



UNDERGROUND STORAGE TANKS

These guidelines are to be followed when an underground storage tank is moved, installed, or otherwise added, within the City of Rockwall City Limits.

All underground storage tank requirements for the purposes of these guidelines and any other guidelines or requirements of the Rockwall Fire Marshal Division shall conform to the 2015 International Fire Code, as adopted and amended by the City of Rockwall. Additional requirements will apply to Motor Fuel-Dispensing Facilities.

These guidelines do not replace, nor supersede any codes and/or ordinances adopted by the City of Rockwall, or determinations and positions of the Rockwall Fire Marshal Division.

General Requirements

- 1) An approved method of secondary containment shall be provided for underground tank and piping systems. Plans shall indicate method for compliance for tank and piping.
- 2) The design, fabrication and construction of tanks shall comply with the current edition of NFPA 30. Each tank shall bear a permanent nameplate or marking indicating the standard used as the basis of design.

Leak Prevention

- 3) Approved sampling tubes of a minimum 4 inches in diameter shall be installed in the backfill material of each underground flammable or combustible liquid storage tank. The tubes shall extend from a point 12 inches below the average grade of the excavation to ground level and shall be provided with suitable surface access caps. Each tank site shall provide a sampling sump at the corners of the excavation with a minimum of four sumps. Sampling tubes shall be placed in the product line excavation within 10 feet of the tank excavation and one every 50 feet routed along the product lines towards the dispensers, a minimum of two are required.

Submittal Requirements

- 4) A minimum of two (2) sets of plans and minimum of one (1) set of specifications/cut sheets shall be submitted. Plans shall contain sufficient detail to enable the plan reviewer to accomplish a complete review. **(This submittal may be done with the building permit submittal)**
- 5) Each submittal shall have a completed:
 - a) Rockwall Fire Marshal Division Permit Application.
 - b) Proof of application to Texas Commission on Environmental Quality for UST permit
 - c) Copy of Contractors Texas Commission on Environmental Quality License.
- 6) A site plan drawing of the installation location and layout, to include:
 - a) All buildings and structures
 - b) Fire lanes and fire hydrants
 - c) Location(s) of tanks, vent lines, sampling tubs, underground product lines, leak detection, dry sumps, and dispensing locations
- 7) Plan drawings shall show both plan view, section view, and other pertinent information.
- 8) Provide documentation of tank testing and ability to hold a vacuum. This is in addition to any testing required by the Rockwall Fire Marshal Division.

Inspection Requirements

- 9) See Installation Checklist for Underground Storage Tanks for all required inspections.



Installation Checklist for Underground Storage Tanks
Rockwall Fire Marshal Division
972-771-7774

Business Name: _____

Address: _____

INSTALLING CONTRACTOR

Business Name: _____

Address: _____

Phone Number: _____

Job Forman: _____

Installing Contractor License Number: _____

TANKS

- | | | | |
|----|----------------|---------------|-----------|
| 1. | Capacity _____ | Product _____ | UL# _____ |
| 2. | Capacity _____ | Product _____ | UL# _____ |
| 3. | Capacity _____ | Product _____ | UL# _____ |
| 4. | Capacity _____ | Product _____ | UL# _____ |
| 5. | Capacity _____ | Product _____ | UL# _____ |
| 6. | Capacity _____ | Product _____ | UL# _____ |

- TCEQ provided with 30-day notice.
- Installation plans and specifications are approved by the Rockwall Fire Marshal.

THE FOLLOWING SHALL BE INSPECTED PRIOR TO PLACEMENT IN PIT:

- Tanks are marked with UL identification.
- Tank serial number(s) and U.L. listing number(s) are recorded for each tank.
- Tank diameter(s) checked and recorded.
- Tank tightness Air test, 3-5 psi for minimum of 1-hr, witnessed prior to tank(s) being placed in pit.
- The interstitial space (annulus) of double-wall or secondary containment tanks shall be tested either:
 - o hydrostatically or with air pressure at a gauge pressure of 3 to 5 psi (20 to 35 kPa) **or**
 - o by vacuum at 2.6 psi (18 kPa) **or**
 - o in accordance with the tank's listing or the manufacturer's instructions.
 - o The pressure or vacuum shall be held for not less than 1 hour or for the duration specified in the listing procedures for the tank.
- Clean backfill available and pit is free of rocks, clumps, trash and debris. Pea-gravel must be used with fiberglass tanks.

THE FOLLOWING SHALL BE INSPECTED AFTER PLACEMENT IN PIT:

- Tanks located a minimum of 3-feet from lot lines and buildings.
- A minimum distance of 1 foot, shell to shell, shall be maintained between tanks.
- Tanks shall be properly anchored. **Exception: acceptable hydrology study**
- Sampling tubes of a minimum 4 inches in diameter are installed in the backfill material of each underground flammable or combustible liquid storage tank at the corners of the excavation with a minimum of four sumps.
- The tubes extend from a point 12 inches below the average grade of the excavation to ground level
- Tubes are in sumps provided with suitable surface access caps.



UNDERGROUND STORAGE TANKS

- Sampling tubes are placed in the product line excavation within 10 feet of the tank excavation and one every 50 feet routed along the product lines towards the dispensers, a minimum of two are provided.

THE FOLLOWING SHALL BE INSPECTED BEFORE COVERING ANY PIPING:

- All piping and valves are U.L. listed or of approved type.
- Unless tested in accordance with the applicable section of ASME B31.9, all piping shall be tested before being covered, enclosed or placed in use.
 - Testing shall be done hydrostatically to 150 percent of the maximum anticipated pressure of the system **or**
 - pneumatically to 110 percent of the maximum anticipated pressure of the system, **and**
 - the test pressure shall be maintained while a complete visual inspection of all joints and connections is conducted.
 - In no case shall the test pressure be less than a gauge pressure of 5 psi (35 kPa) measured at the highest point of the system
 - the test pressure is maintained for not less than 10 minutes.
 - Care shall be exercised to ensure that these pressures are not applied to vented storage tanks. Such storage tanks shall be tested independently from the piping.
- The interstitial (annular) space of secondary containment-type piping shall be tested:
 - hydrostatically at a gauge pressure of 5 psi (35 kPa) **or**
 - air pressure at a gauge pressure of 5 psi (35 kPa) **or**
 - shall be tested in accordance with its listing or with the manufacturer's instructions.
 - The pressure source shall be disconnected from the interstitial space to ensure that the test is being conducted on a closed system.
 - The pressure shall be maintained for a minimum of 1 hour.
- All metal pipes is properly wrapped (with 50% overlap), properly coated, or cathodically protected to prevent galvanic action or corrosion.

SPILL/OVERFILL PREVENTION

- A spill container with a capacity of not less than 5 gallons is provided for each fill connection. Top fill containers are noncombustible, fixed to the tank and equipped with a manual drain valve that drains into the main tank.
- An overfill prevention system is provided for each tank that operates as follows:
 - Automatically shut off the flow of fuel to the tank when the quantity reaches 95 percent of tank capacity **and**
 - Alert the transfer operator when the tank is no more than 90 percent full by restricting the flow of liquid into the tank or triggering the high-level alarm

VENTS

- Vent pipes from underground tanks storing Class I liquids are located so that the discharge point is outside of buildings, higher than the fill pipe opening, and not less than 12 ft. above finished ground level.
- Vent pipe outlets are located and directed so that vapors will not accumulate or travel to an unsafe location, enter building openings, or be trapped under eaves and shall be not less than 5 ft. from building openings.