

**Permatank® 10 Year + Additional 20 Year Limited Warranty**  
Limitations of Liability and Disclaimer

**What is Covered by this Warranty**

Provided that the conditions set forth below are satisfied, the steel tank manufacturer identified with the tank (hereinafter referred to as "Warrantor") warrants the Permatank® tank for 30 years (10 years + an additional 20 years) following delivery of the tank to the tank owner at the time of the original installation ("the Owner"), against any of the following events which may occur, provided the event occurs under operating conditions covered by this Warranty: (i) non-corrosion related structural failure; (ii) corrosion caused by reaction of the tank with its soil environment; and (iii) perforation of the tank caused by internal corrosion for those tanks equipped with wear plate(s) and used to store heating or motor fuels, including alcohols and other compatible contents, which is caused by these heating or motor fuels, alcohols and other compatible contents. In addition, the Warrantor warrants the tank against failure due to defective materials and workmanship for up to 1 year following the delivery of the tank to the Owner.

**Conditions to Warranty Effectiveness**

The limited warranties set forth herein are subject to the following conditions:

1. The Permatank® tank: (i) must be the original underground installation within the Continental United States of America, Alaska, Hawaii, and the Commonwealth of Puerto Rico or Canada; (ii) installed, operated and maintained in accordance with the applicable Permatank® specifications and the applicable Permatank® Installation Instructions that were in effect on the date of shipment by the Warrantor, any subsequent maintenance procedures of which the Owner has written notice, and any applicable governmental codes and regulations; and (iii) operated at a temperature no greater than 120N F and the maximum temperature limitations of the tank and its components as set forth in the specifications for the tank; and not used for the storage of #6 heated oil. Refer to the Installation Instructions on the back of this document for technical requirements concerning relocation of this tank by the original owner, in order to retain warranty eligibility. Tanks remaining in their original installation location will retain warranty eligibility if the facility where the tank is installed is sold to a new owner.
2. This Limited Warranty is not valid unless, and until, the Warranty Validation Card is fully completed by the Owner and returned to Steel Tank Institute (STI) within 30 days after the date of tank installation, or 90 days after the Warrantor's shipment of the tank, whichever comes first.
3. Upon discovery of a suspected tank failure or leak by the Owner, the Owner shall give the Warrantor written notice of the suspected tank failure or leak and permit the Warrantor or its designated representative to inspect the tank site prior to, during and after excavation of the tank. The tank owner bears the responsibility to identify that the cause of the failure is from one of the events within the Conditions covered by the Warranty.
4. Upon the Warrantor's determination that the tank failure or leak is covered by this Limited Warranty, the Warrantor at its sole option shall: (1) repair the tank; or (2) replace it with a tank of approximately the same size, design, quality of material and workmanship specified for the original tank; or (3) refund the purchase price of the original tank. If the Warrantor is unable to repair or replace the tank, it shall refund the original purchase price of the tank.

**What is Not Covered by this Warranty**

Warrantor does not warrant any piping system or any other attachments connected with the tank. Under no circumstances, shall the Warrantor be liable for (1) the cost of repair or replacement of any piping system or other attachments to the tank; or (2) labor costs or other installation costs for tank repair or replacement; or (3) damage to the tank or other property resulting from the accumulation of water in the tank; or (4) damage caused by excessive operating temperatures or other improper operating or maintenance practices; (5) failures resulting from gage stick damage occurring under tank openings other than the designated opening with a wear plate installed; or (6) tank failure due to defective materials and workmanship later than one year following delivery of the tank to the Owner or (7) cost of repair or replacement of internal linings.

**Limitation of Liability and Exclusion of Other Remedies and Damages**

The foregoing remedy of repair, replacement or refund shall constitute the sole and exclusive remedy to the Owner. Under no circumstances, shall the liability of the Warrantor, or its affiliates or subsidiaries, under this warranty, exceed the purchase price of the tank.

IN NO EVENT SHALL THE WARRANTOR, OR ITS AFFILIATES OR SUBSIDIARIES, BE LIABLE FOR CLAIMS OF PERSONAL INJURY OR FOR SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE, LOSS OF USE OF THE TANK OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF THE SUBSTITUTE EQUIPMENT, FACILITIES OR SERVICES, DOWNTIME COST, CLAIMS OF CUSTOMERS OF THE OWNER FOR SUCH DAMAGES, OR FOR DAMAGE TO PROPERTY, WHETHER SUCH CLAIM SHALL BE FOR BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR STRICT LIABILITY, AND WHETHER SUCH CLAIM ARISES OUT OF OR RESULTS FROM THIS LIMITED WARRANTY, OR EXPRESS OR IMPLIED WARRANTIES, OR FROM THE DESIGN, MANUFACTURE, SALE, DELIVERY, RESALE, INSTALLATION, TECHNICAL DIRECTION OF INSTALLATION, INSPECTION, REPAIR, OPERATION OR USE OF THE TANK.

**Consumer Notice**

The exclusion of indirect or consequential damages and the limitation of implied warranties herein may not be applicable to purchasers who are deemed "consumers" and who reside in states that do not allow the limitation of implied warranties or the exclusion of indirect or consequential damages otherwise applicable to consumers. Moreover, if you are deemed a "consumer", you may have specific legal rights in addition to those set forth in this warranty, which rights vary from state to state.

**Disclaimer of Other Warranties**

**THE FOREGOING LIMITED WARRANTY IS THE ONLY WARRANTY MADE. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

**Financial Assurance**

Warrantor may have purchased insurance to cover some of its warranty obligations under this Limited Warranty. Such insurance would provide financial assurance for Warrantor's warranty obligations, but would not insure the Owner directly. If the Warrantor has purchased such insurance coverage, the Owner may request that the Warrantor provide a certificate of insurance to evidence Warrantor's purchase of such insurance.

Effective with installations on or after January 1, 2011.

## PERMATANK® INSTALLATION INSTRUCTIONS

### 1.0 EXCAVATION AND BEDDING

- 1.1 The bottom of the excavation shall be covered with a minimum of 12 inches (305 mm) of bedding, suitably graded and leveled. Bedding and backfill material surrounding the tank, to a width and depth of 12 inches (305 mm) all around the tank, shall be clean material.
- 1.2 Where anchoring by means of a concrete pad, the tank shall not be placed directly on the pad. Bedding material at least 6 inches (152.4 mm) deep must be spread evenly over the dimensions of the pad to separate the tank from the pad.
- 1.3 Bedding and backfill material shall consist of homogenous pea gravel, crushed stone, clean sand, natural earthen materials, or excavatable flowable fill. Crushed stone, clean sand and natural earthen materials shall be capable of passing 100% through a 1/2 inch (13 mm) sieve and no more than 12% by dry weight through a #200 sieve (0.0029 inch (0.0754 mm)). Pea gravel shall be no larger than 3/4-inch (19 mm). Flowable fill shall meet the National Ready Mixed Concrete Association for Controlled Low Strength materials (CLSM) with strength ranging from 70 – 150 psi and shall be installed in accordance with good engineering practice. The materials shall be free of all foreign materials, such as but not limited to, bricks, metals, concrete and plastics.
- 1.4 The backfill material may be from the tank site if it meets this description, or it may be delivered to the site from another source.
- 1.5 Sand or natural earthen materials used as backfill shall be placed into the excavation in 12-18 inch (305-458 mm) vertical lifts, compacted after each lift, at least 60% up the vertical height of the tank.
- 1.6 If earthen material from the site, or other earthen material, is to be used as bedding or backfill material, a minimum of four 1 cu.ft. samples shall be taken from different locations which are representative of the backfill material and the site. Samples shall be sieved to determine if the material complies with this specification.
- 1.7 In a tidal area, the tank "bedding" material shall be crushed stone or pea gravel. Sand and natural earthen material may be used only if measures are taken to prevent washout of material during the design life of the system.

### 2.0 INTERSTICE VACUUM MONITORING

- 2.1 Assure tightness of tank and secondary containment in accordance with NFPA 30 through verification of vacuum within tank interstice (space in between the steel storage tank and outer fiberglass reinforced plastic [FRP] shell).
- 2.2 The tank is shipped from the factory with a minimum 13 inches Hg (44 kPa) vacuum inside the tank interstice. A vacuum gauge is factory-installed on the tank to monitor the interstice vacuum pressure. Upon delivery of the tank to the site, read and record the vacuum gauge pressure as noted on the Installation Checklist Form.

**IMPORTANT:** If the vacuum gauge reading has dropped 5 inches Hg (16.9 kPa) or more below the gauge reading recorded when the tank was delivered, **call the tank manufacturer immediately.**

**NOTE:** Variations in ambient air temperature, atmospheric pressure, exposure to sunlight, etc., can cause slight variations in vacuum gauge readings.

- 2.3 The vacuum gauge, at a minimum, must be read and its reading recorded in the spaces provided on the Installation Checklist for each of the following tank installation events:

The vacuum gauge should also be read and recorded after the following events:

- At time of tank delivery,
- After backfilling to top of the tank,
- After tank installation has been completed.
- During long-term storage activity,
- At end of storage period before burial,
- After tank placement in excavation.
- After installation of monitor pipe extension to grade level,
- After tank installation has been completed.

### 3.0 TANK HANDLING & PREPARATION

- 3.1 Equipment to handle the tank shall be of adequate size to lift and lower the tank without dragging and dropping to prevent damage to the tank.
- 3.2 The tank may arrive with factory installed removable lifting lugs for tank handling. Make sure lifting lugs are secured to the tank and positioned properly, parallel to the longitudinal centerline of the tank, before using.
- 3.3 The tank shall be carefully lifted and lowered into the excavation hole by use of cables or chains of adequate length attached to the lifting lugs provided. A spreader bar shall be used where necessary. Do not use slings, chains or cable around the tank to lift it. Do not roll or drag tank.
- 3.4 The angle between the vertical and one side of the lifting cable must not exceed a 60 degree included angle. Lift tank only at designated lift points with the lift lugs provided by the tank fabricator. Lift points are designated either by a sticker or by the presence of a lifting device.
- 3.5 Care shall be taken to prevent impact of the tank with any objects which can damage the tank, including concrete pads, deadman anchors, other tanks, tools and compaction equipment. Use of tank guide lines attached to lift lugs will provide a means of manually controlling tank movement and placement. Do not attach guide lines to the vacuum test station.
- 3.6 Do not store or place tank on sharp objects or debris. Use non-abrasive cushion-type chocks (i.e., rubber tires) to prevent tank movement during storage. For high wind conditions the tank should be tied down using non-metallic straps.
- 3.7 Follow label instructions including those at tank openings.

### 4.0 TANK STORAGE

- 4.1 If the tank must be temporarily stored, prior to installation, it should be placed in an area away from activity where tank damage could occur.
- 4.2 Factory-installed protective padding material on the tank should remain on the tank until it is ready to be placed in the excavation. Set the tank on the ground such that the protective material is between the tank and the ground. Installation in the excavation with the protective material is optional.
- 4.3 Tank must be installed within one year of delivery from tank manufacturer. If tank is not installed within this time period, contact tank manufacturer to recertify the tank.

### 5.0 ANCHORING TANK

- 5.1 High water tables or partially flooded excavation sites exert significant upward buoyant forces on tanks. Buoyant forces are partially resisted by the weight of the tank, the backfill and the pavement on top of the tank. Additional buoyant restraint, when required, is obtained using properly designed hold-down straps in conjunction with concrete hold-down pads or deadman anchors. The use of steel cable and round bar as hold down straps on the tank is prohibited.
- 5.2 If a metallic hold-down strap is used, a pad of inert insulating di-electric material must be used to insulate the hold-down strap from the tank. The separating pad shall be wider than the hold-down straps, which will prevent direct contact between the straps and the tank shell. This pad is not required if the hold-down strap is fabricated from non-conductive material.
- 5.3 The hold-down strap at the end of the tank shall be located at a distance of not more than D/4, where D is the tank diameter. The remaining hold-down straps shall be spaced out approximately equally.

5.4 Ballasting the tank may be necessary. When water is used as the ballast material, it shall only be potable water and shall not remain in the tank longer than 60 days. During construction, adequately vent all tank spaces. If product is used as ballast, proper precautions must be taken to prevent fires, spills, leaks, and other associated accidents. Monitor product level frequently to ensure there has been no unaccounted loss of product. Do not over tighten hold-down straps beyond snug and do not re-tighten hold-down straps after ballasting.

## **6.0 BACKFILL**

- 6.1 Homogeneous backfill similar to bedding material shall be placed carefully around the entire tank to create a uniform homogeneous environment.
- 6.2 Special care shall be taken when installing backfill along the bottom sides of the tank to ensure that the tank is not damaged and is fully and evenly supported around the bottom quadrant.
- 6.3 The backfill material shall be carefully placed and consolidated along the bottom, under the tank shell, by manually shoveling and tamping.
- 6.4 The initial 2 feet (610 mm) of backfill shall be completed in 12 inch (305 mm) maximum lifts, uniformly placed around the tank. Light hand-operated compaction equipment is recommended for all sand backfills to at least 3 feet (920 mm) above the tank.

## **7.0 TANK EQUIPMENT**

7.1 **This tank requires venting. Refer to applicable local codes and PEI RP-100 for proper installation.**

## **8.0 TANK PIPING CONNECTION TEST**

- 8.1 One final test is necessary to assure proper installation of the pipe connections to the tank fittings. Remove all factory-installed thread protectors.
- 8.2 Pressure applied to the internal steel tank shall be 3 - 5 PSIG (34.47 kpa). Shut-off the compressed air source to the system. A soap solution shall be applied around all tank piping connections while test is being performed. Bubbles and/or foam indicates leakage.  
**WARNING: DO NOT PRESSURIZE THE INTERSTITIAL SPACE.**
- 8.3 After passing leak testing, release tank air pressure by allowing it to escape slowly through the connection used to pressurize the tank.

## **9.0 FINAL BACKFILL**

- 9.1 Homogenous backfill shall be deposited carefully around the tank up to top of the tank and to a depth of at least one foot (305 mm) over the tank to avoid damage to laminate, especially where tamping is required. (See NFPA 30 or UFC and state or local codes for minimum depth of cover required prior to allowing vehicular traffic over the tanks.)

## **10.0 OPERATING LIMITATIONS**

- Operation of the tank above 120°F (49°C) requires the use of specific components and materials. The tank manufacturer must be notified, prior to tank use, of the owner's intent to operate this tank above 120°F (49°C) so that proper components and materials can be incorporated.
- 10.1 When the product stored is heated, the temperature inside the tank shall be constantly monitored to assure the maximum allowable temperature is not exceeded.

## **11.0 MAINTENANCE**

- 11.1 The primary tank shall be inspected monthly for the presence of water. Inspection shall take place 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, originating from the fuel, can cause filters to plug and corrosion of tanks and lines. For procedures on how to check for the presence of water and removal of water, refer to the STI R111, Storage Tank Maintenance. For copies of the RP and more information, please go to [www.steel tank.com](http://www.steel tank.com).
- 11.2 Safety considerations and controls should be established prior to undertaking physical activities associated with USTs. Some hazards associated with USTs are, but not limited to, confined space entry, cleaning, inspection, moving and any other aspect of in-service work.
- 11.2.1 Contact tank manufacturer before moving tank for information on recertifying tank for continued use.

These instructions are intended only as an aid to tank installers who are knowledgeable and experienced in underground 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.

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