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1	Aug 26, 2020	For Approval	Westeel	Scott K	Scott K

CODE 1: Work may proceed.



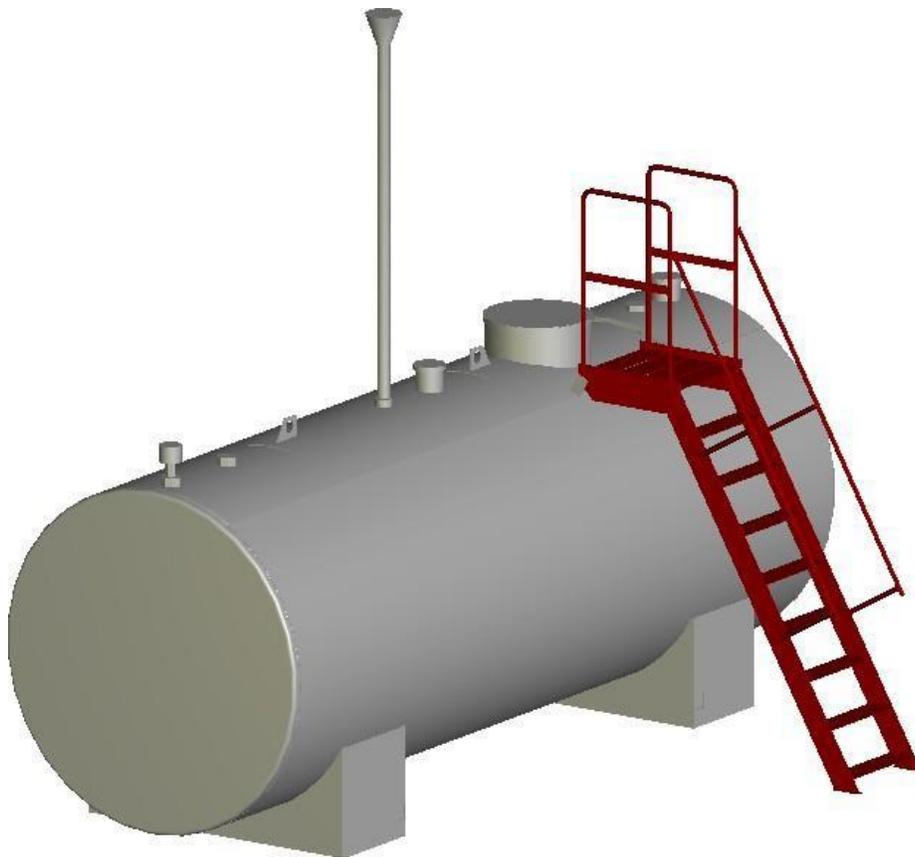
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods or materials developed or selected by the supplier and does not relieve the supplier from full compliance with contractual obligations.

Name: Halyna Hutsulyak

Date: 09/09/2020



Operations and Maintenance Manual
ULC APPROVED ABOVE GROUND CONTAINED TANKS
Horizontal Fuel Vault

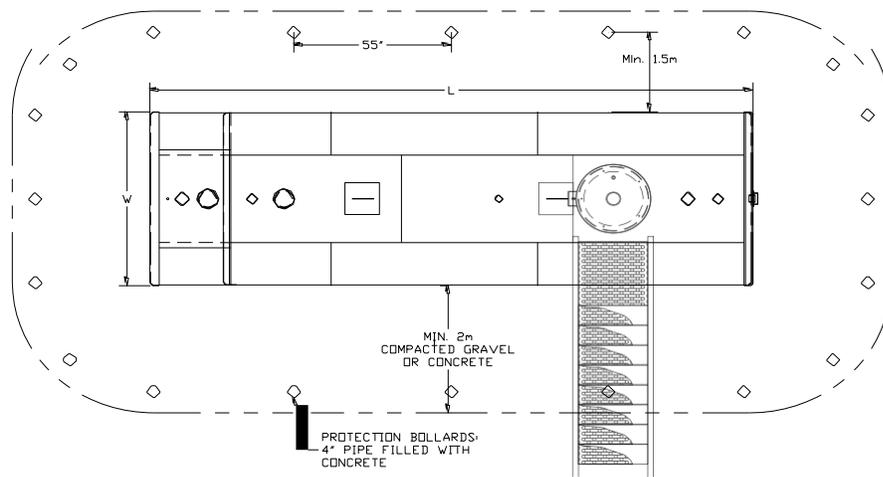


Owner:	TransCanada Keystone Pipeline, Limited Partnership
Capacity:	12,400L

IMPORTANT:
**FAILURE TO FOLLOW THE SUPPLIED WESTEEL INSTALLATION AND
MAINTENANCE INSTRUCTIONS WILL VOID
THE PRODUCT WARRANTY**

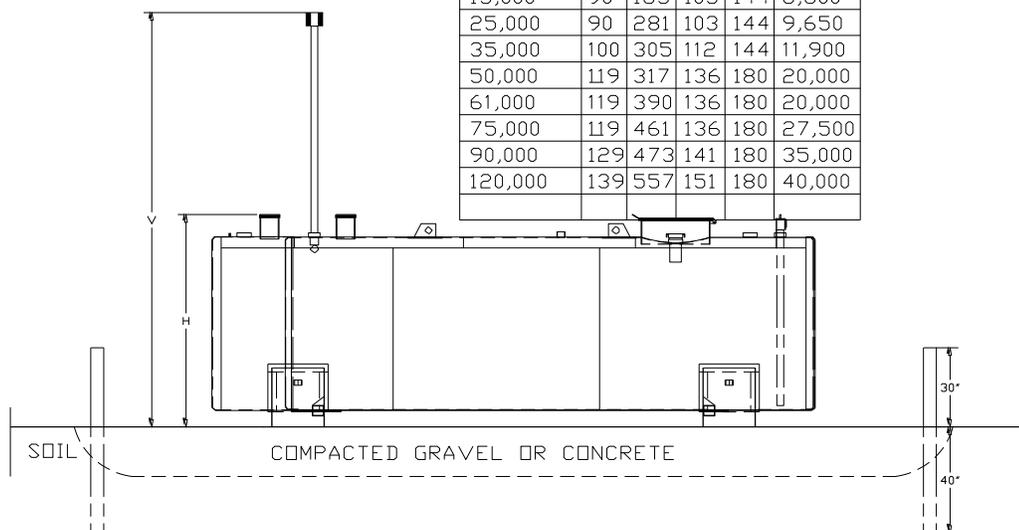
HORIZONTAL DOUBLE WALL CONTAINMENT TANK

This ULC approved double wall containment tank incorporates a primary tank encompassed 300 degrees by a second tank.



DIMENSIONS (INCHES)

CAPACITY W	- V				los.
5,000	66	124	80	144	2,600
10,000	66	214	80	144	4,700
15,000	90	185	103	144	6,800
25,000	90	281	103	144	9,650
35,000	100	305	112	144	11,900
50,000	119	317	136	180	20,000
61,000	119	390	136	180	20,000
75,000	119	461	136	180	27,500
90,000	129	473	141	180	35,000
120,000	139	557	151	180	40,000



INSTALLATION, USE AND MAINTENANCE OF WESTEEL FUEL TANKS

- 1.1 All tanks used for flammable liquids shall be installed as follows:
 - a) Installed and located in accordance with NFC 2015 article 4.3.2.
 - b) The tank installer must ensure that all Federal, Provincial, and Local codes for fire and environment regulations are met accordingly including location of the tank.
 - c) All installations shall require approval by the appropriate Environment and Resource Management and the Fire Commissioners Branch.
 - d) Are permitted to have dispensing equipment attached directly to the tank following requirements prescribed in Section 4.5 of the NFC.
 - e) All primary and secondary normal and emergency vents are to be installed before tank is placed into service and that the design of the vent will not allow flame impingement onto the surface of the tank in the event of vapor ignition.
 - f) All normal and emergency vents must have a weatherproof hood or cap.

- 1.2 Physical barriers shall be installed for the protection of the tank against impact from vehicular traffic. Acceptable means include:
 - g) Bollards – Concrete filled 4” steel pipe. Minimum fill is 100mm (4”) to top of post, post to be 750mm (30”) above grade and 900mm (36”) below grade, spaced 1,400mm (55”) apart and placed a minimum 1500mm (59”) from tank and associated equipment.
 - h) Railing – Standard highway guardrails spaced 1,400mm (55”) apart and placed at least 1500mm (59”) from tank and associated equipment, bottom of guardrails 600mm (24”) above grade and firmly anchored. [Saskatchewan Environment and Resource Management see Appendix A]

- 1.3 Product Discharge shall be equipped with protection against breakage by physical contact and equipped with automatic shut-off devices that prevent the drainage of product should breakage occur. Requirements depend upon local authority, either electrically operated Solenoid Valve or Anti-Siphon Valve.

- 1.4 Tank shall be installed on a prepared bedding surface, designed to bear the gross weight of the tank filled with product. Check with local Civil Engineer to determine complete local requirements. Examples of bedding preparation are as follows:
 - a) Concrete pad – preferred.
 - b) Compacted gravel.

- 1.5 If tank is to hold Jet B or Aviation fuel the bedded surface can be sloped 1.75 cm: 1 m (2”: 120”) toward end of unit which water draw is located. This will not allow accurate dipping due to slope. This will not be possible in all cases.

- 1.6 Only the top lifting lugs are to be used for off loading or moving of the tank. Tank is to be lifted only when empty and at no other time. The proper sling angle of 60° must be used when lifting.

- 1.7 Hold down devices may be required in certain locations. If you are in such a location, contact NSI for the correct hold down method best suited for the tank design.

- 1.8 All tanks shall be electrically grounded in accordance with the requirements of the authority having jurisdiction.

- 1.9 All underground piping that runs from an aboveground double wall storage tank shall be double wall piping and terminate in a monitored containment chamber equipped with automatic liquid sensor warning devices.

- 1.10 Fill lines using tight fill connectors shall be equipped with automatic delivery shut-off devices.

- 1.11 The service vent pipe on the tank assembly must be terminated according to NFC 2015 article 4.3.5

- 1.12 Maintenance on assembly to be done as per maintenance schedule:
1. Weekly Procedures
 - 1.1 Inspect containment's for spilled fuel and remove any accumulated debris.
 2. Monthly Procedures
 - 2.1 The primary tank shall be inspected monthly for the presence of water at the lowest possible point inside the tank. Water and sediment in fuel can cause plugging of filters. Also, bacterial growth, originating from the fuel can cause corrosion of the tanks and lines. For procedures on how to check for the presence of water and the removal of water, refer to API Recommended Practice 1621, Appendix D and API Standard 2610. Another source of information is a report by the US Department Of Energy, BNL 48406, which provides information on methods to test and remove water, test for bacterial presence in fuel, tank cleaning and fuel additives.
 - 2.2 For additional information dealing with water and bacterial growth go to <http://www.steeltank.com> and read the STI book titled Keeping Water Out of Your Tanks.
 - 2.3 Check that explosion vents open and close easily and that they are not obstructed.
 - 2.4 Check that all primary and secondary containment normal and emergency vent hoods or caps are unobstructed.
 - 2.5 Check that all valves open and close properly.
 - 2.6 Inspect all piping for signs of leakage and repair as necessary.
 3. Annual Procedures
 - 3.1 Visually inspect tank, skid, stairs, platform and handrail for rust, cracked welds and structural damage or deterioration. Repair or paint as necessary.
 4. Fuel storage tanks shall be monitored according to Canadian Petroleum Products Institute, which refers to the National Fire Code section 4.3.16.

If the maintenance schedule provided cannot be followed, a level switch must be installed in the containment casing to indicate the presence of liquid. The switch shall be set to trigger at 50mm (2") and be connected to an enunciator panel located in an area frequented on a daily basis by responsible personnel.

- 1.13 *** Westeel may ship units with fill and discharge piping installed. Due to vibrations in transit, all unions and flange connections must be inspected to ensure they did not come loose. If any connections are loose, tighten and seal before unit is put into service. ***
- 1.14 When installing pumps on top product discharge units, the product line must be primed. This is achieved by opening the top cap of the anti-siphon valve, filling the line with applicable product and replacing the anti-siphon cap.
- 1.15 All painted areas that are damaged either through shipping or final installation must be touched up with supplied paint. All metal filings and or debris from on site work must be removed from the assembly, as they will cause surface rusting.

*****WARRANTY IS VOID IF THE ABOVE PROCEDURES ARE NOT COMPLETED PROPERLY.*****

WESTEEL LIMITED WARRANTY

Petroleum Storage Products

Westeel warrants products that it has manufactured and/or that are branded with its name or that of Northern Steel Industries (the "goods") subject to the following terms and limitations, (the "warranty").

Note: The warranty does not apply to products manufactured by Westeel under license (the "licensed products"). The licensed products are solely subject to warranty terms as they may be set from time to time by the licensing body. The licensed products include but are not necessarily limited to: FLAME SHIELD, Fireguard, F921, stiP3, AquaSweep and Glasteel. For information on warranty terms applicable to the licensed products, or to determine whether a product is a licensed product, please consult the Westeel website and/or contact Westeel www.westeel.com or 1-800-665-2099.

1. **Duration of Warranty.** The duration of the warranty is limited as follows.
 - i. External Corrosion – 2 years.
 - ii. Internal Corrosion – 2 years.
 - iii. Structural Defect – 5 years, except in the case of Mobile Tanks in which case it is 1 year.
 - iv. Tank Accessories – 1 year;
 - v. Loss of Vacuum – 2 years, except in the case of Underground Tanks in which case it is 30 days from date of delivery to the purchaser.

The duration of the warranty will run from the date of purchase from a dealer or distributor authorized by Westeel, unless otherwise stated (the "warranty period").

2. **Limitation of Remedies Replacement.** Within the warranty period, Westeel will replace the goods and/or original manufactured components thereof which are found, to Westeel's satisfaction, to be defective. Westeel is not responsible for direct, indirect, special, consequential, or any other damages of any kind, including personal injury to any individual, howsoever caused, including caused by transportation of the goods for repair or replacement.
3. **Procedure for Obtaining Service.** In the event of a warranty claim, the purchaser must complete any and all information required by Westeel in order to properly assess or investigate the claim. Westeel will not be responsible for the removal of any of the goods found to be defective, or transportation charges to and from Westeel's authorized dealer or distributor, or for installation of any replacement goods and/or parts furnished under the warranty.
4. **Limitations as to Scope of Warranty.** The warranty does not extend to defects or damage caused, in whole or in part, by:
 - i. use of a kind and/or to a degree not reasonably expected to be made of the goods;
 - ii. improper storage of the goods both prior to and after purchase;

- iii. damage caused by, or in the course of, installation or assembly;
- iv. any use of the goods which is not an intended use as specified in Westeel's published product literature, or otherwise specified by Westeel in writing;
- v. any equipment attached to or used in conjunction with the goods;
- vi. any field modifications or substitutions to original tank components;
- vii. inadequate ventilation or any other circumstance not in keeping with proper maintenance and/or use of the goods;
- viii. acts of God, accident, neglect or abuse of the goods by the purchaser and/or any other individual or entity; or
- ix. any use or installation inconsistent with Westeel's Standard Disclaimers.

5. **Limitations as to Manufacturer.** The warranty does not cover products sold by Westeel that are not manufactured and/or that are not branded with its name or that of Northern Steel Industries. In those circumstances, the purchaser is referred to the manufacturer of those products.

6. **Limitation of Implied Warranties and Other Remedies.** To the extent allowed by law, neither Westeel nor its dealers, nor any company affiliated with Westeel makes any warranties, representations, or promises as to the quality, performance, or freedom from defect of any Product covered by this Warranty.

WESTEEL HEREBY DISCLAIMS, TO THE EXTENT APPLICABLE, ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. A PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THIS WARRANTY ARE THOSE SET FORTH IN THIS WARRANTY. IN NO EVENT WILL WESTEEL, ITS DEALERS, OR ANY COMPANY AFFILIATED WITH WESTEEL BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES.

Some jurisdictions do not allow waivers of certain warranties, so the above waivers may not apply to you. In that event, any implied warranties are limited in duration to ninety (90) days from delivery of the products. You may also have other rights which vary from jurisdiction to jurisdiction.

7. **Exclusive Warranty.** This warranty is the only warranty provided by Westeel and all other warranties and/or commitments whether express or implied and no matter by whom made, statutory or otherwise, are subsumed and replaced by it and are of no legal effect. If any provision of the warranty is held by a court of competent jurisdiction to be void or unenforceable, in whole or in part, such provision shall be deemed severable and will not affect or impair the legal validity of any other provision of the warranty.

Note: An extended warranty may be available for purchase in respect of certain of the goods (the "Guardian Warranty and Environmental Protection Program").

The terms of the Guardian Warranty and Environmental Protection Program apply only if and when it is purchased. Please contact a Westeel representative should you wish further information on terms and pricing of the Guardian Warranty and Environmental Protection Program.

DISCLAIMERS

External Corrosion

The warranty does not apply if:

- I. Foreign materials have contacted painted surfaces or stainless steel surfaces causing damage and/or allowing for corrosion and/or rust.
- II. The goods have been primed and/or painted by someone other than Westeel.
- III. Threaded material has been scraped or scratched in a manner causing damage and/or allowing for corrosion and/or rust (eg. pipe caps or pumps).

Internal Corrosion

The warranty does not apply if:

- I. The goods are not used solely for the containment of petroleum products, unless otherwise stated in writing and signed off by an authorized representative of Westeel.
- II. All maintenance procedures are not strictly followed. This includes but is not limited to a regular inspection for internal moisture and debris, dents, punctures, leaks and loose or damaged fittings a minimum of once every twelve (12) months.

Loss of Vacuum

The warranty does not apply if:

- I. The purchaser fails to contact Westeel immediately for instructions when vacuum appears to have been lost.
- II. The vacuum has not been checked immediately after transporting to installation site. III. The Installation Checklist is not strictly followed and completed, signed and returned to Westeel within fourteen (14) calendar days of the date of delivery.

(Please see additional notes on "Vacuum Monitoring System Maintenance")

Underground Tanks

The warranty does not apply if:

- I. The Installation Checklist is not strictly followed and completed, signed and returned to Westeel within thirty (30) calendar days of the date of installation or ninety (90) calendar days of the date of shipment to the purchaser, whichever occurs first.

General

The following disclaimers apply to the goods in all circumstances:

- I. The goods must be installed by a certified installer recognized by local authorities, where applicable, and strictly in accordance with Westeel's Installation Instructions as well as all applicable installation and building codes and accepted trade practices. Without limiting the generality of the foregoing, proper foundation assembly, installation and use solely for the purposes intended as specified in Westeel's published product literature is essential. As well, tank venting for both normal and emergency situations must be installed properly and kept unobstructed at all times.

- II. The goods must be handled at all times (including but not limited to shipping, loading and unloading, positioning) only when empty and must be secured at all times in a manner as specified in the Owners' Manual. Any damage caused during handling is not covered by the warranty.
- III. Any damage caused by foreign debris entering into the tanks, including but not limited to moisture, is not covered by the warranty. It is extremely important for the owner/user to check for foreign debris inside the tank at the time of delivery as well as before commencing use of the goods and regularly during use of the goods. Moisture can cause irreparable damage to the goods including but not limited to a leak due to microbial corrosion. For further information on moisture monitoring and removal you may contact:
- Steel Tank Institute (STI)
 - Westeel website
 - Petroleum Equipment Institute
- IV. Accessories and parts on the goods may not have been manufactured by Westeel ("third party manufactured goods"). Third party manufactured goods are not covered by the warranty. Warranty terms applicable to third party manufactured goods are as per the terms published by the applicable manufacturer. For further information on accessing the website of the applicable manufacturer please contact a Westeel representative.
- V. Modifications made to the goods that have not been approved in writing by an authorized representative of Westeel will result in the warranty being null and void. This will be the case for any and all damages howsoever caused to the goods at any time after the modification has been made.
- VI. The goods must be maintained and used at all times in a manner consistent with all Westeel procedures contained in the Owners' Manual as well as prudent, accepted practice.

Vacuum Monitoring System Maintenance

Long term vacuum monitoring of the double-walled portion of a tank can be used to evaluate the integrity of the primary or secondary walls of the tank system. However, it should be noted that the vacuum filled interstice created by the two walls, essentially acts as a large barometer, and thus the Vacuum recorded on the mechanical gauge factory installed on each tank, will vary with ambient temperature as well as atmospheric or internal tank pressure.

Recorded vacuum gauge readings that vary with temperature or pressure would be considered normal. However, a steady drop in vacuum readings over time, regardless of ambient conditions, may indicate the vacuum system requires either maintenance or remedial action. Please contact Westeel immediately should you notice any consistent drops in vacuum readings.