire tank system possesses the strength and impermeability of steel. The AREO-Style Dike Tank carries an Underwriters Laboratories

UL-142 label and meets the NFPA 30 code. As with all our tanks, product compatibility can be verified and linings or stress relieving specified. Available in standard or made-to-order designs, a variety of options and accessories are available including stainless construction and 150% containment design.

Nominal Capacity (Gallons)	AREO-Style Dike Safe Containment		Weight (lbs.)
	Capacity	Dimensions	
<b>300</b>	330	7'0" x 4'0" x 1'8"	1,600
<b>500</b>	550	7'5" x 6'0" x 1'8"	2,100
<b>1,000</b>	1,100	12'9" x 6'0" x 2'0"	3,900
<b>1,500</b>	1,650	13'10" x 8'0" x 2'0"	4,950
<b>2,000</b>	2,200	16'0" x 8'0" x 2'4"	6,000
<b>3,000</b>	3,300	22'0" x 8'0" x 2'4"	7,500
<b>4,000</b>	4,400	27'0" x 8'0" x 2'9"	9,000
<b>4,000</b>	4,400	12'5" x 10'10" x 5'0"	9,500
<b>5,000</b>	5,500	17'0" x 10'10" x 4'0"	11,500
<b>6,000</b>	6,600	20'6" x 10'10" x 4'0"	13,000
<b>8,000</b>	8,800	27'6" x 10'10" x 4'0"	17,000
<b>10,000</b>	11,000	35'0" x 10'10" x 4'0"	21,000
<b>12,000</b>	13,200	36'9" x 4'0" x 4'0"	23,000
<b>15,000</b>	16,500	31'0" x 12'0" x 6'0"	30,000
<b>20,000</b>	22,000	41'0" x 12'0" x 6'0"	34,000
<b>30,000</b>	33,000	62'2" x 12'0" x 6'0"	41,000

## Horizontal Tanks

Highland's aboveground horizontal tanks are designed and engineered to meet the demanding needs of industry. All aboveground horizontal tanks are manufactured in strict accordance with Underwriters Laboratories 142 specifications.

Single-wall or double-wall configurations can be manufactured with numerous accessories available. Standard tanks are constructed of mild carbon steel.

Stainless steel is available as an option for storing chemicals and liquids not compatible with carbon steel. Interior coatings for storing aviation fuel, potable water and for other special service can be applied. The standard exterior coating on all aboveground tanks is red primer. Other VOC compliant coating options range from a commercial blast with epoxy primer to complete epoxy/urethane multi-coat systems.

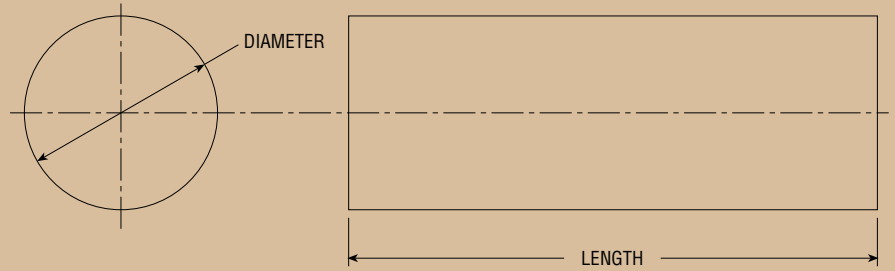


General Tank Information			Tank Weight Information				Support Systems Weight Information			
Capacity (Gallons)	Dimensions		Thickness Primary Tank	Single-wall (lbs.)	Thickness Outer Tank	Double-wall (lbs.)	Saddles Each (lbs.)	BDH Supports Total (lbs.)	Skids Total (lbs.)	Stabilizers Total (lbs.)
	Diameter	Length								
185	3'2"	3'4"	12 ga.	154	10 ga.	358	45			
240	3'2"	4'0"	12 ga.	285	10 ga.	645	45		60	
300	3'2"	5'0"	12 ga.	295	10 ga.	684	45	10	60	
500	4'0"	5'5"	12 ga.	415	10 ga.	948	45	10	115	
500	4'0"	5'5"	10 ga.	533	10 ga.	1,050	59	20	115	220
500	4'0"	5'5"	7 ga.	711	10 ga.	1,228	59	50	115	220
1,000	4'0"	10'9"	10 ga.	958	10 ga.	2,015	59		225	340
1,000	4'0"	10'9"	7 ga.	1,274	10 ga.	2,300	59		118	340
1,000	5'4"	6'0"	7 ga.	1,128	10 ga.	2,180	137	60	274	240
1,500	5'4"	9'0"	7 ga.	1,608	10 ga.	2,775	137		274	300
2,000	5'4"	12'0"	7 ga.	1,988	10 ga.	3,450	137		274	512
3,000	5'4"	18'0"	7 ga.	2,749	10 ga.	4,885	137	90	411	711
4,000	5'4"	24'0"	7 ga.	3,510	10 ga.	6,108	137	100	411	900
4,000	6'0"	19'0"	1/4"	4,750	10 ga.	6,914	580		873	
4,000	8'0"	10'6"	1/4"	4,390	7 ga.	6,650	882		582	
5,000	6'0"	23'10"	1/4"	5,722	10 ga.	8,625	580		540	1,448
5,000	8'0"	13'4"	1/4"	5,242	7 ga.	7,758	882		582	
6,000	6'0"	28'8"	1/4"	6,594	10 ga.	9,993	580		540	
6,000	8'0"	16'0"	1/4"	5,938	7 ga.	8,815	882		582	1,737
8,000	8'0"	21'4"	1/4"	7,331	7 ga.	10,954	882		873	2,225
8,000	10'0"	14'0"	1/4"	7,272	7 ga.	9,396	1,102		696	
10,000	8'0"	26'8"	1/4"	8,725	7 ga.	9,657	882		873	2,805
10,000	10'0"	17'0"	1/4"	8,389	7 ga.	13,982	1,102		696	
12,000	8'0"	32'0"	1/4"	10,118	7 ga.	15,251	882		582	3,292
12,000	10'0"	20'6"	1/4"	9,506	7 ga.	15,835	1,102		1,044	
15,000	8'0"	40'0"	1/4"	12,209	7 ga.	21,435	882		1,164	
15,000	10'0"	25'6"	1/4"	11,070	7 ga.	20,925	1,102		1,044	
20,000	10'0"	34'0"	1/4"	13,974	7 ga.	26,837	1,102		1,392	
20,000	10'6"	31'0"	1/4"	13,858	7 ga.	26,479	1,543		1,516	
25,000	10'6"	38'9"	1/4"	16,544	7 ga.	28,320	1,543		1,516	
30,000	10'6"	46'6"	1/4"	19,236	7 ga.	32,970	1,543		1,895	
40,000	12'0"	47'6"	3/8"	33,102	1/4"	50,725	1,800		3,195	
50,000	12'0"	59'6"	3/8"	39,729	1/4"	59,800	1,800		3,834	

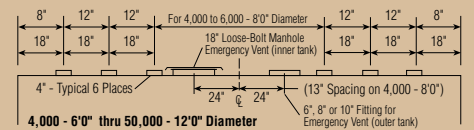
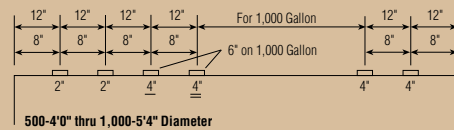
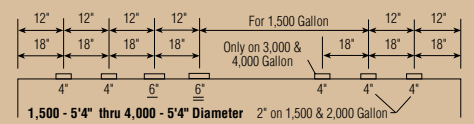
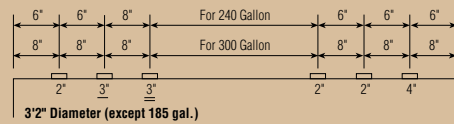
For Double Wall Type I tanks, add 6" to length and 1" to diameter for outside dimensions (includes monitoring pipe). For Double Wall Type II tanks, add 7" to length and 3" to diameter for outside dimensions. Two-saddle design available for all horizontal tanks. Tank heads may be fabricated with bracing or 1/8" thicker steel, per UL 142.

## General Arrangement

Each standard tank is fabricated with threaded fittings to match the diagram at right with customized fitting arrangements available on request. All aboveground horizontal tanks may be fitted with various types of UL-listed supports ranging from stabilizers to 12" high saddles. For more details, see our individual specifications sheet for Aboveground Horizontal Tanks.



## Standard Fitting Locations



X - Fitting for primary tank emergency vent use; X - Fitting through outer shell only - interstitial emergency vent fitting

## Horizontal UL-Listed Tank Support Systems



**Tank supports** are available for capacities up to 4,000 gallons.



**Small tank saddle** style for 38"–72" diameter, 300–6,000 gallon tanks.



**Large tank saddle** style for 84"–144" diameter, 7,000–50,000 gallon tanks.



**Small Tank Skids** for 38"–64" diameter, 300–1,500 gallon capacity tanks.



**Large Tank Skids** for 64"–96" diameter, 2,000–12,000 gallon capacity tanks.



**Stabilizers** are available on tanks from 38" to 64" diameter.

## Vertical Tank Construction

Highland's Atmospheric Vertical Tanks are an ideal solution for storage of a wide array of liquid products. Quality and reliability were designed into these tanks with long-term service as our primary goal. We fabricate UL-142 tanks in single wall, double-bottom and double-wall configurations to accommodate your level of storage security. API650, Appendix J construction is also available.

### Single Wall UL-142

Standard construction of Vertical Tanks utilizes a single thickness of mild carbon steel meeting ASTM specifications. Continuous full-fillet welds and lap shell joints provide superior "ribbed" strength for all UL-142 tanks. Flat-flanged, full-fillet welded bottoms round out our strong steel tanks. Coned or domed roofs shed rain and melting snow. Vertical tanks can be fabricated from 10 ga. to 3/8" thick carbon or stainless steel with a diameter range of 38" to 144" and up to a maximum of 29,600 gallons.

UL-142 vertical tanks are constructed to provide for emergency relief venting in the event of exposure to a fire. This venting is in addition to the normal in/out breathing vent usually installed on the tank by your contractor. On tanks less than 4,000 gallons, we provide an appropriately sized fitting so you can install an emergency vent. Larger tanks come standard with an 18" loosebolt emergency vent.

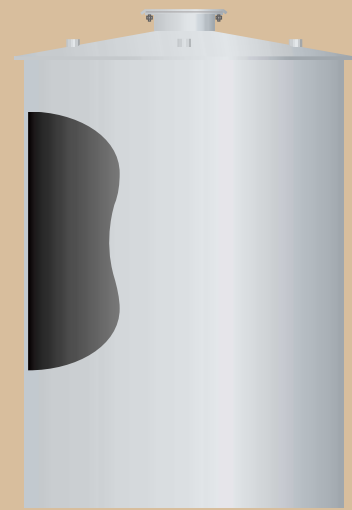
### Double Bottom UL-142

Double-bottom tanks are constructed with a second bottom head and partial shell to provide added protection and interstitial monitoring capability between the tank floor and the grade surface. A 3/4" monitoring port is provided at the base of the shell and acts as an inspection port to assure that the interstitial floor space is free from product or groundwater.

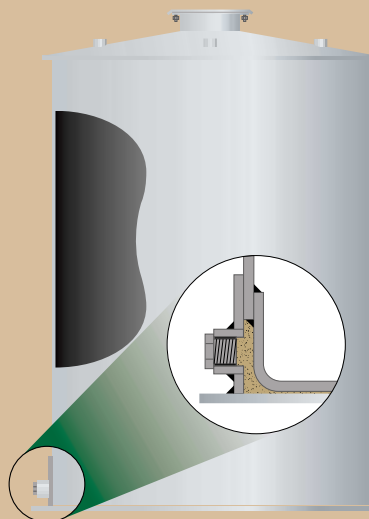
### Double Wall UL-142

Double-wall vertical tanks have secondary containment for both bottom and shell (wall) surfaces. This tank retains a single-wall roof. The outer shell is seal-welded to the inner shell just below the roof line. Emergency vent fittings are provided for the inner and outer tanks.

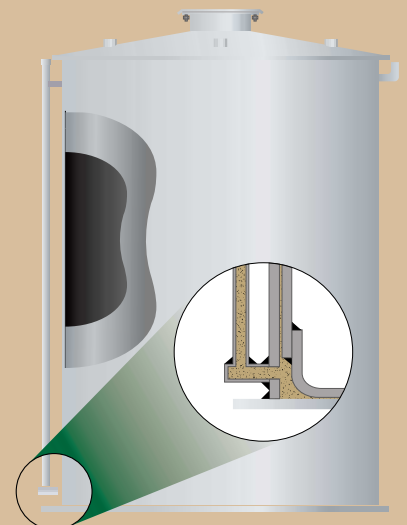
*See specification section for additional information.*



**Single Wall Vertical**



**Double Bottom Vertical**



**Double Wall Vertical**

## Vertical Tank Design

Highland Vertical Storage tanks provide safe storage using the least property square footage. Available in both carbon and stainless steel, Highland Vertical Tanks for the storage of flammable and combustible liquids bear the Underwriters Laboratories UL 142 Label. Highland Vertical UL 142 tanks can be specified with a flat, coned, or dished top and can be manufactured to a maximum vertical shell height of 35'0".

Because piping installations vary with each tank, size and location of fittings are specified by the customer. Threaded fittings are included with each tank. Normal and emergency vent fittings



are required and provided on all Underwriters Laboratories UL 142 tanks. Construction options similar to those for horizontal tanks are also available on vertical tanks. Other options include support legs and skirts with coned or dished bottoms.

The standard exterior coating is primer. To protect your investment further, specialized finish coatings are available. Special linings are available for fertilizers, potable water, chemicals, or other products with special considerations.

Nominal Capacity (Gallons)	Tank Dimensions Diameter	Height	Approximate Weight (lbs.)
185	3'2"	3'4"	155
240	3'2"	4'0"	238
300	3'2"	5'0"	272
500	4'0"	5'5"	415
1,000	4'0"	10'9"	958
1,000	5'4"	6'0"	1,128
1,500	5'4"	9'0"	1,608
2,000	5'4"	12'0"	1,988
3,000	8'0"	8'0"	4,076
4,000	8'0"	10'6"	4,500
5,000	8'0"	13'4"	5,195
6,000	8'0"	16'0"	5,850
8,000	10'0"	14'0"	6,415
10,000	10'0"	17'0"	7,532
12,000	10'0"	20'6"	8,649
15,000	10'0"	25'6"	10,213
20,000	10'0"	34'0"	12,750
25,000	12'0"	29'8"	16,450
29,600	12'0"	35'0"	19,100

# Hopper Series Tanks

## Innovative Aboveground Storage

Highland Hoppers are state-of-the-art technology for low profile, secondary contained aboveground storage. Suitable for the containment of all types of liquid fuels, new and used oils, waste solvents and antifreeze, they are available in nine convenient capacities to meet every need. Highland Hoppers are designed and built to UL-142 specifications. Each Hopper consists of an inner tank, placed in the second tub-like steel container, providing a minimum of 110% secondary containment.

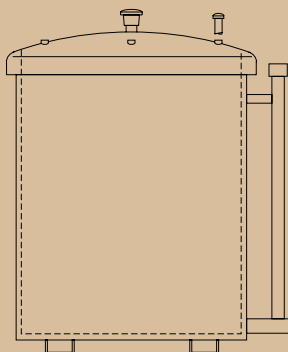


Our unique, extended-dome top design prevents rain, snow and debris from collecting in the secondary containment and provides

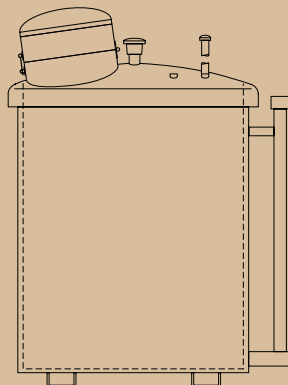
emergency venting of the containment hopper. Elevation supports and a top-view interstitial monitoring tube are included on all models.

Nominal Capacity (Gallons)	Tank		Overall		Thickness	Approximate Wt. (lbs.)
	Diameter	Depth	Diameter	Height		
120	30"	40"	36"	46"	12 ga.	411
185	38"	40"	44"	47"	12 ga.	516
285	46"	40"	52"	51"	12 ga.	671
500	62"	40"	68"	53"	12 ga.	970
1,000	84"	42"	92"	54"	7 ga.	1,693
1,500	96"	48"	108"	60"	7 ga.	3,643
2,000	108"	51"	120"	63"	7 ga.	3,888
2,500	108"	62"	120"	75"	7 ga.	4,635
3,000	108"	76"	120"	91"	7 ga.	5,143

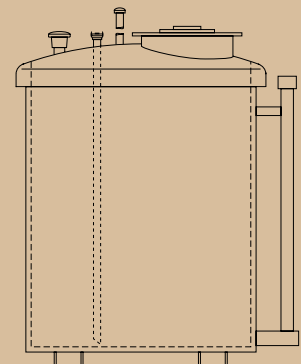
### Fuel-Hopper



### Petro-Hopper



### Haz-Hopper™



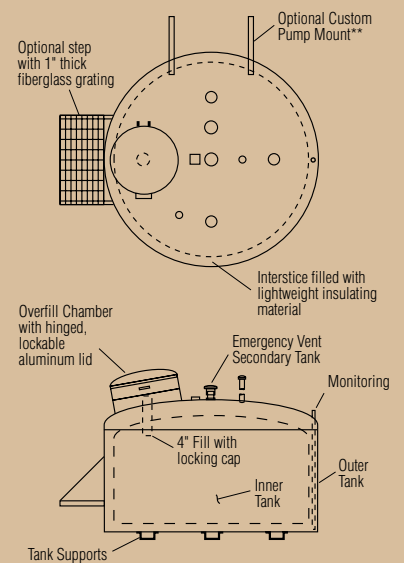
## Fire-Hopper™

Highland Fire-Hoppers™ are state-of-the-art technology for low profile, secondarily contained, fire-protected aboveground fuel storage. The UL-2085 listed Fire-Hopper™ is a double-wall steel tank with lightweight porous insulating material between the two walls, providing thermal protection to the primary tank.



They are used where a fire-protected tank is needed because of setback limitations and/or regulatory insistence. Fire-Hoppers™ are suitable for the storage of flammable and combustible liquids.

The Fire-Hopper's™ unique domed top design prevents rain, snow, and other debris from accumulating on top of the tank. With the tank's small footprint and optional pump and equipment packages, Highland Fire-Hoppers™ cost less to install.



Nominal Capacity (Gallons)	Inner Tank Dimensions		Outer Tank Dimensions			Approximate Weight (lbs.)
	Dia	Depth	Dia.	Overall Depth	Height	
<b>*185</b>	48"	24"	60"	36"	46"	2,528
<b>285</b>	54"	29"	60"	35"	46"	2,340
<b>500</b>	72"	29"	78"	35"	47"	2,605
<b>1,000</b>	120"	21"	126"	27"	41"	5,918
<b>1,500</b>	138"	24"	144"	30"	52"	6,955
<b>2,000</b>	138"	31"	144"	37"	59"	7,940
<b>2,500</b>	138"	39"	144"	45"	67"	8,795
<b>3,000</b>	138"	46"	144"	52"	74"	9,606

\* 6" interstice - all other sizes have a 3" interstice.

*There are many accessories and construction options available from Highland Tank. Shown here are just some of the ways our aboveground tanks can be customized for your specific needs.*



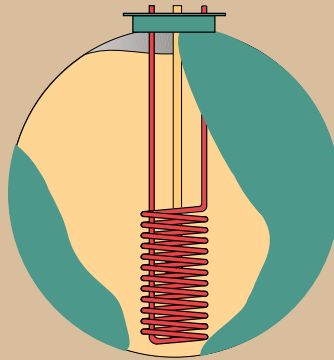
**Pump Packages and Accessories**



**Ladders and Cages**



**Stairs, Platforms and Walkways**



**Heaters and Insulation**



**High Level Alarms and Pump Switches**



**Rain Shields**



**Pump Mounts**



**Tank Insulation**

**Specifying Highland Aboveground Storage Tanks**

To receive a quotation, or to order a tank, please complete the following:

Identify the product to be stored: \_\_\_\_\_ at what temperature: \_\_\_\_\_ °F or Ambient.

Select capacity based on delivery volume and rate of use: \_\_\_\_\_ gallons.

Select Horizontal or Vertical tank style. Continue here for Horizontal tanks or skip to Vertical tanks.

**For Horizontal Tanks**

Is secondary containment required? Yes • No (Consider: Fireguard®, Shelter or Dike Tanks)

Specify Tank Model (check all that apply)

- Double-wall Fire Protected
- Double-wall Steel with Stand Offs
- Double-wall Steel
- Single-wall
- Shelter Tank
- OP™ Tank
- Dike Tank
- with  Rain Shields or  Pitched Top

Specify diameter: \_\_\_\_\_ and length: \_\_\_\_\_ (see chart of standard sizes).

Will tank be in a flood plain? Yes • No  
If YES, do you want standard hold down straps? Yes • No

Specify Supports for Horizontal Tank models

- UL Style Sadies (2 per tank)
- Skids (up to 12,000 gallons)
- Supports (up to 4,000 gallon)
- Stabilizers (up to 4,000 gallons)

Do you want a compartmented tank? Yes • No  
If YES, specify compartment number and size; use a "r" for single bulkhead and "r/" for a double: \_\_\_\_\_

Continue at Coatings, Linings and Accessories

**For Vertical Tanks**

Is secondary containment required? Yes • No (Consider: Hoppers®, and Dike Tanks)

Specify diameter: \_\_\_\_\_ and height: \_\_\_\_\_ (see chart of standard sizes).

Specify Tank Model (check all that apply)

- Single-wall
- Double-bottom
- Double-wall
- Petro-Hopper
- Haz-Hopper
- Fuel-Hopper

Specify Construction (check all that apply)

- Cone Top
- Dished Top
- Flat Top
- Lap Weld
- UL-142
- Support Legs
- Support Skirt
- Cone Bottom
- Dished Bottom
- Flat Bottom
- Butt weld
- API 650
- Support Beam
- Clearance: \_\_\_\_\_

**Coatings, Linings and Accessories:**

- Red Primer (no blast)
- SP6 Blast with Epoxy Primer
- Thermal Insulation
  - External Batt & Skin System
  - External Spray-on Foam System
  - Injected Foam System
  - Other \_\_\_\_\_

Do you want/need an internal lining? Yes • No  
Please specify: \_\_\_\_\_  
(An internal lining requires at least one manway in the tank - Minimum 500 gallon)

Do you want/need manways? Yes • No  
If YES, specify number and size: \_\_\_\_\_ 24" \_\_\_\_\_ 30" \_\_\_\_\_ 36"  
If YES, do you want (1) manway to be a loose-bolt (emergency vent) lid? Yes • No

Do you want access to or near tank top for filling etc.? Yes • No

If YES, specify the type of access desired:

- Free-standing Standard Stairs (45°)
- Bolted Standard Stairs (45°)
- Free-standing Ships Ladder (60°)
- Bolted Ships Ladder (60°)

- Straight Ladder (90°)
- Safety Cage for Ladder (vertical tanks)
- Step-off Platform (vertical tanks)

Do you want a Catwalk with handrail? Yes • No

Specify length: \_\_\_\_\_

Do you want a handrail around the tank top? (vertical tanks) Yes • No

Do you want an internal ladder? Yes • No

Do you need a steam/hot water pre-heater? Yes • No

Determine size and number of threaded connections: \_\_\_\_\_ 2" \_\_\_\_\_ 4" \_\_\_\_\_ 6" \_\_\_\_\_ 8" \_\_\_\_\_ 10"

Determine size and number of bolted flanges: \_\_\_\_\_ 2" \_\_\_\_\_ 4" \_\_\_\_\_ 6" \_\_\_\_\_ 8" \_\_\_\_\_ 10"

Do you want level sensing equipment? Yes • No

If YES, specify levels of notification: 5% • 10% • 25% • 50% • 75% • 90% • 95% • 98%

Do you want double-wall interstitial or dike containment monitoring equipment? Yes • No

Do you want a remote alarm? Yes • No  
If YES, specify for which of the above: \_\_\_\_\_

Do you want electronic tank gauging equipment? Yes • No

Do you want a pump platform? Yes • No  
If YES, specify location, height from grade, and dimensions:

- Side of tank
- End of tank
- Side of dike
- End of dike
- Height from grade: \_\_\_\_\_
- 12" x 24"
- 24" x 24"
- 24" x 36"

Refer to accessories section of this brochure for other options and list here:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



## Selecting Horizontal Tanks

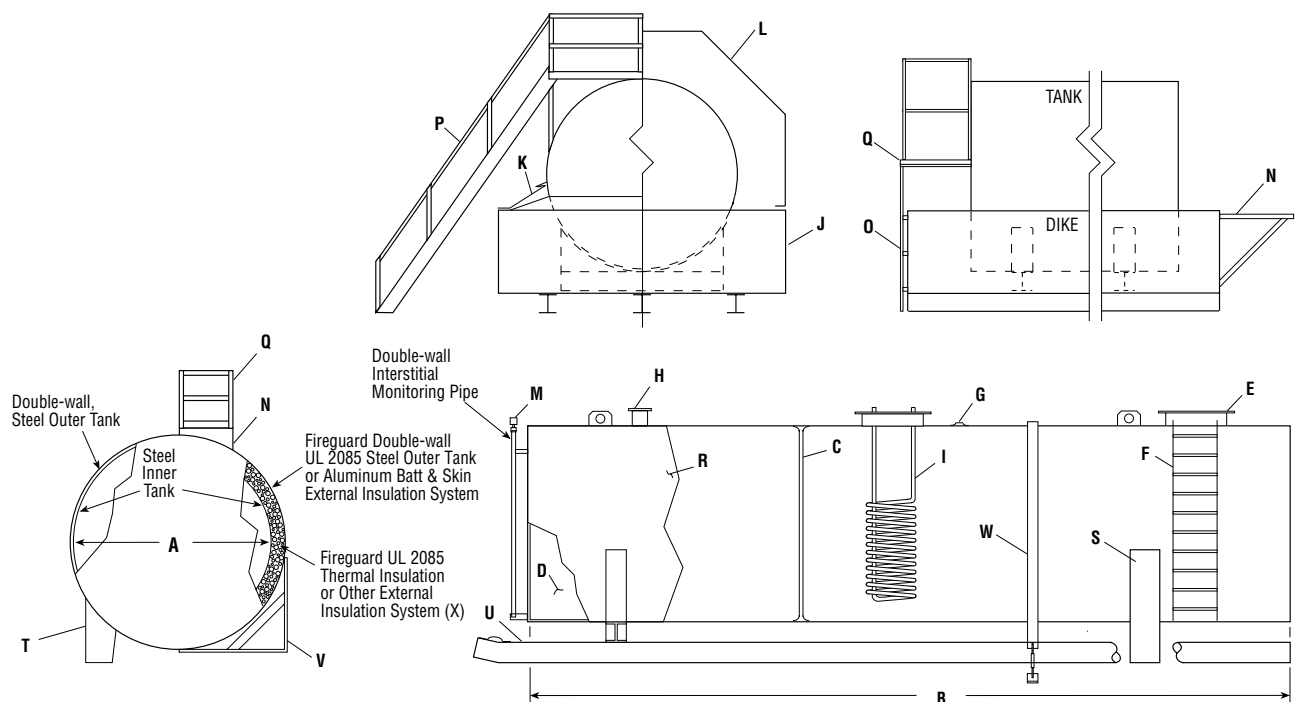
To select or specify a Highland horizontal tank copy, complete and fax page 15:

- Select desired tank capacity
- Single or double wall construction
- Secondary containment
- Select internal and external coatings
- Determine size, location and number of fittings
- Determine accessories and options

*A simple sketch, showing size, location of fittings and accessories required, is helpful when ordering. For quick and easy reference when specifying and ordering, please refer to the adjacent diagrams of standard features and some of the accessories available.*

### Horizontal Tanks

- A.** Tank Diameter – Ranging from 38" to 12'
- B.** Tank Length – Ranging from 4' to 59'6"
- C.** Compartment Bulkheads – Single or double
- D.** Interior Surface Preparation – Specify interior coating and sandblast if required
- E.** Manway – Diameters from 24" to 36"
- F.** Interior Ladder – 2" x 1/4" sides – 3/4" rungs on 12" centers
- G.** Standard Threaded Fittings – Specify size, number, location
- H.** Flanged Fittings – 150 # A.S.A. Specify size, number, location
- I.** Steam/Hot Water Preheater for fuel oil
- J.** 110% Containment Dike – (150% capacity also available)
- K.** Rainshields
- L.** Pitched Top Canopy
- M.** Leak Detection System – Specify component pieces
- N.** Pump Platform – (Inside or outside dike, or on skids)
- O.** Exterior Ladder – (Outside of dike and/or tank with or without a platform)
- P.** Stairs (45°) / Ships Ladder (60°)
- Q.** Platform/Walkway
- R.** Exterior Coating
- S.** UL Style Saddle (2 per tank)
- T.** Supports (up to 4,000 gal.)
- U.** Skids (up to 12,000 gal.)
- V.** Stabilizers (up to 4,000 gal.)
- W.** Hold-down Straps (for flood plains)
- X.** Thermal Insulation System





## Selecting Vertical Tanks

To select or specify a Highland vertical tank, copy, complete and fax page 15:

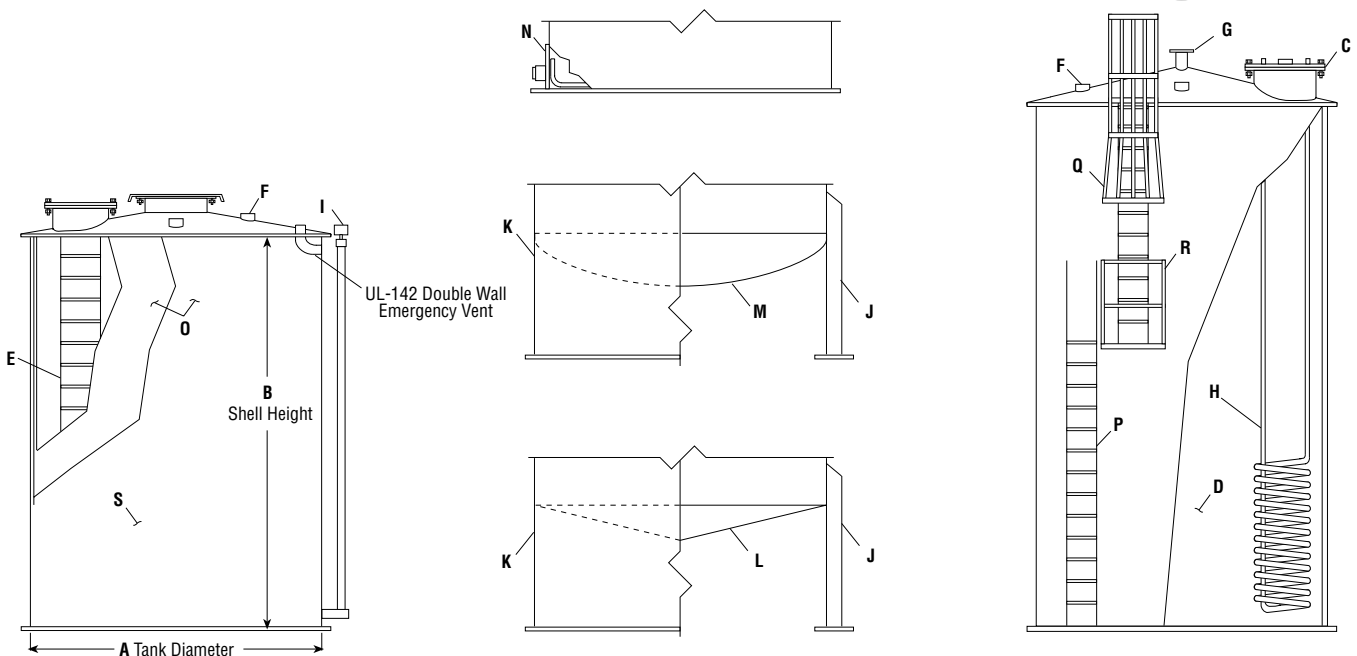
- Select desired tank capacity
- Single or double wall construction
- Secondary containment
- Select internal and external coatings
- Determine size, location and number of fittings
- Determine accessories and options

*A simple sketch, showing size, location of fittings and accessories required, is helpful when ordering. For quick and easy reference when specifying and ordering, please refer to the adjacent diagrams of standard features and some of the accessories available.*

### Vertical Tanks

- A.** Tank Diameter – Ranging from 38" to 12'
- B.** Tank Height – Ranging from 4' to 29'6"
- C.** Manway – Diameters from 24" to 36"
- D.** Interior Surface Preparation – Specify interior coating and sandblast if required
- E.** Interior Ladder – 2" x 1/4" sides – 3/4" rungs on 12" centers
- F.** Standard Threaded Fittings – Specify size, number, location
- G.** Flanged Fittings – 150 # A.S.A. Specify size, number, location
- H.** Fuel Oil Preheater
- I.** Leak Detection System – Specify component pieces
- J.** Support Legs
- K.** Support Skirt

- L.** Cone Bottom
- M.** Dished Bottom
- N.** Double Bottom
- O.** Double Wall
- P.** Exterior Ladder
- Q.** Ladder & Cage
- R.** Railing
- S.** Exterior Coating





# Highland Tank

## Highland Manufacturing Locations

One Highland Road  
Stoystown, PA 15563-0338  
(814) 893-5701  
Fax 893-6126

99 West Elizabethtown Road  
Manheim, PA 17545-9410  
(717) 664-0600  
Fax 664-0617

958 19th Street  
Watervliet, NY 12189  
(518) 273-0801  
Fax 273-1365

2225 Chestnut Street  
Lebanon, PA 17042  
(717) 664-0602  
Fax 664-0631

2700 Patterson Street  
Greensboro, NC 27407  
(336) 218-0801  
Fax 218-1292

354 Route 108  
Somersworth, NH 03878  
(603) 692-2012  
FAX 692-2014

Lowe Engineering  
1510 Stoystown Road  
Friedens, PA 15541  
(814) 443-6800  
FAX 444-8662

***Please visit us at [www.highlandtank.com](http://www.highlandtank.com)***