



Department of Environmental Protection

2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DEP Form: 62-762.901(9)
Form Title: Storage Tank Equipment
Registration Form
Effective Date: July 2019
Incorporated in Rule 62-762.851, F.A.C.

Storage Tank System Equipment Registration Form

Fill out completely

General Information

Company Name: Southern Tank & Mfg Contact Name: David Darnell
Company Address: 1501 Haynes Ave. City, State: Owensboro, KY Zip: 42303
E-mail: ddarnell@southerntank.net Contact Number: 270-684-2321
Product Name: Shop fabricated Carbon Steel and Stainless-Steel Single and Double-walled UL 142 Tanks. UL File No. MH3074
Model Number(s): None Product Type: Aboveground Storage Tank
Rule(s) citation that registration is being requested within Chapter 62-761 (UST), and/or 62-762 (AST), F.A.C.: 62-762

Write a brief description of equipment registration request including product limitations:

Tanks / AST Single-Wall Only and AST with Secondary Containment Requiring Additional Equipment

Information Checklist (Choose Yes, No, or N/A - Not Applicable):

	Yes	No	N/A
1. Third-party Certification by a Nationally Recognized Testing Laboratory? (Required)	☒	☐	☐
2. Documentation of third-party evaluation that the equipment meets DEP Rules?	☐	☒	☐
3. Documents included about the qualifications of the Nationally Recognized Testing Laboratory?	☒	☐	☐
4. Technical information and drawings included?	☐	☒	☐
5. Installation instructions included?	☒	☐	☐
6. Annual Operability Testing Requirements (Rules 62-761.500, 62-762.501, & 62-762.502 F.A.C.)?	☒	☐	☐
7. Integrity Testing Requirements (Rules 62-761.700, 62-762.701, & 62-762.702, F.A.C.)?	☒	☐	☐
8. Compatible with fuel blends containing >10% ethanol or >20% biodiesel?	☒	☐	☐
9. Has the product been approved or registered in other countries or states? (If so provide list)	☐	☐	☒
10. Any requirements for company-certified installers or trainers?	☐	☒	☐
11. Was this product(s) previously approved or registered by the Department? If yes, EQ- <u>936</u>	☒	☐	☐
12. Any changes or modifications to the equipment since the last submittal to DEP?	☐	☒	☐

Document Information: Provide supporting documents indicated as "Yes" above including this form via email to Tanknotify@floridadep.gov, or documents can be sent to FDEP, Division of Waste Management, 2600 Blair Stone Road, MS 4560, Tallahassee, FL 32399.

Write a brief description of equipment installation and performance in the U.S.:

Southern Tank has been fabricating and selling aboveground storage tanks to all 50 states since 1937. We build UL-142 and Steel Tank Institute products, ranging from single wall farm tanks to Type I and Type II double wall, thermally insulated, and generator base tanks.

Equipment Registration Certification:

To the best of my knowledge and belief, all information submitted on this form is true, accurate and complete.

David Darnell - Shop Manager

Printed Name and Title

Signature (right click to print)

04/30/2026

Date

For Department Use Only:

Date Application Received: 04/30/2026

Application complete:

Yes: ☒ No: ☐

EQ- 936

Date of complete or incomplete letter sent: 05/01/2026

Date Equipment Requires Renewal: 05/01/2031

Storage tank system equipment requires renewal every 5 years in accordance with subsection 62-762.851(2), F.A.C.



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Effective Date: July 2019
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Storage Tank System Equipment Registration Form

Fill out completely

General Information

Company Name: SOUTHERN TANK & MFG. CO., INC. Contact Name: CHARLES R. MACKEY
Company Address: 1501 HAYNES AVE. City, State: OWENSBORO, KY. Zip: 42303
E-mail: CMACKEY@SOUTHERNTANK.NET Contact Number: (270) 684-2321
Product Name: SHOP FABRICATED A.S.T. (CARBON STEEL AND STAINLESS STEEL) IN ACCORDANCE TO U.L.-142
Model Number(s): 150 GAL. - 30,000 GALLON SWAG & DWAG. Product Type: HORIZONTAL, VERTICAL, RECTANGULAR
Rule(s) citation that registration is being requested within Chapter 62-761 (UST), and/or 62-762 (AST), F.A.C.: 62-762.501

Write a brief description of equipment registration request including product limitations:

VARIOUS TYPES AND CONFIGURATION OF SHOP FABRICATED ABOVEGROUND STORAGE TANKS FOR CONTAINING VARIOUS LIQUIDS FABRICATED AND LABELED PER U.L.-142 STANDARDS AND SPECIFICATIONS. THESE TANKS ARE DESIGNED TO STORE LIQUIDS AT ATMOSPHERIC PRESSURE. MAY BE HORIZONTAL, VERTICAL, OR RECTANGULAR, SINGLE WALL OR DUAL WALL, WITH OR WITHOUT SUPPORTS. MAY BE INTERNALLY LINED OR UNCOATED. VARIOUS EXTERIOR FINISHES AVAILABLE.

Information Checklist (Choose Yes, No, or N/A - Not Applicable):

	Yes	No	N/A
1. Third-party Certification by a Nationally Recognized Testing Laboratory? (Required)	☒	☐	☐
2. Documentation of third-party evaluation that the equipment meets DEP Rules?	☐	☒	☐
3. Documents included about the qualifications of the Nationally Recognized Testing Laboratory?	☐	☒	☐
4. Technical information and drawings included?	☒	☐	☐
5. Installation instructions included?	☒	☐	☐
6. Annual Operability Testing Requirements (Rules 62-761.500, 62-762.501, & 62-762.502 F.A.C.)?	☐	☒	☐
7. Integrity Testing Requirements (Rules 62-761.700, 62-762.701, & 62-762.702, F.A.C.)?	☐	☒	☐
8. Compatible with fuel blends containing >10% ethanol or >20% biodiesel?	☒	☐	☐
9. Has the product been approved or registered in other countries or states? (If so provide list)	☐	☐	☒
10. Any requirements for company-certified installers or trainers?	☐	☒	☐
11. Was this product(s) previously approved or registered by the Department? If yes, EQ- _____	☐	☒	☐
12. Any changes or modifications to the equipment since the last submittal to DEP?	☐	☐	☒

Document Information: Provide supporting documents indicated as "Yes" above including this form via email to Tanknotify@floridadep.gov, or documents can be sent to FDEP, Division of Waste Management, 2600 Blair Stone Road, MS 4560, Tallahassee, FL 32399.

Write a brief description of equipment installation and performance in the U.S.:

SOUTHERN TANK & MFG. CO., INC. HAS BEEN PRODUCING TANKS SINCE 1937 AND HAVE SHIPPED TANKS TO ALL FIFTY STATES IN THE U.S. AND NUMEROUS FOREIGN COUNTRIES. OUR RECORD FOR PRODUCING HIGH QUALITY TANKS IS IMPECCABLE. U.L. PERFORMS QUARTERLY IN HOUSE INSPECTIONS TO INSURE OUR COMPLIANCE TO THE U.L. STANDARDS AND SPECIFICATIONS AND TO INSPECT AND REVIEW THE QUALITY OF OUR PRODUCTS.

Equipment Registration Certification:

To the best of my knowledge and belief, all information submitted on this form is true, accurate and complete.

CHARLES R. MACKEY

Printed Name and Title

Signature (right click to sign)

05/28/2020

Date

For Department Use Only:

Date Application Received: 5/28/2020

Application complete:

Yes: ☒ No: ☐

EQ- 936

Date of complete or incomplete letter sent: 5/29/2020

Date Equipment Requires Renewal: 5/29/2025

Storage tank system equipment requires renewal every 5 years in accordance with subsection 62-762.851(2), F.A.C.



File MH3074

Vol ST1

Auth. Page 1

Issued: 2009-06-04

Revised: 2012-04-01

FOLLOW-UP SERVICE PROCEDURE
(TYPE L)

ABOVEGROUND FLAMMABLE LIQUID TANKS
(EEEEV)

Manufacturer: SEE ADDENDUM FOR MANUFACTURER LOCATIONS

Applicant: 141444 (Party Site)
SOUTHERN TANK & MFG INC
(665878-001) 1501 HAYNES AVE
OWENSBORO KY 42302

Listee/Classified Co.: 141444 (Party Site)
SAME AS APPLICANT
(665878-001)

This Follow-Up Service Procedure authorizes the above Manufacturer(s) to use the marking specified by UL LLC, or any authorized licensee of UL LLC, including the UL Contracting Party, only on products when constructed, tested and found to be in compliance with the requirements of this Follow-Up Service Procedure and in accordance with the terms of the applicable service agreement with UL Contracting Party and any applicable Service Terms. The UL Contracting Party for Follow-Up Services is listed on addendum to this Follow-Up Service Procedure ("UL Contracting Party"). UL Contracting Party and UL LLC are referred to jointly herein as "UL."

UL further defines responsibilities, duties and requirements for both Manufacturers and UL representatives in the document titled, "UL Mark Surveillance Requirements" that can be located at the following web-site: <http://www.ul.com/fus> and in the document titled "UL and Subscriber Responsibilities" that can be located at the following website: <http://www.ul.com/responsibilities>. Manufacturers without Internet access may obtain the current version of these documents from their local UL customer service representative or UL field representative. For assistance, or to obtain a paper copy of these documents or the applicable Service Terms, please contact UL's Customer Service at <http://www.ul.com/global/eng/pages/corporate/contactus>, select a location and enter your request, or call the number listed for that location.

The Applicant, the specified Manufacturer(s) and any Listee/Classified Co. in this Follow-Up Service Procedure must agree to receive Follow-Up Services from UL Contracting Party. If your applicable agreement is a Global Services Agreement ("GSA") with an effective date of January 1, 2012 or later and this Follow-Up Service Procedure is issued on or after that effective date, the Applicant, the specified Manufacturer(s) and any Listee/Classified Co. will be bound to a Service Agreement for Follow-Up Services upon the earliest by any Subscriber of use of the prescribed UL Mark, acceptance of the factory inspection, or payment of the Follow-Up Service fees which will incorporate such GSA, this Follow-Up Service Procedure and the Follow-Up Service Terms which can be accessed by clicking here: <http://www.ul.com/contracts/Terms-After-12-31-2011>. In all other events, Follow-Up Services will be governed by and incorporate the terms of your applicable service agreement and this Follow-Up Service Procedure.

It is the responsibility of the Listee/Classified Co. to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL LLC, or any authorized licensee of UL LLC.

This Follow-Up Service Procedure contains information for the use of the above Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided to the Manufacturer with the understanding that it will be returned upon request and is not to be copied in whole or in part.

This Follow-Up Service Procedure, and any subsequent revisions, is the property of UL and is not transferable. This Follow-Up Service Procedure contains confidential information for use only by the above named Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided to the Subscribers with the understanding that it is not to be copied, either wholly or in part unless specifically allowed, and that it will be returned to UL, upon request.

Capitalized terms used but not defined herein have the meanings set forth in the GSA and the applicable Service Terms or any other applicable UL service agreement.

UL shall not incur any obligation or liability for any loss, expense or damages, including incidental, consequential or punitive damages arising out of or in connection with the use or reliance upon this Follow-Up Service Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL LLC or an authorized licensee of UL LLC, including UL Contracting Party, and the Manufacturer(s).

UL LLC has signed below solely in its capacity as the accredited entity to indicate that this Follow-Up Service Procedure is in compliance with the accreditation requirements.

William R. Carney
Director
North American Certification Program

File MH3074 Vol ST1 Addendum To Page 1 Issued: 2009-06-04
Authorization Page Revised: 2012-04-01

LOCATION

141444 (Party Site)
(665878-001) SOUTHERN TANK & MFG INC
1501 HAYNES AVE
OWENSBORO KY 42302

Factory ID:

UL Contracting Party for above site is: UL LLC



Shop Fabricated Stationary
Aboveground Storage Tanks
For Flammable, Combustible Liquids

R912

INSTALLATION INSTRUCTIONS

July 2022

1 TANK SITE EVALUATION AND PREPARATION PRIOR TO INSTALLATION

- 1.1 The foundation for the tank must be designed to support the weight of the tank plus 100% of the weight of the tank's contents when full. The design shall also take into account the type of support that is being used and the point load associated with that support. The foundation may be constructed using concrete, asphalt, gravel, or other stable material and must include provisions in its design to prevent tank movement. The foundation design should include any provisions necessary for seismic considerations, applicable local building codes, potential flooding considerations and considerations for exposure to winds. The foundation design must also include provision for draining surface water away from the tank.
- 1.2 For tank installations without cathodic corrosion protection, the tank should be grounded in accordance with applicable electrical and fire code standards.
- 1.3 Where the tank body is in contact with the earth or foundation, it should be protected from external corrosion. For external corrosion protection using cathodic corrosion protection, consult applicable standards (e.g., NACE/AMPP) to provide the tank with appropriate protection from lightning without interfering with the corrosion protection. Steel tanks in contact with the earth should not use copper grounding. Refer to STI R893-89, "Recommended Practice for External Corrosion Protection of Shop Fabricated Aboveground Storage Tank Floors."
- 1.4 Tanks located in areas subject to flooding must be protected against flotation. Aboveground tanks should not be located above underground utilities or directly beneath overhead power lines. The tank shall be protected from vandalism and accidental damage in accordance with all applicable codes.

2 TANK HANDLING

- 2.1 Do not handle or install tank without having knowledge and experience in procedures involved with proper and safe installation of an aboveground tank used for storage of stable, flammable, and combustible liquids. To avoid tank damage, use skilled, professional installers.
- 2.2 Equipment for handling the tank shall be of adequate size to lift and position the tank. DO NOT DROP OR DRAG THE TANK.
- 2.3 Tanks shall be carefully handled. Use cables or chains of adequate length (with spreader bars, if necessary) and size. Attach to the tank using the lifting lugs provided. Care should be taken that the angle between the two cables, at the lift point, shall be no greater than 60 degrees.
- 2.4 DO NOT HANDLE OR MOVE THE TANK UNLESS IT IS EMPTY OF LIQUID AND FREE OF VAPORS.
- 2.5 This is a stationary tank. Do not use this tank for transport of any product.

3 TESTING OF TANK INTEGRITY AT THE TIME OF INSTALLATION, AFTER REPAIRS, OR TO CONFIRM TANK INTEGRITY AS PART OF TANK MAINTENANCE

- 3.1 GENERAL REQUIREMENTS
 - 3.1.1 An on-site integrity test of the tank may be required by local authorities after the tank is placed to ensure no damage has occurred in shipping and handling, after a tank repair or as part of tank maintenance to confirm the integrity of the tank system. A pressure test or vacuum test may be used to evaluate integrity. However, the Authority Having Jurisdiction (AHJ) or a responsible party overseeing the work should establish the appropriate method. All testing shall be performed as described in paragraph 3.2 below.

- 3.1.2 If the manufacturer has shipped the double wall tank with a vacuum on the space between the walls, this may serve as the onsite integrity test with AHJ approval if vacuum is held until the tank is placed. Read and record the vacuum pressure of the tank at the time of delivery and at the time of tank placement. The vacuum reading at the time of shipment should be provided by the tank manufacturer. If the vacuum gauge reading has dropped more than 2 inches Hg (40.5 6.77 kPa) from the level at which it was shipped, contact the tank manufacturer. Remember that vacuum can decrease if the tank environment is warmer than when the tank was originally put under vacuum.

3.2 AIR PRESSURE TEST PROCEDURE FOR TANKS

- 3.2.1 Manways must be secured with bolts and/or C-clamps of appropriate size and strength to hold the vent cover in the sealed position to maintain the tank pressures required. If the manway is to be used as the emergency vent (i.e., long bolt manway) the manway must be returned to the long bolt configuration at the completion of the test. Tanks listed per UL will not be shipped with long bolt manways as E-vents after March 2021. If tank is equipped with standard emergency vents, remove emergency vents and cap openings to hold tank pressure as required.

NOTE: Use only calibrated air pressure gauges with a 0-15 psig (0-103 kPa) dial span. The relief valve must have a flow rate at the set pressure that is greater than the flow rate of the air supply line. The regulated air supply test pressure used for this test should be as follows:

- a. **HORIZONTAL CYLINDRICAL (AND DIKED TANKS, IF APPLICABLE) TANKS** - Not less than 3 psig (20.7 kPa) nor more than 5 psig (34.5 kPa). Set the pressure relief valve in the air supply line at 5 psig (34 kPa).
- b. **VERTICAL TANKS** - Not to be less than 1 ½ psig (10.4 kPa) nor more than 2 ½ psig (17 kPa) or that gauge pressure above 1 ½ psig (10.4 kPa) which first causes visible deformation of the tank. Set the pressure relief valve in the air supply line at 2 ½ psig (17 kPa).
- c. **RECTANGULAR TANKS** - Not more than 1 ½ psig (10.4 kPa). Tank pressurization should stop if the tank shell starts to deform. Set the pressure relief valve in the air supply line at 1 ½ psig (10.4 kPa). This 1 ½ psig (10.4 kPa) pressure is to be used for testing tanks in the field ONLY.

In-shop testing during tank manufacture will be performed at different pressures which are specified by the tank construction standard.

CAUTION: Do not leave a pressurized tank unattended while the air supply line is connected, or any tank compartment is at an elevated pressure. Do not stand in front of tank heads or fittings when pressurizing tank.

Pressurizing of large tanks may result in the slight deformation or bulging of the tops and bottom of vertical tanks, bulging of the sides of rectangular tanks, and bulging of the heads and ends of cylindrical tanks. Should visible bulging occur, or deformation appear severe, immediately relieve the pressure. Aboveground vertical tanks may have a "weak shell to roof" seam. Do not air pressure test a tank with a "weak shell to roof" seam. Rather, fill these tanks with water and check for leaks. Also remember that as temperature increases the tank pressure may increase. Regularly monitor the tank pressure during the test and release tank pressure if site conditions cause pressure to rise above the allowable limits set in section 3.2.1.

3.3 SINGLE-WALL TANK PRESSURIZING PROCEDURE

- 3.3.1 Install test piping as shown in Figure 3.3.2. Temporarily plug, cap, or seal off remaining tank openings to hold pressure.
- 3.3.2 Close valves A and B.

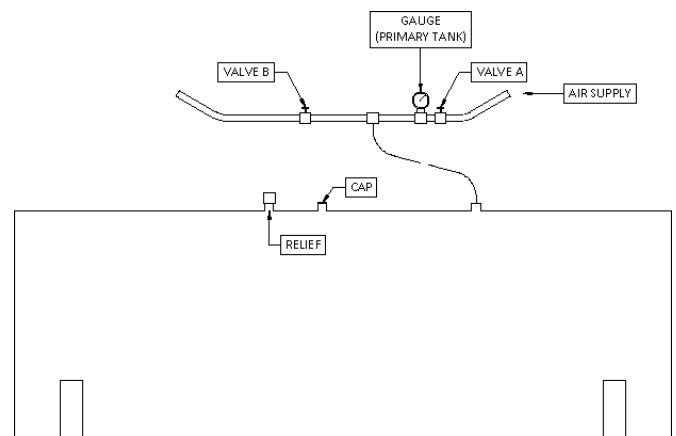


FIGURE 3.3.2
SINGLE-WALL TANK

- 3.3.3 Connect regulated test air supply line to test piping as shown in Figure 3.3.2.
- 3.3.4 **WARNING:** A relief valve should be installed in a tank opening and set at the maximum test pressure to prevent causing tank failure by over-pressurization.

- 3.3.5 Slowly open valve A to pressurize the tank. Pressure gauge should indicate test air pressure given in paragraph 3.2.1 above. Close valve A. Disconnect regulated test air supply line from test piping.

If the tank is a multiple compartment tank test each compartment separately if the tank compartments share a common bulkhead. If the tank does not share common bulkhead with the neighboring compartment, then the individual tank compartments can be tested simultaneously. For compartmented tanks, each compartment must be tested separately if single bulkheads are used. If compartments use double bulkhead construction, the individual compartments can be tested simultaneously. Proceed to paragraph 4 “Detection of Leaks” below.

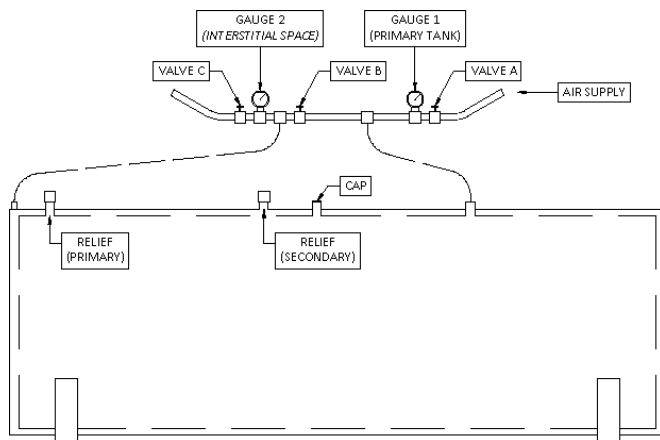


FIGURE 3.3.8
DOUBLE-WALL TANK

3.4 DOUBLE-WALL TANK PRESSURIZING

- 3.4.1 The following air pressure testing does not apply to double-wall tanks equipped with interstitial vacuum monitoring systems. In lieu of the air pressure test, the tank may be shipped from the factory with a vacuum in the tank interstice. If the vacuum pressure, gauge reading has deviated more than 2 inches Hg (40.5kPa) from the shipping pressure contact the tank manufacturer.
- 3.4.2 The following air pressure testing applies only to single compartment double wall tanks. Follow the procedure described in section 3.5 to test multi compartment double wall tanks. Read and record the vacuum pressure.
- 3.4.3 Install test piping as shown in Figure 3.3.8. Temporarily plug, cap, or seal off remaining tank openings to hold pressure.

- 3.4.4 Connect regulated test air supply line to test piping as shown in Figure 3.3.8.
- 3.4.5 Close valves A and B. Open valve C.
- 3.4.6 Slowly open valve A to pressurize the primary tank. Pressure gauge 1 should indicate test air pressure given in paragraph 3.2.1.
- 3.4.7 Close valve A. Disconnect regulated test air supply line from test piping.
- 3.4.8 Monitor test pressure in primary tank for 1 hour minimum. A steady drop in pressure reading for gauge 1 indicates there may be a leak in the primary tank. Check the fittings, and gauge, then retest. If the problem persists, contact the tank manufacturer.
- 3.4.9 If no leaks are found, close valve C and slowly open valve B to pressurize the interstitial space between the double walls of the tank. Pressure gauge 1 will indicate a slight drop in test pressure when valve B is opened but should hold steady at the lower pressure. If test pressure drops below minimum requirements found in 3.2.1, close valve B, reconnect air supply line and slowly open valve A to increase pressure in primary tank. When the required pressure is indicated on gauge 1 close valve A, disconnect test air supply line. Open valve B to equalize pressure in the primary tank and the interstitial space. Gauge 1 and gauge 2 should have the same pressure reading.

WARNING: Do not apply air pressure to the interstitial space between the walls of a double wall tank without air pressure in the primary tank. Several re-pressurization cycles may be needed to pressurize the interstitial space of a protected and/or insulated tank because the insulating material will absorb some of the air during pressurization. A tank that is 20,000 gallons or less may require up to four re- pressurization cycles, and a tank large than 20,000 gallons may require up to six re- pressurization cycles. Do not apply air pressure to the interstitial space that is higher than the air pressure in the primary tank. Damage to the tank may result.

3.4.10 Upon stabilization of pressure in the interstitial space close valve B and disconnect the air line. Hold test pressure in interstitial space for 1 hour minimum. A steady drop in pressure gauge 2 indicates there may be a leak in the interstitial space. The tank test pressure should not vary more than 5% during the test. Check the test fittings, the gauges, tank fittings and then retest if variance exceeds 5%. Be especially careful to check the emergency vent cap or plug for leaks. If the problem persists, contact the tank manufacturer. Do not leave the tank unattended if any part of the tank is under pressure.

3.4.11 Proceed to paragraph 4 “Detection of Leaks” to complete testing. In lieu of the air pressure test described in this section, a vacuum may be applied to the interstice of a double-wall tank or to the interstice of a double-bottom tank as described in paragraph 3.6.

3.5 DOUBLE WALL MULTI COMPARTMENT TANK PRESSURIZING

3.5.1 Multi compartment tanks can be pressure tested however when testing secondary containment type multi compartment tanks steps must be taken to prevent pressurizing the secondary tank when the primary tanks are not also under a pressure at least equal to the test pressure of the secondary tank. If the secondary tank pressure exceeds the primary tank pressure(s) the primary tank(s) may be damaged.

3.5.2 The first step is to pressure test the individual tank compartments to confirm their integrity. Multi compartment tanks which have common bulkheads must have each compartment tested individually. Multi compartment tanks that have individual tank bulkheads separated from the adjoining tank bulkhead can have the tank compartments tested simultaneously. The type of compartment construction can be established via the tank drawing or by contacting the tank manufacturer. If the tank construction cannot be established test each compartment individually as if the tank compartments share bulkheads.

3.5.3 **WARNING:** A relief valve should be installed in a tank opening and set at the maximum test pressure to prevent causing tank failure by over-pressurization.

3.5.4 Once the individual compartments have been tested and have passed, the tank should be configured as shown in Figure 3.5.8 to allow the tank compartments to be pressurized simultaneously, and then to allow the pressure from the primary tank to be transferred to the secondary tank.

3.5.5 Close valves A and B. Open valve C. Slowly open valve A to pressurize the primary tanks simultaneously. Pressure gauge 1 should indicate test air pressure given in paragraph 3.2.1.

3.5.6 Close valve A. Disconnect regulated test air supply line from test piping.

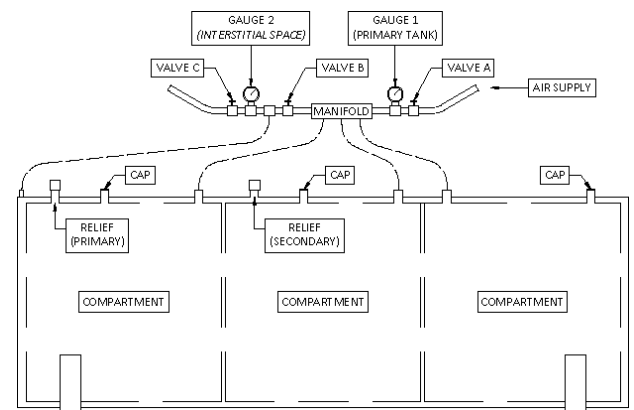


FIGURE 3.5.8
DOUBLE-WALL MULTI COMPARTMENT TANK

3.5.7 Monitor test pressure in primary tanks to confirm test assembly integrity. A steady drop in pressure reading for gauge 1 indicates there may be a leak in one of the primary tanks or test fittings. If leak is suspected, check the fittings, and gauge, then retest. If the problem persists, reconfigure the tanks to test each compartment separately. If the leak cannot be identified, contact the tank manufacturer.

3.5.8 If no leaks are found, close valve C and slowly open valve B to pressurize the interstitial space between the double walls of the tank compartments. Pressure gauge 1 will indicate a slight drop in test pressure when valve B is opened but should hold steady at the lower pressure. If test pressure drops below minimum requirements, close valve B, reconnect air supply line and slowly open valve A to increase pressure in primary tank. When the required pressure is indicated on gauge 1 close valve A, disconnect test air supply line. Open valve B to equalize pressure between the primary tanks and the interstitial space. Gauge 1 and gauge 2 should have the same pressure reading.

3.5.9 Several re-pressurization cycles may be needed to pressurize the interstitial space of a protected tank because the insulating material will absorb some of the air during pressurization. A tank that is 20,000 gallons or less may require up to four re-pressurization cycles, and a tank large than 20,000 gallons may require up to six re-pressurization cycles. Re-pressurizations are done by transferring air from the primary tanks to the secondary tank. Air pressure may need to be added to the primary tanks to maintain test pressure. Do not apply air pressure directly to the interstitial space. Damage to the tank may result. Only apply air pressure to the interstitial space of a double wall tank when the air pressure in the primary tank is equal to the test pressure.

3.5.10 Once the pressures have stabilized close valve B. Upon stabilization of pressure in the interstitial space hold test pressure in interstitial space for 1 hour minimum. A steady drop in pressure gauge 2 indicates there may be a leak in the interstitial space. The tank pressure or the pressure in the interstitial space should not vary more than 5% during the test. If leak is suspected, check the test fittings, the gauges, the tank fittings and then retest. Be especially careful to check the emergency vent cap or plug for leaks. If the pressure in the interstitial space should exceed the pressure in the primary tanks, valve C should be opened to discharge the pressure for the interstitial space and the source of the leak is found. If the problem persists, contact the tank manufacturer.

3.5.11 Proceed to paragraph 4 "Detection of Leaks" to complete testing. In lieu of the air pressure test described in this section, a vacuum may be applied to the interstice of a double-wall tank or to the interstice of a double-bottom tank as described in paragraph 3.6.

3.6 VACUUM TEST FOR DOUBLE WALL AND DOUBLE BOTTOM TANKS

3.6.1 **NOTE:** This test procedure may be difficult to conduct for large (greater than 20,000 gallons) tanks because of the greater volume of space to be evacuated and difficulty in sealing the tank openings. **DO NOT APPLY A VACUUM TO THE PRIMARY TANK OF A DOUBLE-WALL TANK OR TO A SINGLE-WALL TANK.** A vacuum of 6 inches Hg (20.3 kPa) is to be applied to the interstice only. The vacuum shall be allowed to stabilize for 10 minutes and, if the vacuum is lost due to tank shifting or the effects of temperature, the test vacuum can be re-

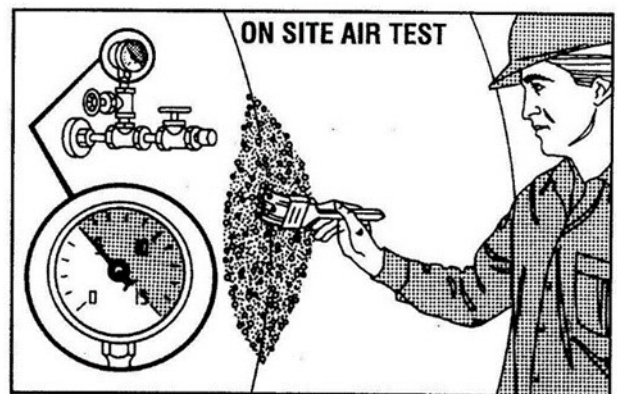
established. Once the test pressure is stabilized the vacuum should be held without a loss for one hour on tanks less than 20,000 gallons and for 2 hours for tanks greater than or equal to 20,000 gallons. If this vacuum cannot be held for the specified time interval, then perform the air test procedure described in paragraph 3.4 or 3.5 as appropriate, and the leak check described in paragraph 4.

3.6.2 Caution must be taken in applying a vacuum to the interstice of a tank and the testing must be stopped if any deformation appears on the tank.

3.6.3 Performing a vacuum test on an insulated tank can be difficult due to the porosity of the tank insulation. The vacuum will need to be applied in stages to allow the insulation to yield trapped air. Vacuum should be checked 15 minutes after it is applied to check for stabilization. Vacuum can be re-applied if the level has dropped from test value. This process can be repeated up to four times for a tank less than 20,000 gallons in capacity and six times for a tank greater than 20,000 gallons. After the stabilization period is complete the interstitial vacuum can be set at 6" hg, the tank should hold the vacuum for one hour if less than 20,000 gallons capacity and two hours if the tank is greater than 20,000 gallons capacity. The vacuum should not vary more than 5% during the test (0.3" hg) for the duration of the test. If this vacuum cannot be held for the specified time interval, then perform the air test procedure described in paragraph 3.4 or 3.5 as appropriate, and the leak check described in paragraph 4.

4 DETECTION OF LEAKS

4.1 Immediately apply leak test solution to tank exterior surfaces, welds, fittings, etc. Check for leaks. No leaks are permitted. If leaks are found, notify the tank manufacturer. If no leaks are found, testing of the tank is complete.



- 4.2 For single-wall tank, open valve B, then slowly open valve A to release test air pressure. For double-wall tank, open valve C, then slowly open valve B to release test air pressure.
- 4.3 **WARNING:** A relief valve should be installed in the air supply line and set below the maximum pressure listed in 3.2.1.
- 5 TANK PIPING AND ACCESSORIES**
- 5.1 Install all permanent piping and fittings using compatible, non-hardening thread sealant material. All openings should be inspected and cleaned prior to attaching components to the tank.
- 5.2 All unused tank openings must be properly sealed with metal pipe plugs or caps and tested to be liquid and vapor tight prior to putting the tank into service.
- DO NOT WELD ON THE TANK, MODIFY OR PENETRATE THE TANK STRUCTURE IN ANY WAY WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE TANK MANUFACTURER.
- 5.3 All tank accessories shall be installed as required per local codes and manufacturer recommendations. Anti-siphon devices, overfill shut-offs and alarms, vents, gauges, emergency vents, etc. are common requirements for tank systems storing and dispensing motor fuels.
- 6 MAINTENANCE**
- 6.1 The tank operator should perform periodic walk-around inspections to identify and repair areas of damage to the tank or the coating. Check for proper drainage around the tank area.
- 6.2 It is imperative that the tank exterior be inspected periodically to ensure that the integrity of the coating is maintained. The frequency of periodic repainting will be based upon environmental factors in the geographic area where the tank is located. Special consideration should be given to the selection of the paint, surface preparation and coating application. The coating selected should be suitable for use with the current coating, or the existing coating should be removed. The coating selected should be of industrial quality. Care must be taken to ensure that tank certification label and serial number label are preserved as these are unique to the tank.
- 6.3 Proper site preparation and maintenance are vital to ensure drainage of surface water. Should ground conditions change or settlement occur, take the appropriate steps to maintain proper drainage and prevent standing water near or under the tank area.
- 6.3.1 For diked tanks, remove any product spills immediately. Be sure to dispose of hazardous material properly.
- 6.3.2 For diked tanks fitted with a drain, drain off water only. Drain openings are required to be maintained liquid tight.
- 6.4 The primary tank should be inspected monthly for the presence of water at the lowest possible points inside the primary tank. Remove any water found. Water and sediment in fuel can cause plugging of filters. Also, bacterial growth in this media can cause filters to plug, diminish fuel quality and cause corrosion of tanks and lines. For procedures on how to check for the presence of water and removal of water, refer to STI RP111, Storage Tank Maintenance. For copies of the RP and more information, please go to www.steeltank.com.
- 6.5 Tank relocation requirements – Aboveground storage tanks are often relocated. The following instructions are to be followed when this occurs. All steps are to be documented and the documentation is to be kept for the life of the tank.
- 6.5.1 The hazards associated with the cleaning, entry, inspection, testing, maintenance, or other aspects of ASTs are significant. Safety considerations and controls should be established prior to undertaking physical activities associated with ASTs. Cleaning of tanks must be per state and local jurisdiction requirements.
- 6.5.2 Refer to STI Standard SP001, “Standard for the Inspection of Aboveground Storage Tanks” for requirements concerning tank inspections. This SP001 Standard details requirements for inspections based on the tank installation and age. A tank must undergo the appropriate inspection prior to relocation.
- The tank must be subjected to a pressure (or vacuum) test as detailed paragraph 3.2 above except an inert gas, such as nitrogen, should be used for tanks that have previously held fuel.

DISCLAIMER

These instructions are intended only as an aid to tank installers who are knowledgeable and experienced in aboveground tank installation. Compliance herewith does not necessarily meet the requirements of applicable federal, state and local laws, regulations and ordinances concerning tank installation. STI makes no warranties, express or implied, including but not limited to, any implied warranties of merchantability or fitness for a particular purpose, as a result of these installation instructions. Contact STI for the latest version of these Installation Instructions or visit the STI website at www.steeltank.com.

THE FOLLOWING AUTHORIZATION PAGE FROM UNDERWRITERS LABORATORIES AUTHORIZES SOUTHERN TANK & MFG. CO., INC. TO FABRICATE AND APPLY U.L. LABELING TO ABOVEGROUND HORIZONTAL, VERTICAL, AND RECTANGULAR TANKS WITH OR WITHOUT SUPPORTS IN SINGLE WALL OR DUAL WALL VERSIONS. THESE TANKS ARE NOT AN S.T.I. TECHNOLOGY TANK.

FILE MH3074 VOL. 1, SECTION 1, ORIGINAL ISSUE 10/09/1968, REVISED 03/26/2004. ABOVEGROUND HORIZONTAL, VERTICAL, AND RECTANGULAR, WITH OR WITHOUT SUPPORTS, SINGLE WALL.

FILE MH3074 VOL. 1, SECTION 2, ORIGINAL ISSUE 10/26/1993, REVISED 03/26/2004. SECONDARY CONTAINMENT (DUAL WALL) ABOVEGROUND TANKS FOR FLAMMABLE LIQUIDS (HORIZONTAL, VERTICAL, AND RECTANGULAR, WITH OR WITHOUT SUPPORTS).

FILE MH3074 VOL. 1, SECTION 3, ORIGINAL ISSUE 03/16/1998, REVISED 03/26/2004. CLOSED-TOP DIKED ABOVEGROUND TANKS FOR FLAMMABLE LIQUIDS (SINGLE WALL) AND CLOSED-TOP DIKED SECONDARY-CONTAINMENT TANKS FOR FLAMMABLE LIQUIDS (DUAL WALL)

NBK



Underwriters Laboratories Inc.®

333 Plingsten Road
Northbrook, Illinois 60062-2096
(708) 272-8800
FAX No. (708) 272-8129
MCI Mail No. 254-3343
Cable ULINC NORTHBROOK, IL
Telex No. 6502543343

File MH3074

Vol 1

Issued 10/09/68
Revised 10/11/91

FOLLOW-UP SERVICE PROCEDURE
(TYPE L)

ABOVEGROUND FLAMMABLE LIQUID TANKS
(EEEV)

Manufacturer: SOUTHERN TANK & MFG INC
(665878-001) 1501 HAYNES AVE
P O BOX 2066
OWENSBORO KY 42302

Applicant: SAME AS MANUFACTURER
(665878-001)

Listee: SAME AS MANUFACTURER
(665878-001)

This Procedure authorizes the above Manufacturer to use the Listing Mark of Underwriters Laboratories Inc. only on Listed products covered by this Procedure, in accordance with the Listing and Follow-Up Service Agreement.

The prescribed Mark or Marking shall be used only at the above manufacturing location on such products which comply with this Procedure and any other applicable requirements.

The Procedure contains information for the use of the above named Manufacturer and representatives of Underwriters Laboratories Inc. and is not to be used for any other purpose. It is lent to the Manufacturer with the understanding that it is not to be copied, either wholly or in part, and that it will be returned to Underwriters Laboratories Inc. upon request.

This PROCEDURE, and any subsequent revisions, is the property of UNDERWRITERS LABORATORIES INC. and is not transferable.

Reviewed By:

UNDERWRITERS LABORATORIES INC.

Robert H. Lemme

Engineer
R

Vice President, Follow-Up Services

D E S C R I P T I O N

PRODUCT COVERED:

Aboveground tanks for flammable liquids and aboveground tanks for flammable liquids on supports.

GENERAL:

The products covered are horizontal or vertical cylindrical single wall tanks designed for the aboveground storage of flammable and combustible liquids at atmospheric pressure. The horizontal cylindrical tanks may be provided with integral steel supports.

These tanks are intended for stationary installation and use in accordance with the Flammable and Combustible Liquids Code, NFPA 30; the Standard for Installation of Oil Burning Equipment, NFPA 31; and the Standard for Automotive and Marine Service Station Code, NFPA 30A of the National Fire Protection Association.

The tanks are fabricated, inspected and tested for leakage before shipment from the factory as completely assembled vessels.

REQUIREMENTS:

Details not specifically covered in the descriptive section of this Follow-Up Service Procedure shall conform with the current Edition of the Standard for Steel Aboveground Tanks for flammable and Combustible Liquids, UL 142.

TESTS TO BE CONDUCTED BY THE MANUFACTURER:

Shall be as specified in Section 39 of the Standard.

MARKING:

Shall be as specified in Sections 47 through 49 of the Standard.

D E S C R I P T I O N

PRODUCT COVERED:

Secondary containment aboveground tanks for flammable liquids and secondary containment aboveground tanks for flammable liquids on supports.

GENERAL:

The products covered are primary containment horizontal or vertical cylindrical steel tanks contained within a steel secondary containment shell forming an interstitial space. These tanks are for the aboveground storage of flammable and combustible liquids at atmospheric pressure. These tanks have a provision for monitoring the interstitial space for leakage of the primary tank. The horizontal cylindrical tanks may be provided with integral steel supports.

These tanks are intended for stationary installation and use in accordance with the Flammable and Combustible Liquid Code, NRPA 30; the Standard for Installation of Oil Burning Equipment, NFPA 31; and the Standard for Automotive and Marine Service Station Code, NFPA 30A of the National Fire Protection Association.

The tanks are fabricated, inspected and tested for leakage before shipment from the factory as completely assembled vessels.

REQUIREMENTS:

Details not specifically covered in the descriptive section of this Follow-Up Service Procedure shall conform with the current Edition of the Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids, UL 142.

TESTS TO BE CONDUCTED BY THE MANUFACTURER:

Shall be as specified in Section 39 of the Standard.

MARKING:

Shall be as specified in Sections 47 through 49 of the Standard.

FACTORY IDENTIFICATION:

Refer to Section General.

JWM/TAS:jds
PC Lbry

DESCRIPTION

PRODUCT COVERED:

Closed-Top Diked Aboveground Tanks for Flammable Liquids and Closed-Top Diked Secondary-Containment Aboveground Tanks for Flammable Liquids, 250 through 40,000 gallon capacity.

GENERAL:

The products covered are horizontal, cylindrical steel tanks and secondary-containment steel tanks with a closed-top containment dike designed for aboveground storage of flammable liquids at atmospheric pressure. They are for use with only non-corrosive, stable liquids that have a specific gravity not exceeding that of water.

The tanks are intended for stationary installation and use in accordance with the Flammable and Combustible Liquids Code, NFPA 30; the Standard for the Installation of Oil Burning Equipment, NFPA 31; and the Automotive and Marine Service Stations Code, NFPA 30A of the National Fire Protection Association.

The tanks are fabricated, inspected and tested for leakage before shipment from the factory as completely-assembled vessels.

REQUIREMENTS:

Both the primary and secondary tanks with the closed-top dike are constructed in accordance with the current Edition of the Standard of Underwriters Laboratories Inc. for Steel Aboveground Tanks for Flammable and Combustible Liquids, UL 142. Details not specifically covered in the descriptive section of this Follow-Up Service Procedure shall conform with this Standard.

TEST TO BE CONDUCTED BY THE MANUFACTURER:

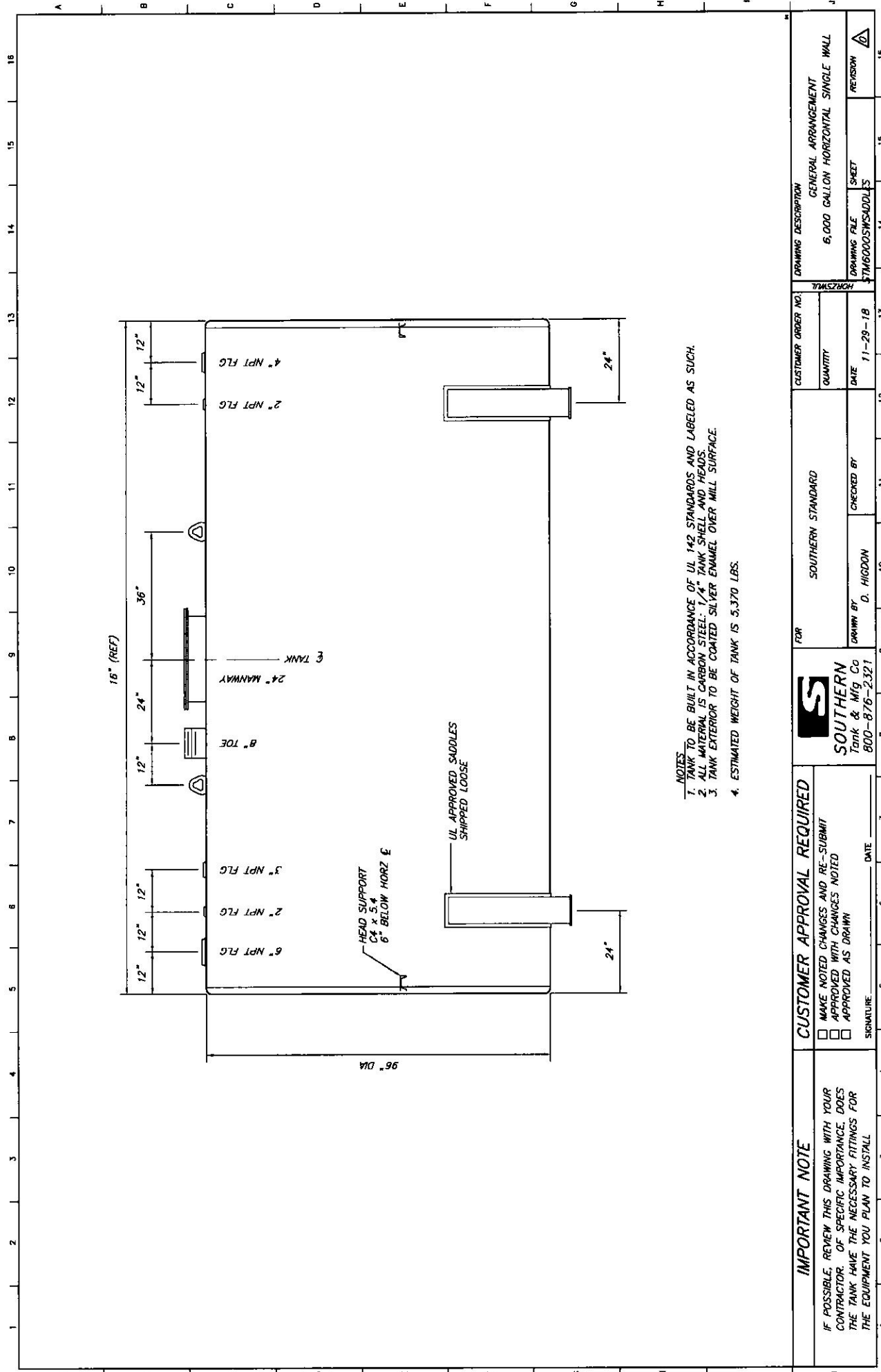
Shall be as specified in Sections 45 and 46 of the Standard.

MARKING:

Shall be as specified in Sections 47 through 49 of the Standard.

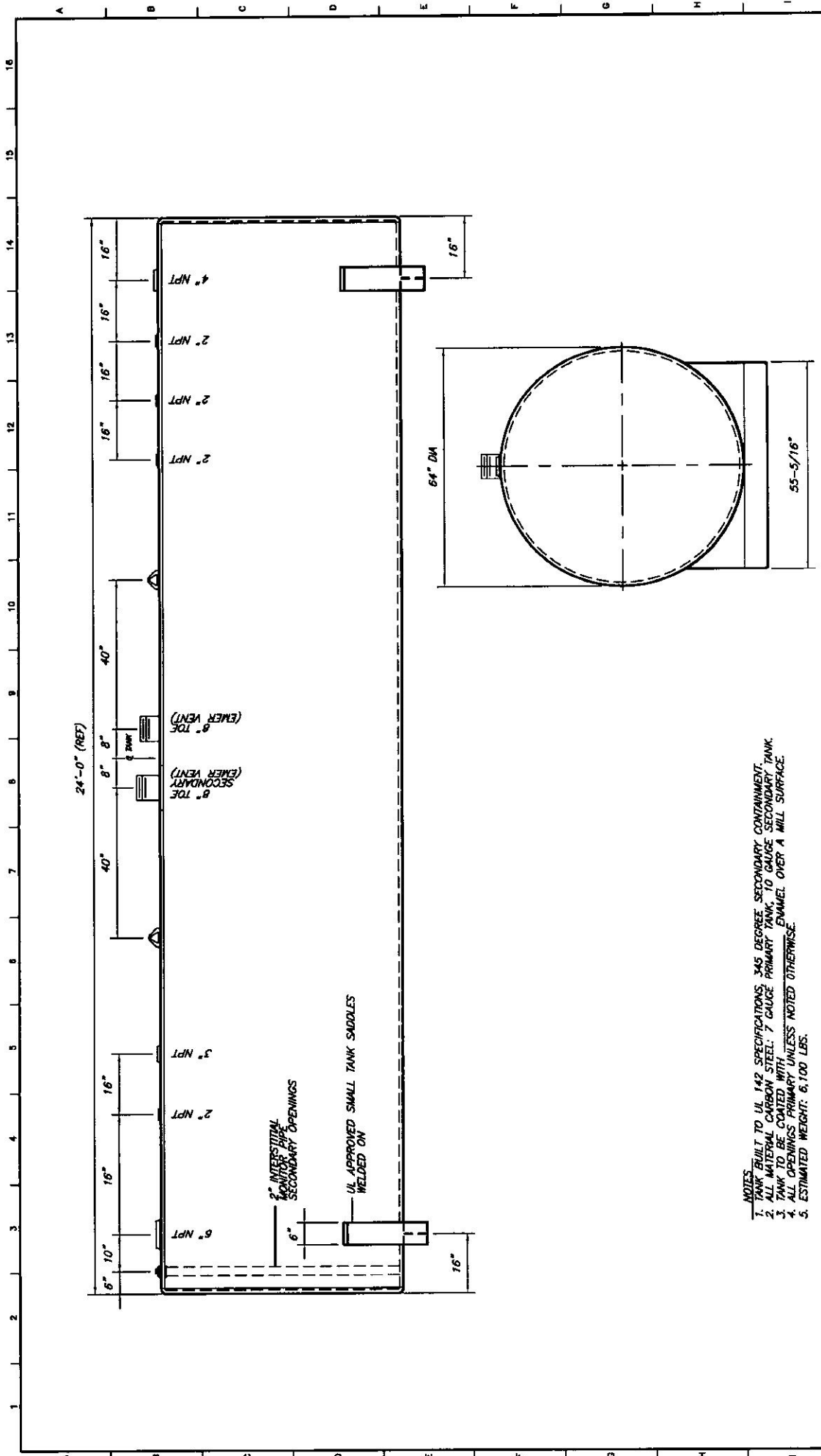
FACTORY IDENTIFICATION:

Refer to Section General.



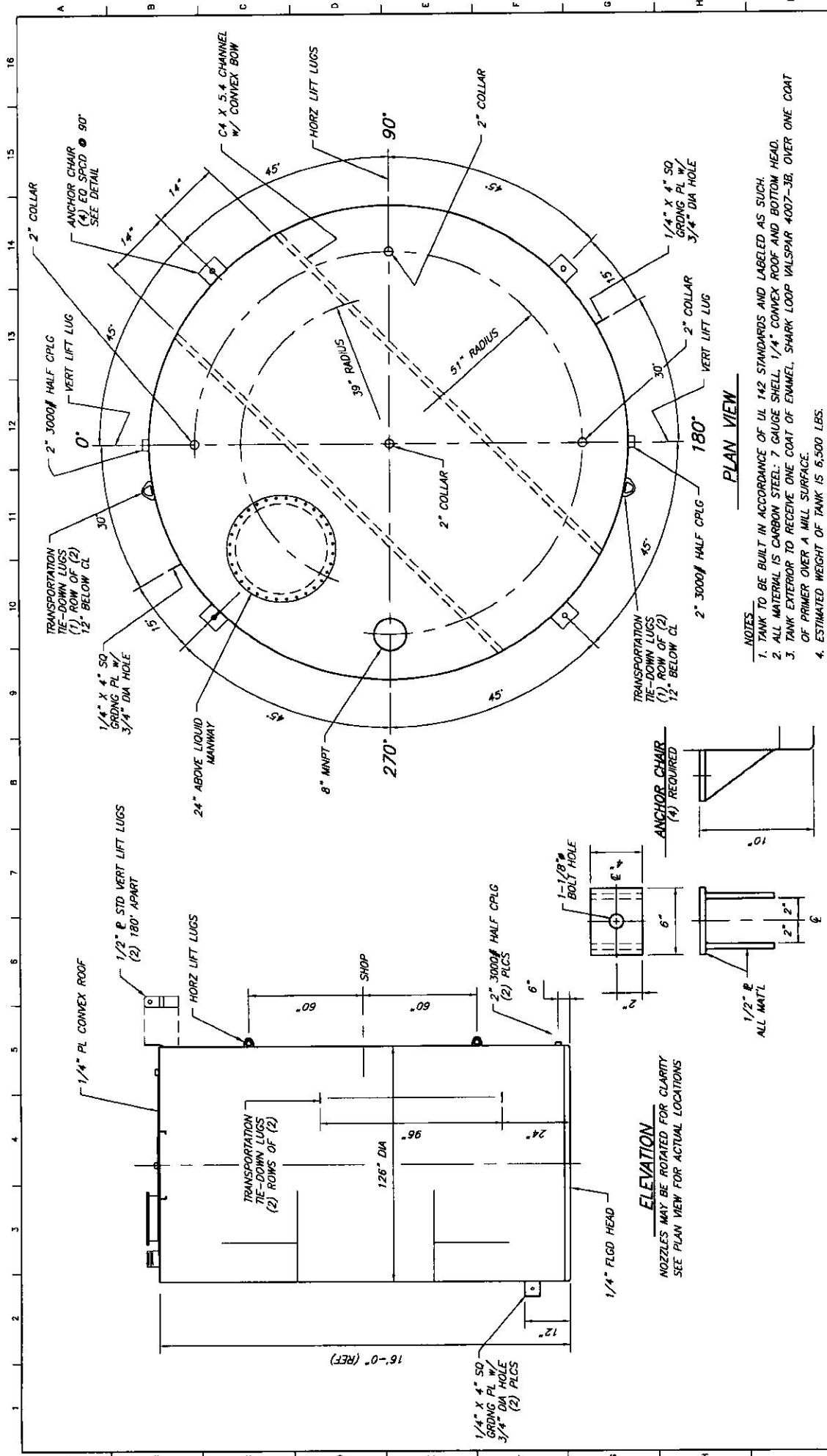
- NOTES**
1. TANK TO BE BUILT IN ACCORDANCE OF UL 142 STANDARDS AND LABELED AS SUCH.
 2. ALL MATERIAL IS CARBON STEEL: 1/4" TANK SHELL AND HEADS.
 3. TANK EXTERIOR TO BE COATED SILVER ENAMEL OVER MILL SURFACE.
 4. ESTIMATED WEIGHT OF TANK IS 5,370 LBS.

IMPORTANT NOTE IF POSSIBLE, REVIEW THIS DRAWING WITH YOUR CONTRACTOR. OF SPECIFIC IMPORTANCE, DOES THE TANK HAVE THE NECESSARY FITTINGS FOR THE EQUIPMENT YOU PLAN TO INSTALL		CUSTOMER APPROVAL REQUIRED ☐ MAKE NOTED CHANGES AND RE-SUBMIT ☐ APPROVED WITH CHANGES NOTED ☐ APPROVED AS DRAWN SIGNATURE _____ DATE _____		SOUTHERN Tank & Mfg Co 800-876-2321		FOR SOUTHERN STANDARD DRAWN BY D. HIGDON CHECKED BY _____ DATE 11-29-18		CUSTOMER ORDER NO. QUANTITY _____ DATE 11-29-18		DRAWING DESCRIPTION 6,000 GALLON HORIZONTAL SINGLE WALL DRAWING FILE \$T1M60000SW\$ADDL\$S		GENERAL ARRANGEMENT SHEET 16 REMISION	



- NOTES:
1. TANK BUILT TO UL 142 SPECIFICATIONS 34.5 DEGREE SECONDARY CONTAINMENT.
 2. ALL MATERIAL CARBON STEEL: 7 GAUGE PRIMARY TANK TO GAUGE SECONDARY TANK.
 3. TANK TO BE COATED WITH ENAMEL OVER A MILL SURFACE.
 4. ALL OPENINGS PRIMARY UNLESS NOTED OTHERWISE.
 5. ESTIMATED WEIGHT: 6,100 LBS.

IMPORTANT NOTE				CUSTOMER APPROVAL REQUIRED				FOR				DRAWING DESCRIPTION			
IF POSSIBLE, REVIEW THIS DRAWING WITH YOUR CONTRACTOR. OF SPECIFIC IMPORTANCE, DOES THE TANK HAVE THE NECESSARY FITTINGS FOR THE EQUIPMENT YOU PLAN TO INSTALL				☐ MAKE NOTED CHANGES AND RE-SUBMIT ☐ APPROVED WITH CHANGES NOTED ☐ APPROVED AS DRAWN				 SOUTHERN Tank & Mfg Co 800-876-2321				GENERAL ARRANGEMENT 4,000 GALLON HORIZONTAL DOUBLE WALL			
				SIGNATURE _____ DATE _____				DRAWN BY D. HIGDON				CUSTOMER ORDER NO.			
								CHECKED BY				QUANTITY			
								DATE 2-6-14				DRAWING FILE			
								SHEET 1 OF 1				REVISION			



IMPORTANT NOTE		CUSTOMER APPROVAL REQUIRED		FOR		DRAWING DESCRIPTION	
IF POSSIBLE, REVIEW THIS DRAWING WITH YOUR CONTRACTOR. OF SPECIFIC IMPORTANCE, DOES THE TANK HAVE THE NECESSARY FITTINGS FOR THE EQUIPMENT YOU PLAN TO INSTALL.		☐ MAKE NOTED CHANGES AND RE-SUBMIT ☐ APPROVED WITH CHANGES NOTED ☐ APPROVED AS DRAWN		SOUTHERN Tank & Mfg. Co 800-876-2321		GENERAL ARRANGEMENT 10,000 GAL VERTICAL UL TANK	
SIGNATURE _____		DATE _____		DRAWN BY D. HICDON		DRAWING FILE 91465	
				CHECKED BY _____		SHEET 1 OF 1	
				QUANTITY ONE		REVISION	
				DATE 2-6-20		14	
						15	
						16	

INSTALLATION INSTRUCTIONS

SHOP FABRICATED ABOVEGROUND STORAGE TANKS

APPENDIX D INSTALLATION AND TESTING INSTRUCTIONS

1.0 TANK SITE EVALUATION AND PREPARATION PRIOR TO INSTALLATION

- 1.1 The foundation must be designed to support the tank plus 100% of its contents when full. The foundation design shall also take into account the type of support that is being used and the point load associated with that support. The foundation may be constructed using concrete, asphalt, gravel or other stable material and must include provisions in its design to prevent tank movement. The foundation should include any provisions necessary for seismic design. The foundation design must also include provision for draining surface water away from the tank.
- 1.2 For tank installations without cathodic corrosion protection, the tank should be grounded in accordance with applicable electrical and fire code standards.
- 1.3 Where the steel tank body is in contact with the earth, use a zinc grounding rod. Do not use a copper grounding rod.
- 1.4 Where the steel tank body is in contact with the earth or foundation, it should be protected from external corrosion. For external corrosion protection using cathodic corrosion protection, consult applicable standards (i.e., National Association of Corrosion Engineers) to provide the tank with appropriate protection from lightning without interference with the corrosion protection. Steel tanks in contact with the earth should not use copper grounding. Refer to STI R893-89, "Recommended Practices for External Corrosion Protection of Shop Fabricated Aboveground Storage Tank Floors."
- 1.5 Tanks located in areas subject to flooding must be protected against floatation.
- 1.6 Aboveground tanks should not be located above underground utilities or directly beneath overhead power lines.
- 1.7 The tank shall be protected from vandalism and accidental damage.
- 1.8 The tank shall be installed in accordance with all applicable codes, i.e., NFPA 30, NFPA 30A, UFC, etc. as well as local environmental regulations and safety codes. Consult local authorities before installing this tank.

2.0 TANK HANDLING

- 2.1 Do not handle or install the tank without having knowledge and experience in procedures involved with proper and safe installation of an aboveground tank used for storage of stable, flammable and combustible liquids.
- 2.2 Equipment for handling the tank shall be of adequate size to lift and position the tank. **DO NOT DROP OR DRAG THE TANK.**
- 2.3 Tanks shall be carefully handled using cables or chains of adequate length (with spreader bars, if necessary) and size. Attach to the tank using the lifting lugs provided. Care should be taken that the angle between the two cables, at the lift point, shall be no greater than 60 degrees.
- 2.4 **DO NOT HANDLE OR MOVE THE TANK UNLESS IT IS EMPTY.**
- 2.5 This is a stationary tank. Do not use this tank for transport of any product.

3.0 TESTING

3.1 GENERAL REQUIREMENTS

- 3.1.1 An on-site air test of the tank may be required by local authorities to ensure no damage has occurred in shipping and handling. All testing should be done as described below, or according to the tank manufacturer's specific instructions.

- 3.1.2 If the manufacturer has shipped the double wall tank with a vacuum drawn on the space between the walls, read and record the vacuum pressure. If the vacuum gauge reading is less than 12 inches Hg (40.5 kPa), contact the original tank manufacturer.

- 3.1.3 In lieu of the air pressure test described below, a vacuum may be applied to the interstice of a double-wall tank or to the interstice of a double-bottom tank. **NOTE:** This test procedure may be difficult to conduct for large (greater than 2000 gallons) tanks because of the size of the volume to be evacuated and difficulty in sealing the tank openings. **DO NOT APPLY A VACUUM TO THE PRIMARY TANK OF A DOUBLE-WALL TANK OR TO A SINGLE-WALL TANK.** A vacuum of 7" to 10" Hg is to be applied to the interstice and held for at least 24 hours with no more than a 2" Hg vacuum loss allowed. If this vacuum cannot be held for 24 hours, then perform the air test procedure described below.

- 3.1.3.1 Caution must be taken in applying a vacuum to the interstice of a tank and the testing must be stopped if any deformation appears on the tank.

3.2 AIR PRESSURE TEST PROCEDURE FOR TANKS

- 3.2.1* If the tank is equipped with a long-bolt manway for emergency venting, do not remove the long-bolts from the long-bolt manway. Instead, long-bolt manways must be secured with C-clamps of appropriate size and strength to hold the vent cover in the sealed position to maintain the tank pressures required. If the tank is equipped with standard emergency vents, remove emergency vents and cap openings to hold tank pressure as required.

* **NOTE:** Use only calibrated air pressure gauges with a 0-15 psig (0-103 kPa) dial span. The relief valve must have a flow rate at the set pressure that is greater than the flow rate of the air supply line. The regulated air supply test pressure used for this test shall be as follows:

- a.* **HORIZONTAL CYLINDRICAL TANKS** - Not less than 3 psig (20.7 kPa) nor more than 5 psig (34.5 kPa). Set the pressure relief valve in the air supply line at 5.5 psi (38 kPa).
 - b.* **VERTICAL TANKS** - Not to be less than 1½ psig (10.4 kPa) nor more than 2 ½ psig (17 kPa) or that gauge pressure above 1 ½ psig (10.4 kPa) which first causes visible deformation of the tank. Set the pressure relief valve in the air supply line at 2 ½ psig (17 kPa).
 - c.* **RECTANGULAR TANKS** - Not more than 1 ½ psig (10.4 kPa). Set the pressure relief valve in the air supply line at 1 ½ psig (10.4 kPa).
- * **CAUTION:** Do not leave pressurized tank unattended while the air supply line is connected. Do not stand in front of tank heads or fittings when pressurizing tank.

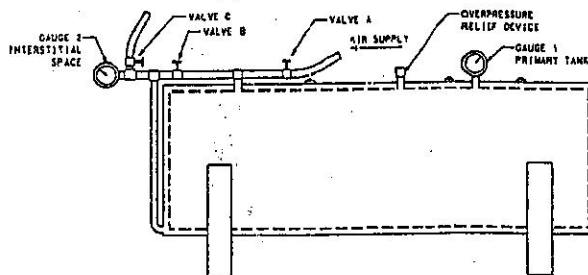
Pressurizing of large tanks may result in the slight deformation of the top and bottom of vertical tanks, of the sides of rectangular tanks, and of the heads and ends of cylindrical tanks. Should deformation appear severe, immediately relieve the pressure.

3.2.2 TANK PRESSURIZING PROCEDURE

- 3.2.2.1 The following air pressure testing does not apply to double-wall tanks equipped with interstitial vacuum monitoring systems. (In lieu of the air pressure test, the tank may be shipped from the factory with a vacuum in the tank interstice. Read and record the vacuum pressure. If the vacuum pressure gauge reading is less than 12 inches Hg (40.5 kPa), contact the tank manufacturer).

- 3.2.2.2 Install test piping as shown in Figure D-3.2.2.2. Temporarily plug, cap or seal off remaining tank openings to hold pressure.

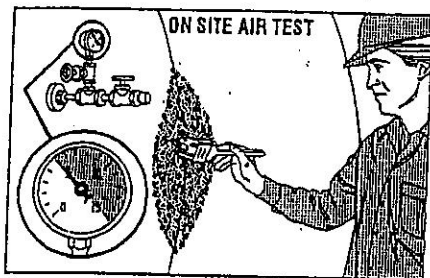
- 3.2.2.3 Close valves A and B. Open valve C.



**FIGURE D-3.2.2.2
DOUBLE WALL TANK**

- 3.2.2.4 Connect regulated test air supply line to test piping as shown in Figure D-3.2.2.2.
- 3.2.2.5 Slowly open valve A to pressurize the primary tank. Pressure gauge 1 should indicate test air pressure given in paragraph 3.2.1 above.
- 3.2.2.6 Close valve A. Disconnect regulated test air supply line from test piping.

- 3.2.2.7 Monitor test pressure in primary tank for 1 hour minimum. A steady drop in pressure reading for gauge 1 indicates there may be a leak in the primary tank. Check the fittings, the gauge, and then retest. If the problem persists, contact the tank manufacturer.
- 3.2.2.8 If no leaks are found, close valve C and slowly open valve B to pressurize the interstitial space between the double walls of the tank.
WARNING: Do not apply air pressure to the interstitial space between the walls of a double wall tank without air pressure in the primary tank. Do not apply air pressure to the interstitial space that is higher than the air pressure in the primary tank. Damage to the tank may result.
 Pressure gauge 1 will indicate a slight drop in test pressure when valve B is opened, but should hold steady at the lower pressure. If the test pressure drops below the minimum requirements, close valve B, reconnect the air supply line and slowly open valve A to increase the pressure in the primary tank. When the required pressure is indicated on gauge 1 close valve A, disconnect the test air supply line. Open valve B to equalize the pressure in the primary tank and the interstitial space. Gauge 1 and gauge 2 should have the same pressure reading.
- 3.2.2.9 Close valve B. Hold the test pressure in the interstitial space for 1 hour minimum. A steady drop in pressure gauge 2 indicates there may be a leak in the interstitial space. Check the fittings, the gauges, and then retest. If the problem persists, contact the tank manufacturer.
- 3.2.2.10 Proceed to Section 3.2.3, "Detection of Leaks" below.
- 3.2.3 **DETECTION OF LEAKS**
- 3.2.3.1 Immediately apply the leak test solution to the tank exterior surfaces, welds, fittings, etc. Check for leaks. No leaks are allowed. If leaks are found, notify the tank manufacturer. If no leaks are found, testing of the tank is complete.



- 3.2.3.2 Open valve C, then slowly open valve B to release test air pressure.
- 3.2.3.3 With tank depressurized, remove test piping, temporary plugs, caps and seals. Reinstall emergency relief vents, etc. which were removed in Section 3.2.1 above. If tank is equipped with an emergency vent long-bolt manway, disconnect the C clamps which were installed in Section 3.2.1 above.
WARNING: Emergency relief vents and long-bolt manways must be operable to prevent causing tank failure by over-pressurization.

4.0 TANK PIPING AND ACCESSORIES

- 4.1 Install all permanent piping and fittings using compatible, non-hardening thread sealant material.
- 4.2 All unused tank openings must be properly sealed and tested to be liquid and vapor tight prior to putting the tank into service.
- 4.3 **DO NOT WELD ON THE TANK, MODIFY OR PENETRATE THE TANK STRUCTURE IN ANY WAY WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE TANK MANUFACTURER.**
- 4.4 All tank accessories shall be installed as required per local codes. Anti-siphon devices, overflow shut-offs and alarms, vents gauges, emergency vents, etc. are common requirements for tanks storing motor fuels for the purpose of being dispensed into motor vehicles.

5.0 LABELING

- 5.1 Tanks shall be labeled in accordance with all applicable codes.

6.0 MAINTENANCE

- 6.1 The tank operator should perform periodic walk-around inspections to identify and repair areas of damage to the vessel or the coating itself and check for proper drainage around the tank area.
- 6.2 It is imperative that the tank exterior be inspected periodically to ensure that the integrity of the coating is maintained. The frequency of periodic repainting will be based upon environmental factors in the geographic area where the tank is located. Special consideration should be given to the selection of the paint, surface preparation and coating application. The coating selected should be suitable for use with the current coating, or the existing coating should be removed. The coating selected should be of industrial quality.
- 6.3 Proper site preparation and maintenance are vital to ensure drainage of surface water. Should ground conditions change or settlement occur, take the appropriate steps to maintain proper drainage and prevent standing water near or under the tank area.
- 6.3.1 For diked tanks, remove any product spills immediately. Be sure to dispose of hazardous material properly.
- 6.3.2 For diked tanks fitted with a drain, drain off water only. Drain openings are required to be maintained liquid tight.
- 6.4 The primary tank shall be inspected monthly for the presence of water at the lowest possible points inside the primary tank. Remove any water found. Water and sediment in fuel can cause plugging of fillers. Also, bacterial growth, originating from the fuel can cause corrosion of tanks and lines. For procedures on how to check for the presence of water and removal of water, refer to API Recommended Practice 1621, Appendix C and API Standard 2610. Another source of information is a report by the US Department of Energy, Brookhaven National Laboratory BNL 48406, which provides information on methods to test for and remove water, test for bacterial presence in fuel, tank cleaning and fuel additives.
- 6.5 Failure to adhere with these maintenance instructions may void your warranty.
- 6.6 Tank relocation requirements - often aboveground storage tanks are relocated. The following instructions are to be followed when this occurs: All steps are to be documented and the documentation is to be kept for the life of the tank.
- 6.6.1 The hazards associated with the cleaning, entry, inspection, testing, maintenance or other aspects of ASTs are significant. Safety considerations and controls should be established prior to undertaking physical activities associated with ASTs. Cleaning of tanks must be per state and local jurisdiction requirements. Refer to the STI Standard SP001, "Standard for the Inspection of Aboveground Storage Tanks" for requirements concerning tank inspections. This SP001 Standard details requirements for inspections based on the tank installation and age. A tank must undergo the appropriate inspection prior to relocation.
- 6.6.3 In addition, the tank must be subjected to a pressure (or vacuum) test as detailed paragraph 3.2 above except an inert gas, such as nitrogen, should be used for tanks that have previously held fuel.

Disclaimer

These instructions are intended only as an aid to tank installers who are knowledgeable and experienced in aboveground tank installation. Compliance herewith does not necessarily meet the requirements of applicable federal, state and local laws, regulations and ordinances concerning tank installation. STI makes no warranties, express or implied, including but not limited to, any implied warranties of merchantability or fitness for a particular purpose, as a result of these installation instructions.