North Carolina Department of Environment and Natural Resources
Underground Storage Tank Section

UST System Installation

Installation Inspections

NCDENR

UST System Installation

- Installation inspections to comply with 15A NCAC 2N Requirements

UST System Installation

Scheduling Inspection:

- After you receive approval for the UST6A - Call the UST Inspector for the location
  - *The number to reach the inspector is given on the UST6A "Application to Install or Replace Underground Storage Tank Systems"* ***Approval letter****.*
- Give a minimum of two (2) working days to schedule a tank installation inspection.

UST System Installation

Scheduling Inspection:

- This is a 2N inspection.
- You will have to schedule the Fire Marshall inspection separately.

UST System Installation

Installers must:

- Must have approved UST6A form before scheduling the inspection.
- No significant modifications are allowed onsite.
- Any significant changes from the APPROVED 6A form will results in a failed inspection.

UST System Installation

Phase 1 -Tank Installation Inspection
Phase 2 - Piping Installation Inspection

UST System Installation

Installers must:

- Refer to most recent versions of industry codes:
- API 1615
- PEI RP100
- ANSI B31.3
- ANSI B31.4

Phase One: Exterior Tank Surface Inspection / Testing

- Visual Damage Inspection
- If Damaged, repaired per manufacturer instructions

Phase One: Exterior Tank Surface Inspection / Testing

- Interstitial test
- Soap Test
- Interstitial Space Liquid Filled Test
- Vacuum Reading

Tank Information

- Tank Manufacturer
- Tank Model
- Tank Serial Number
- Tank has the required permanent markings and label on the exterior

Tank Information

- Is it a compartment tank?
- What is the material of construction?
- What is the capacity?
- What liquid used to ballast the tank?
- What substance will be stored in the tank?

Xerxes

Manufacturer: Xerxes
Model: Double-wall Tank
Tank Material: FRP

Xerxes – Liquid Filled

- Check the monitoring fluid-level in the reservoir.
- Check the exterior of the tank for monitoring fluid (dyed blue).
- Lift tank to check bottom and inspect the interior of each compartment of the tank for monitoring fluid.

Xerxes – Liquid Filled

- After visually inspecting the tank, check the level of monitoring fluid.
- No change in the monitoring fluid level and no fluid evident on the interior or exterior of the tank - proceed with tank installation.
- If monitoring fluid **is not** at approximately the beginning level, and/or monitoring fluid is found on either the interior or exterior of any compartment, ***contact the plant from which the tank was shipped***.

Containment Solutions

Manufacturer: Containment Solutions
Model: Double-wall Tank
Tank Material: FRP

Containment Solutions – Liquid Filled

- Check reservoir for monitoring fluid.
- Inspect the outer wall for any trace of monitoring fluid.
- IF found, DISCONTINUE installation and contact manufacturer.
- Inspect tank bottom by lifting tank.

Containment Solutions

- Pressurize primary tank to max 5 psi.
- A pressure relief valve must also be connected to the primary tank for additional protection.
- Conduct soap test on all fittings and manways.

Containment Solutions

- Maintain pressure for 30 minutes.
- Release pressure from primary tank.
- Inspect interior of the primary tank for presence of monitoring fluid.
- Inspect exterior of the tank for monitoring fluid.
- IF found, DISCONTINUE the installation and contact manufacturer.

Glasteel II Jacketed Steel Tank

- Manufacturer: Modern Welding Company, Inc.
- Model: Glasteel II Jacketed Steel Tanks
- Tank Material: Steel tank with FRP jacket

Glasteel II Jacketed Steel Tank – Vacuum Check Testing

- If a minimum of 5.3 " Hg is maintained for 1 hr in the annular space, both the inner and outer tanks are considered properly tested.
- Special Notes: If vacuum level changes significantly after delivery and/or during installation, investigate and contact manufacturer.

Glasteel II Jacketed Steel Tank – Vacuum Check Testing

- Make sure that the gauges are not maxed out, or stuck at 5.3” Hg.
- Tanks are always measured in inches of Hg (10” Hg is about = 135” water)

Titan Double-Walled Tank

- Manufacturer: Highland Tank
- Model: Titan Double-Wall
- Tank Material: Steel tank with urethane jacket

Titan Double-Walled Tank – Pressure Test

- Pressurize to a max. of 5 psi and monitor for 1 hour after the external air supply has been disconnected.
- Pressurize the interstice with air from the primary tank.
- Use 3rd gauge for measuring the pressure on the interstice.
- Conduct soap test and monitor gauges for a drop in pressure.

ACT 100

- Manufacturer: Various per Steel Tank Institute
- Model: ACT -100
- Tank Material: Steel/FRP Composite Tank
- Type of Interstitial Space: Vacuum
- Refer to RP-100 guidelines

Plasteel Elutron

- Manufacturer: Metal Products
- Model: Plasteel Elutron
- Tank Material: Steel Tank with FRP Jacket
- Type of Interstitial Space: Vacuum
- Tanks are shipped with a vacuum from the factory.
- The delivery document will state the vacuum applied at the factory.
- Upon delivery of the tank, read and record the vacuum gauge.
- Onsite testing should be conducted for a minimum of 1 hour.
- Consult with the manufacturer if there is any change in factory applied vacuum gauge reading.

Permatank

- Manufacturer: Various Manufacturers per STI requirements
- Model: Permatank
- Tank Material: Steel Tank with FRP Jacket
- Type of Interstitial Space: Vacuum
- Tanks are shipped with a minimum of 13" Hg vacuum.
- Upon delivery of the tank, the contractor should read and record the vacuum gauge pressure.
- IF the vacuum gauge reading has dropped 5" Hg or more below the reading recorded when the tank was delivered, contact the tank manufacturer immediately.

Permatank

- The vacuum gauge, at a minimum, must be read and recorded for each of the following tank installation events:
  - Delivery
  - after backfilling to top of the tank
  - 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, and
  - after tank installation is complete.

ZCL “PreZerver”

- Manufacturer: ZCL Composites Inc.
- Model: ZCL "PreZerver"
- Tank Material: FRP
- Type of Interstitial Space: Vacuum
- Pressurize the primary tank with max 5 psi for a minimum of 1 hour.
- Soap test tank fittings, manways, flanged nozzles, covers, etc.
- Allow air pressure to transfer from the primary tank to annular space until both gauges read 5 psi.
- Conduct soap test of the entire exterior of the tank and inspect for 10 to 20 minutes for any bubbles.

Anchoring

Anchoring

- Deadmen
  - Anchor Straps for FRP tanks are non metallic and installed according to manufacturer specifications
  - Anchor Straps for steel coated tanks were either non metallic or electrically isolated and installed according to manufacturer specifications
- Bottom Anchor Pad
- Backfill

Liquid Used for Ballast

- Water
- Product
  - May want to use product as a ballast for E-85 tanks.
  - Good idea to set up an appointment for document reviews throughout the process if you plan to use product as a ballast.

Using Product as a Ballast
STEP 1 - Prior to tank installation

- Submit the following information to the UST Section for review and approval:
  A. UST-15A form, Ownership of UST System(s) and the appropriate annual operating fees;
  B. Proof of Financial Responsibility and the Certification of Financial Responsibility form
- Currently, tank fees are $420.00 per tank or tank compartment.
- Only required for petroleum UST systems.
- Allow at least **thirty** (30) business days for review of Step 1 information.
- One-time fuel drop information should be submitted with the UST-6A application so that they can be reviewed concurrently. Tanks are not usually installed until all of the step 1 information has been approved.

Using Product as a Ballast
STEP 2 – after installation, before delivery

Submit the following information to the UST Section for review and approval:

A. Proof of installation/testing of spill and overfill prevention equipment.
B. The USTs must be installed through the backfilling/compacting phase in accordance with manufacturer's guidelines.
C. Two passing interstitial tests must be performed on each tank: one test must be conducted prior to placement of the tank in the excavation and the second test after the tank is placed into the excavation and backfilled.
D. The amount of fuel needed for each tank or compartment and estimated date of delivery.

Using Product as a Ballast
STEP 2 – after installation, before delivery

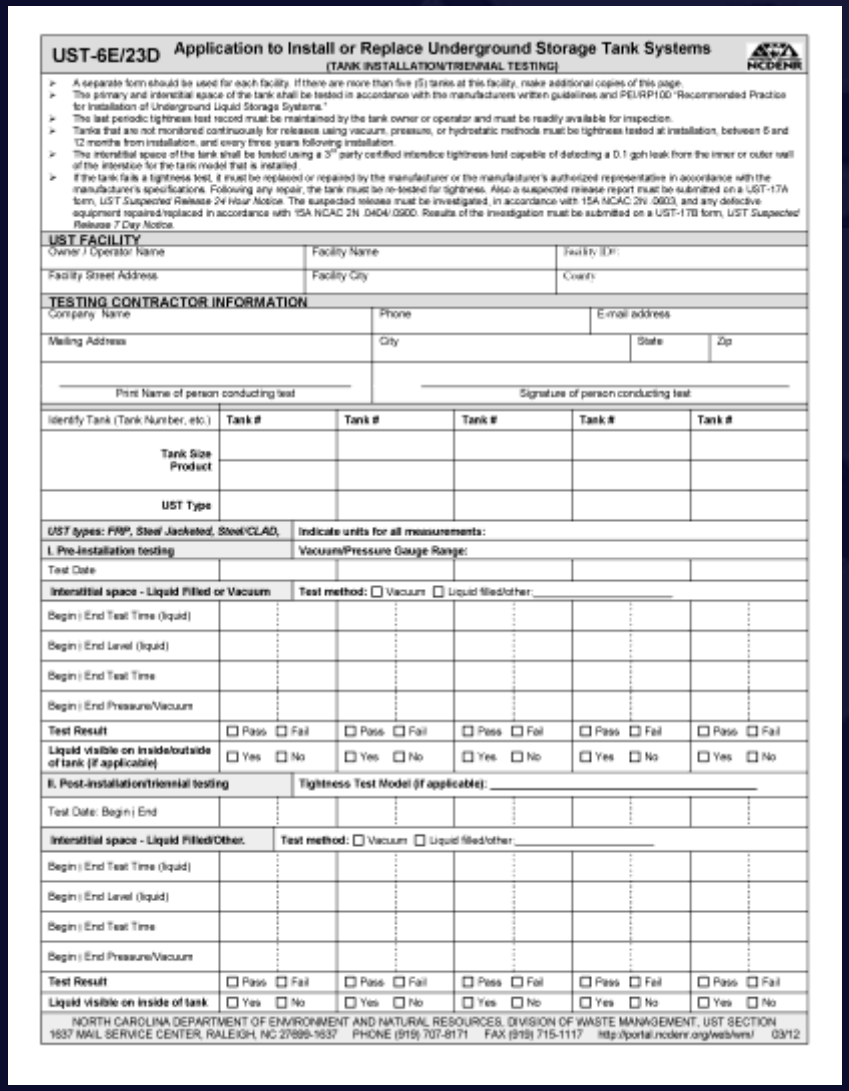
- Allow at least one business day (24 hours) for approval.
- Fuel **cannot** be delivered to the tanks until all of the Step 2 information has been approved.

Using Product as a Ballast
STEP 3 - after fuel delivery

A. Weekly interstitial leak detection monitoring using Vacuum, Pressure, or Hydrostatic methods must be performed if manually recorded on a log sheet, otherwise a monthly printout of the sensor status and alarm history from the monitoring console is required.
B. Financial responsibility must be maintained in accordance with 15A NCAC 2O.
C. Installation must be completed and an annual operating permit obtained **within six months** of fuel delivery date.

ALL of these conditions MUST be met to use fuel for ballasting.

Summary of Installation Testing Requirements



UST-6E/23D Application to Install or Replace Underground Storage Tank Systems
(TANK INSTALLATION/TRIENNIAL TESTING)

- A separate form should be used for each facility. If there are more than five (5) tanks at this facility, make additional copies of this page.
- The primary and interstitial space of the tank shall be tested in accordance with the manufacturers written guidelines and PEI/RP100 "Recommended Practice for Installation of Underground Liquid Storage Systems."
- The last periodic tightness test record must be maintained by the tank owner or operator and must be readily available for inspection.
- Tanks that are not monitored continuously for releases using vacuum, pressure, or hydrostatic methods must be tightness tested at installation, between 6 and 12 months from installation, and every three years following installation.
- The interstitial space of the tank shall be tested using a 3rd party certified interstice tightness test capable of detecting a 0.1 gph leak from the inner or outer wall of the interstice for the tank model that is installed.
- If the tank fails a tightness test, it must be replaced or repaired by the manufacturer or the manufacturer's authorized representative in accordance with the manufacturer's specifications. Following any repair, the tank must be re-tested for tightness. Also a suspected release report must be submitted on a UST-17A form, *UST Suspected Release 24 Hour Notice*. The suspected release must be investigated, in accordance with 15A NCAC 2N .0603, and any defective equipment repaired/replaced in accordance with 15A NCAC 2N .0404/.0900. Results of the investigation must be submitted on a UST-17B form, *UST Suspected Release 7 Day Notice*.

UST FACILITY

Owner / Operator Name	Facility Name	Facility ID#:
Facility Street Address	Facility City	County

TESTING CONTRACTOR INFORMATION

Company Name	Phone	E-mail address	
Mailing Address	City	State	Zip
Print Name of person conducting test	Signature of person conducting test		

Identify Tank (Tank Number, etc.)	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Size / Product					
UST Type					
UST types: FRP, Steel Jacketed, Steel/CLAD,	**Indicate units for all measurements:**				
I. Pre-installation testing	**Vacuum/Pressure Gauge Range:**				
Test Date					
Interstitial space - Liquid Filled or Vacuum	**Test method:** ☐ Vacuum ☐ Liquid filled/other:_____				
Begin / End Test Time (liquid)					
Begin / End Level (liquid)					
Begin / End Test Time					
Begin / End Pressure/Vacuum					
Test Result	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail
Liquid visible on inside/outside of tank (if applicable)	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
II. Post-installation/triennial testing	**Tightness Test Model (if applicable):** _____				
Test Date: Begin / End					
Interstitial space - Liquid Filled/Other.	**Test method:** ☐ Vacuum ☐ Liquid filled/other:_____				
Begin / End Test Time (liquid)					
Begin / End Level (liquid)					
Begin / End Test Time					
Begin / End Pressure/Vacuum					
Test Result	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail
Liquid visible on inside of tank	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

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Tank Installation Testing

- Tightness of interstice prior to placement in pit
- Post-Installation tightness test
- Test data documented on the UST-6E/23D form

Phase Two: Initial Piping Test

- Primary pipe & fittings soap tested
- Secondary interstice & fittings soap tested
- Required for new installations and replacement piping.

Piping Information

- Pipe Manufacturer
- Pipe Model
- Pipe Manufacturing Code or Date

Piping Information

- What is the material of construction?
- Are flexible Connectors installed in a containment sump?
- Is trace tape available for Inspection?

Summary of Installation Testing Requirements

Trace Tape

Trace Wire

* If installing chase pipe, tracer tape/wire should be installed at time of inspection through the chase pipe.

UPP Piping

- Manufacturer: Franklin Fueling
- Model: UPP

UPP Piping - Pressure Test

1. 50 psi for pipe up to 2" OD; Use operating pressure for Pipe over 2" OD - Never to exceed 90 psi
    1. Pressurize to 10% of test pressure. Hold for 30 minutes and inspect for leakage or pressure drop, then
    2. Pressurize to 50% of test pressure. Hold for 30 minutes and inspect for leakage or pressure drop, then
    3. Pressurize to 100% of test pressure. Hold for 30 minutes and inspect for leakage or pressure drop
    4. Record Temperature and pressure at end of each test time

UPP Piping - Pressure Test

- Secondary Test Pressure 30 minutes following 15 minutes conditioning at test pressure
  - Flexible Boots: 7 psi if terminated with flexible boot.
  - Electrofusion boots: 50 psi (max 90 psi)

UPP Piping - Pressure Test

- Primary and secondary piping can not be tested at the same time.
- Secondary should be open to atmosphere when testing primary
- Primary should be open to atmosphere when testing secondary
- Special Notes: All joints and fittings must be soaped during testing.
- Gauges should have unique serial numbers and must be calibrated annually. The calibration certificate must be maintained for each gauge.

UPP Piping - Pressure Test

B - UX - YYWWSS

Printed after pipe size

e.g. 63 X 5.8 MM B - U1 - 081508

B = Material Code

U = Manufacturing Facility

X = Machine number

YY = Year in which the pipe was manufactured

WW = Week of the year in which it was manufactured

UPP Piping
Special Considerations for Tracer Tape

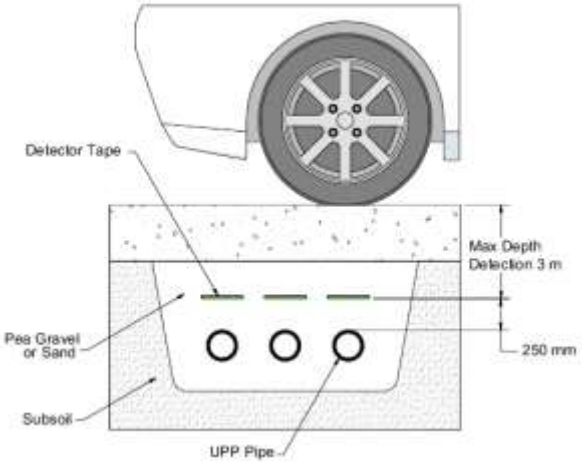


Figure 10: Detector Tape Installation

Both ends of the tape should be grounded during installation.

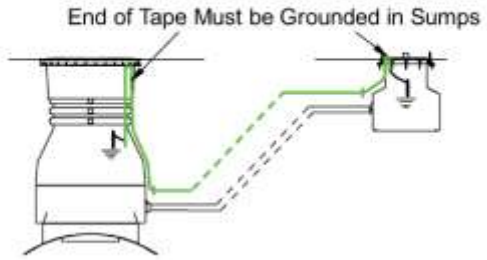


Figure 11: Detector Tape must be Grounded

APT XP Series Piping

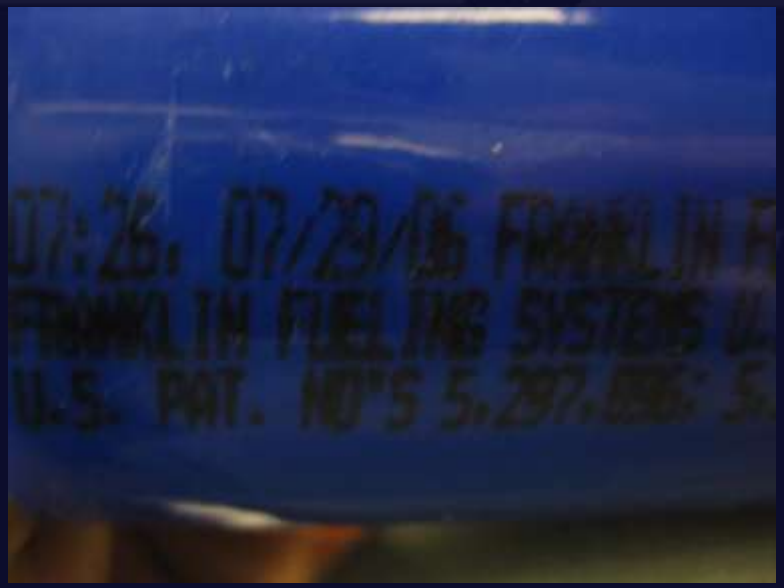
Manufacturer: Franklin Fueling Systems

Model: APT XP Series

- Primary Test Pressure: 50 - 100 psi - No loss of pressure during test time
- Primary Test Length: 1 hr
- Secondary Test Pressure: 5-8 psi - No loss or gain of pressure during test
- Secondary Test Length: 1 hr
- ***Installer certification must be renewed every: 2 years***
- Primary and secondary piping can be tested at the same time.

APT XP Series Piping

- Special Notes: Manufacturing date is stamped on pipe.
- All joints & fittings must be soaped during test.
- Scuff guard must be cut back to outside of containment sump.



Smartflex – Pressure

Manufacturer: NUPI

Model: Smartflex

- Primary Test Pressure: 75 psi (Air or Nitrogen test)115 psi (Hydrostatic test)
- No loss of pressure during test time
- Primary Test Length: 1 hour
- Secondary Test Pressure: 45 psi (Air or Nitrogen test) 60 psi (Hydrostatic test)
- No loss or gain of pressure during test time
- Secondary Test Length: 1 hour

Smartflex – Pressure

- ***Installer certification must be renewed every: 3 years***
- Primary and secondary piping can NOT be tested at the same time.
- Special Notes: All joints & fittings must be soaped during test.
- Rubber test boots tested must be tested at 5 psi for 1 hour

Petroplas

Manufacturer: Innovative Petroleum Products (IPP)

Model: Petroplas

- Primary Test Pressure: 100 psi (Air or Nitrogen Test) 145 psi (Hydrostatic test) No loss of pressure during test time
- Primary Test Length: 3 hrs (Air or Nitrogen test)1 hr (Hydrostatic test)
- Secondary Test Pressure: 10 psi (Air or Nitrogen test) with flexible boots58 psi (Air or Nitrogen test) with electrofusion boots 58 psi (Hydrostatic test) No loss or gain of pressure during test time

Petroplas

- Secondary Test Length: 3 hrs (Air or Nitrogen test)1 hr (Hydrostatic test)
- Distance Between Pipes is 2“
- ***Installer certification must be renewed every 18 months***
- Primary and secondary piping can be tested at the same time
- Special Notes: All joints & fittings must be soaped during test (Air or Nitrogen test)
- All pressure testing gauges need to be calibrated and certified and graduated in 2 psi increments

Flexworks

Manufacturer: OPW

Model: Flexworks

- Primary Test Pressure: 60 psi No loss in pressure during test for one (1) hour
- Secondary Test Pressure: 10 psi No loss or gain in pressure during test for one (1) hour
- ***Installer certification must be renewed every 2 years***
- Primary and secondary piping may be tested at the same time.
- Special Notes: All joints & fittings must be soaped during test

Flexworks Code Key

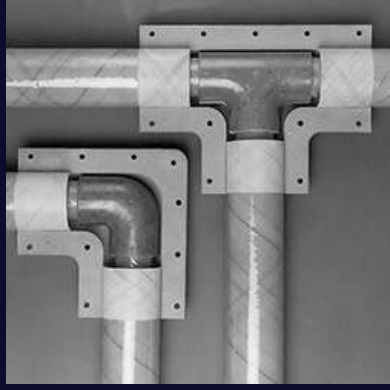
YYMMDDPR

- YY = Year in which the pipe was manufactured
- MM = Month of the year in which it was manufactured
- DD = Day of the month in which the pipe was manufactured
- P = Production line on which it was manufactured
- R = Manufacturing reel

Red Thread IIA

- Manufacturer: NOV Fiberglass Systems (formerly Smith Fibercast, formerly A.O. Smith)
- Model: Red Thread IIA

Red Thread IIA - Pressure



- 150% of operating pressure, typically 75 psi (Hydrostatic recommended) 50 psi (Air or Inert gas test) No loss of pressure during test time
- Primary Test Length: 1 hour
- Secondary Test Pressure: 10 psi (Air or Inert gas test) No loss or gain of pressure during test time
- Secondary Test Length: 1 hour

Red Thread IIA

- ***Installer certification must be renewed every 3 years***
- Primary and secondary piping can NOT be tested at the same time.
- Special Notes: All joints & fittings must be soaped during test.

Red Thread IIA – Code Key

XXXYY

- XXX is the Julian day of the year and YY is the year
- example: 20107 pipe was made 201st day of the year in 2007

Dualoy 3000/LCX

- Manufacturer: Ameron
- Pressure Test

Dualoy 3000/LCX

- Primary Test Pressure:
  - 150% of operating pressure, typically 75 psi (Hydrostatic recommended)
  - 150% of operating pressure, typically 75 psi (Air or Inert gas test)
- No loss of pressure during test time
- Primary Test Length: 1 hour
- Secondary Test Pressure:
  - 30 psi (Air or Inert gas test) with rigid test boots
  - 10 psi with flexible rubber test boots.
- No loss or gain of pressure during test time
- Secondary Test Length: 1 hour

Dualoy 3000/LCX

- ***Installer certification must be renewed every 3 years***
- Primary and secondary piping can be tested at the same time IF primary versus secondary test pressure difference is greater than 10 psi.
- Alternately contractor can elect to test the primary prior to the secondary (on separate days) before installing the final clam shell fittings that make up the secondary
- Special Notes: All joints & fittings must be soaped during test

Dualoy 3000/LCX

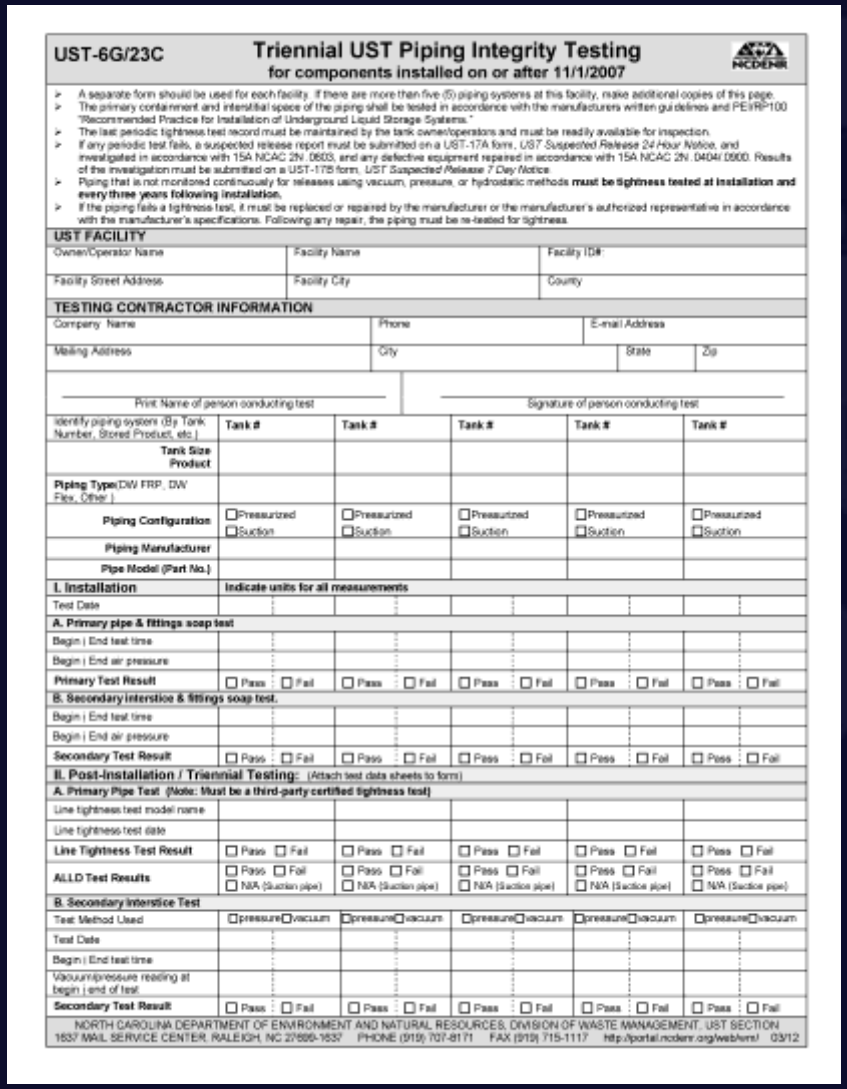
VWXX-YYZZZ

- V indicates the machine on which the pipe is made (1 through 7)
- W indicates the shift on which it was made that day (1 through 4)
- XX indicates the sequential joint number during that shift (01 through 99)
- YY indicates the year code (MM was 2000, NN was 2001, OO was skipped due to looking like 00, etc.)
- ZZZ indicates the Julian Date of the day the product was made (000 through 365)

Piping Installation Testing Requirements

- Before backfilling, test piping primary and secondary
- Monitor throughout site construction

Piping Installation Testing Requirements



UST-6G/23C — **Triennial UST Piping Integrity Testing**
for components installed on or after 11/1/2007

- A separate form should be used for each facility. If there are more than five (5) piping systems at this facility, make additional copies of this page.
- The primary containment and interstitial space of the piping shall be tested in accordance with the manufacturers written guidelines and PEI/RP100 "Recommended Practice for Installation of Underground Liquid Storage Systems."
- The last periodic tightness test record must be maintained by the tank owner/operators and must be readily available for inspection.
- If any periodic test fails, a suspected release report must be submitted on a UST-17A form, *UST Suspected Release 24 Hour Notice*, and investigated in accordance with 15A NCAC 2N .0603, and any defective equipment repaired in accordance with 15A NCAC 2N .0404/.0900. Results of the investigation must be submitted on a UST-17B form, *UST Suspected Release 7 Day Notice*.
- Piping that is not monitored continuously for releases using vacuum, pressure, or hydrostatic methods **must be tightness tested at installation and every three years following installation.**
- If the piping fails a tightness test, it must be replaced or repaired by the manufacturer or the manufacturer's authorized representative in accordance with the manufacturer's specifications. Following any repair, the piping must be re-tested for tightness.

UST FACILITY

Owner/Operator Name	Facility Name	Facility ID#
Facility Street Address	Facility City	County

TESTING CONTRACTOR INFORMATION

Company Name	Phone	E-mail Address	
Mailing Address	City	State	Zip

Print Name of person conducting test — Signature of person conducting test

Identify piping system (By Tank Number, Stored Product, etc.)	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Size Product					
Piping Type(DW FRP, DW Flex, Other)					
Piping Configuration	☐Pressurized ☐Suction	☐Pressurized ☐Suction	☐Pressurized ☐Suction	☐Pressurized ☐Suction	☐Pressurized ☐Suction
Piping Manufacturer					
Pipe Model (Part No.)					
I. Installation	**Indicate units for all measurements**				
Test Date					
A. Primary pipe & fittings soap test					
Begin / End test time					
Begin / End air pressure					
Primary Test Result	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail
B. Secondary interstice & fittings soap test.					
Begin / End test time					
Begin / End air pressure					
Secondary Test Result	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail
II. Post-Installation / Triennial Testing: (Attach test data sheets to form)					
A. Primary Pipe Test (Note: Must be a third-party certified tightness test)					
Line tightness test model name					
Line tightness test date					
Line Tightness Test Result	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail
ALLD Test Results	☐ Pass ☐ Fail ☐ N/A (Suction pipe)	☐ Pass ☐ Fail ☐ N/A (Suction pipe)	☐ Pass ☐ Fail ☐ N/A (Suction pipe)	☐ Pass ☐ Fail ☐ N/A (Suction pipe)	☐ Pass ☐ Fail ☐ N/A (Suction pipe)
B. Secondary Interstice Test					
Test Method Used	☐pressure☐vacuum	☐pressure☐vacuum	☐pressure☐vacuum	☐pressure☐vacuum	☐pressure☐vacuum
Test Date					
Begin / End test time					
Vacuum/pressure reading at begin / end of test					
Secondary Test Result	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail

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- Line tightness testing of the primary and interstitial spaces
- Test data documented on the UST-6G/23C form

Tank Top Sumps Testing

Tank Top Sumps Testing

Tank Top Sumps Testing

- When submitting test results, do not write “to the mark”, need measurement from the bottom of the sump to the water line before / after.

Under Dispenser Containment Sumps

Summary of Installation Testing Requirements

UDC/Containment Sump Testing

- Test integrity of containment sump
- When using a hydrostatic test, water must cover all penetrations

Summary of Installation Testing Requirements

UST-6F/23B — **Triennial UST Containment Sump / UDC Integrity Testing** (for components installed on or after 11/1/2007) — NCDENR

- A separate form should be used for each facility. If there are more than six (6) UDC / containment sumps at this facility, make additional copies of this page.
- The last periodic tightness test record must be maintained at the UST site or the tank owner or operators place of business and must be readily available for inspection.
- If any periodic test fails, a suspected release report must be submitted on a UST-17A form, *UST Suspected Release 24 Hour Notice*. The suspected release must be investigated, in accordance with 15A NCAC 2N .0503, and any defective equipment repaired in accordance with 15A NCAC 2N .0404/.0900. Results of the investigation must be submitted on a UST-17B form, *UST Suspected Release 7 Day Notice*.

UST FACILITY

Owner / Operator Name	Facility Name	Facility ID#
Facility Street Address	Facility City	County

TESTING CONTRACTOR INFORMATION

Company Name	Phone	E-mail Address	
Mailing Address	City	State	Zip

I certify, under penalty of law, that the testing data provided on this form documents the UST system equipment was tested in accordance with the manufacturer's guidelines and the applicable national industry standards listed in 15A NCAC 2N .0900.

Print Name of person conducting test | Signature of person conducting test

UNDER DISPENSER CONTAINMENT (UDC) / CONTAINMENT SUMP TESTING

- Containment sumps that are not monitored continuously for releases using vacuum, pressure, or hydrostatic interstitial monitoring methods shall be tightness tested at installation and every three (3) years following installation in accordance with the manufacturer's written guidelines and PEI/RP100, "Recommended Practice for Installation of Underground Liquid Storage Systems."
- If the containment sump or UDC test results are not within the manufacturer's written guidelines or the manufacturer does not have written test evaluation guidelines then any change in level for a hydrostatic test within 4 hours or change in vacuum within 1 hour for a vacuum test must be considered a failing integrity test. For hydrostatic tests, please indicate the measured depths of water in the sump as the Begin / End Levels.
- If a UDC / containment sump fails a periodic tightness test, the sump must be replaced or repaired by the manufacturer, or the manufacturer's authorized representative in accordance with the manufacturer's specifications.
- Following replacement or repair, the UDC / containment sump must be re-tested for tightness.

Test Method Used: ☐ Hydrostatic ☐ Vacuum ☐ Other (Specify) | Test Equipment Used (If applicable)

Identify UDC/sump (By *Dispenser No. or Tank Number, Tank Size, Stored Product*)	☐Dispenser # ☐Tank #	☐Dispenser # ☐Tank #	☐Dispenser # ☐Tank #	☐Dispenser # ☐Tank #	☐Dispenser # ☐Tank #	☐Dispenser # ☐Tank #
Transition sumps should be listed above as "TS-XX" (with XX= sump ID#)						
Tank Size Product						
Sump Manufacturer						
Sump Material	☐ FRP ☐ Plastic	☐ FRP ☐ Plastic	☐ FRP ☐ Plastic	☐ FRP ☐ Plastic	☐ FRP ☐ Plastic	☐ FRP ☐ Plastic
Sump Installation Type	☐ Single Wall ☐ Double Wall	☐ Single Wall ☐ Double Wall	☐ Single Wall ☐ Double Wall	☐ Single Wall ☐ Double Wall	☐ Single Wall ☐ Double Wall	☐ Single Wall ☐ Double Wall
Indicate units for all measurements						
Sump Diameter or Length X Width						
Sump Depth						
Wait time between applying vacuum/water and start of test						
Test Date						
Begin / End Test Time	/	/	/	/	/	/
Begin / End Level	/	/	/	/	/	/
Test Result	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail

Comments – *(include information on repairs made prior to testing, and recommended follow-up for failed tests)*

Date next Containment Sump/UDC integrity test are due (required every 3 years)

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WASTE MANAGEMENT, UST SECTION
1637 MAIL SERVICE CENTER, RALEIGH, NC 27699-1637 PHONE (919) 707-8171 FAX (919) 715-1117 http://portal.ncdenr.org/web/wm/ 03/12

UDC/Containment Sump Testing

- Test data documented on the UST-6F/23B form

Spill Buckets

- Manufacturer
- Model
- Material of Construction

Spill Buckets

Summary of Installation Testing Requirements

Spill Bucket Installation Testing

- Test integrity of both primary and secondary wall of spill bucket

Summary of Installation Testing Requirements

UST-6D/23A — **Triennial UST Spill Bucket Integrity Testing**
for components installed on or after 11/1/2007

NCDENR

- A separate form should be used for each facility. If there are more than five (5) spill buckets at this facility, make additional copies of this page.
- The last periodic tightness test record must be maintained at the UST site or the tank owner or operators place of business and must be readily available for inspection.
- If any periodic test fails, a suspected release report must be submitted on a UST-17A form, *UST Suspected Release 24 Hour Notice*. The suspected release must be investigated, in accordance with 15A NCAC 2N .0903, and any defective equipment repaired in accordance with 15A NCAC 2N .0404/.0900. Results of the investigation must be submitted on a UST-17B form, *UST Suspected Release 7 Day Notice*.

UST FACILITY

Owner / Operator Name	Facility Name	Facility ID#
Facility Street Address	Facility City	County

TESTING CONTRACTOR INFORMATION

Company Name	Phone	E-mail Address	
Mailing Address	City	State	Zip

I certify, under penalty of law, that the testing data provided on this form documents the UST system equipment was tested in accordance with the manufacturer's guidelines and the applicable national industry standards listed in 15A NCAC 2N .0900.

Print Name of person conducting test | Signature of person conducting test

SPILL BUCKET TESTING

- Spill buckets, installed on or after 11/1/2007, that are not monitored continuously for releases using vacuum, pressure, or hydrostatic methods must be tightness tested at installation and every three (3) years following installation.
- The primary containment and interstitial space of the spill bucket shall be tested in accordance with the manufacturers written guidelines and PEI/RP100 "Recommended Practice for Installation of Underground Liquid Storage Systems."
- If the spill bucket test results are not within the manufacturer's written guidelines or the manufacturer does not have written test evaluation guidelines then any change in level for a hydrostatic test within 1 hour or change in vacuum within 30 minutes for a vacuum test must be considered a failing integrity test. For hydrostatic tests, please indicate the measured depths of water in the spill bucket as the Begin / End Levels.
- If the spill bucket fails a tightness test, it must be replaced or repaired by the manufacturer, or the manufacturer's authorized representative in accordance with the manufacturer's specifications.
- Following any repair, the spill bucket must be re-tested for tightness.
- The primary and secondary walls are both considered to be tested at the same time if vacuum is used to test the interstice.

Test Method Used: ☐ Hydrostatic ☐ Vacuum ☐ Other (Specify) | Test Equipment Used (If applicable)

Identify Spill Bucket (By Tank Number, Stored Product, etc.)	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Size Product					
Indicate units for all measurements					
Bucket Installation Type	☐ Direct Bury ☐ Containment sump	☐ Direct Bury ☐ Containment sump	☐ Direct Bury ☐ Containment sump	☐ Direct Bury ☐ Containment sump	☐ Direct Bury ☐ Containment sump
Bucket Manufacturer/Model					
Bucket Diameter X Depth					
Wait time between applying vacuum/water and start of test					
Primary Section Test Data					
Begin / End Test Time	/	/	/	/	/
Begin / End Reading	/	/	/	/	/
Test Result	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail
Secondary Interstice Test Data					
Begin / End Test Time	/	/	/	/	/
Begin / End Reading	/	/	/	/	/
Test Result	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail	☐ Pass ☐ Fail

Comments – *(include information on repairs made prior to testing, and recommended follow-up for failed tests)*

Date next spill bucket tightness test are due (required every 3 years)

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Spill Bucket Installation Testing

- Test data documented on the UST-6D/23A form

Overfill Protection

- Ball Float
- Flapper Valve
- Alarm

Electronic Monitoring Equipment

- Monitoring Console Manufacturer / Model
  - Tank Interstitial Sensor Manufacturer
  - Tank Interstitial Sensor Model
  - Other Sump Sensor Manufacturer
  - Other Sump Sensor Model

Installer Information

- Installer Names (Tank and / or Piping)
- Certification Type
- Certified By
- Certification Number
- Certification Date

Site Diagram

- Basic layout of the UST system (include buildings and adjacent roads)

One Time Drop Permit

- Spill Prevention
- Overfill Prevention

One Time Drop Permit

- For the purpose of conducting line tightness testing and automatic line leak detector testing (pressurized piping only).
- This letter is your approval for placement of petroleum product in each tank, up to 50% of the tanks maximum volume, for conducting line tightness and automatic line leak detector testing.
- Approval **expires 10 days after the letter is issued**.

One Time Drop Permit

- Testing to be completed within 15 days of placement of petroleum product in the UST.
- An approved monthly leak detection method must begin immediately for each tank,
- All product shall be removed from the UST if an operating permit is not obtained
- Line tightness and automatic line leak detector (pressurized piping only) test results must be submitted to the inspector within 15 days of test completion.
- A copy of the invoice/delivery ticket showing the amount of product placed in each tank must be submitted to the inspector within 15 days of test completion.

One Time Drop Permit

- This is NOT a permit to operate the UST system at the facility.
- The fuel is only to be used for **testing**.
- No additional deliveries are allowed.
- Deliveries to unpermitted UST systems can result in civil penalties up to $10,000 per day per violation against the tank owner, tank operator and fuel transporter.

Common Issues - Certifications

- Lack of certifications to present to the inspector at the time of the installation
- Certification (tank/piping) expired or they don’t have certification for everyone working.
- Contractors from out of state are not familiar with NC Rules and Regulations.

Common Issues – Piping Installs

- Piping not properly pressurized.
- Contractors are not performing test according to the manufacturer recommendations.

Common Issues

- Flex Boots and Electrofusion boots on the same line when each requires a different secondary pressure for testing.

Common Issues

- Water levels in the sumps not clearly marked

Common Issues

- Leaking Boots and penetrations

Common Issues

- Sumps not filled with water above all connections and penetrations

Common Issues

- No Tracer Tape on-site

Common Issues

- Components being changed from what is on the APPROVED UST6A Form with the engineer stamp.

Common Issues

- Sensors not set up properly.

Common Issues

- UST Owners not having all of the information they need (i.e. testing results, etc.) for their first compliance inspection.
- Using a “One Time Drop” permit for more than one drop.
- ATG not set up to do sensor status report and alarm history.

Common Issues

- Interstitial space for the piping not left open in the containment sump.
- Schrader valves not left open

Not So Common Issues

Not So Common Issues

Not So Common Issues

Special Considerations

- Any Other Inspections needed at site
- Extreme Weather Conditions
  - Extreme heat
  - Extreme cold
  - Heavy Rains

North Carolina Department of Environment and Natural Resources
Underground Storage Tank Section

Questions?

NCDENR