

# Minimum Requirements for New and Replacement Underground Storage Tank Systems

Tanks/Underground Storage Tanks #2.01 • January 2009

**P**re-notification is required for new and replacement tanks, piping, and dispensers.

At least ten days in advance of beginning work, notify the Minnesota Pollution Control Agency (MPCA) Storage Tank Program of the installation project by fax, e-mail, regular mail, or telephone, using the “Ten-day Advance Notice” form.

## Certified contractor

Contractors who install regulated Underground Storage Tanks (UST) systems, including tanks, piping, and dispensers, must be certified for installation by the MPCA.

## Proper installation

Follow the manufacturer’s instructions. Follow all applicable industry codes and standards, including:

- tanks: API 1615 (1996) or PEI 100 (2005)
- piping: ASME B31.3 (2005) or ASME B31.4 (2006)
- ethanol and ethanol blends: API 1626 (1985)

## Tank design

Tank must be **secondarily contained** using one of the following designs:

- double-walled fiberglass-reinforced plastic
- double-walled steel with cathodic protection of outer wall

- double-walled steel with fiberglass-reinforced plastic jacket
- single-walled steel with fiberglass-reinforced plastic jacket designed to contain and detect leaks through the steel wall

Tank must be capable of detecting presence of liquid in the interstitial space using one of the following:

- continuous automatic leak-sensing device
- manual procedure such as a sump

Follow UL 58 (1996), UL 1746 (2007), STI 012 (2006), and STI-841 (2006), as applicable.

Tank must have drop tube extending to within 12 inches of tank floor, except that gasoline tanks at facilities with >10,000 gallons monthly throughput must have drop tube within six inches of tank floor.

Gasoline tanks in metro area must have Stage one vapor recovery system.

## Piping design

For pressurized piping and suction piping other than safe suction, piping must be secondarily contained using one of the following designs:

- double-walled fiberglass-reinforced plastic
- double-walled steel with cathodic protection of outer wall
- double-walled steel with fiberglass-reinforced plastic jacket

- single-walled steel with fiberglass-reinforced plastic jacket designed to contain and detect leaks through the steel wall
- double-walled flexible nonmetallic

Piping must be capable of detecting the presence of liquid in the interstitial space or sump using one of the following:

- gravity drain to sump with sensor that alarms, restricts flow, or shuts off the pump
- automatic line leak detector, plus gravity drain to sump and monthly visual sump checks

*For safe suction piping*, piping must be sloped to drain to the tank when suction is released, with a single check valve located directly beneath the suction pump. Secondary containment and release detection are not required.

## Dispensers

Dispensers must have **secondary containment** beneath the dispenser:

- synthetic materials such as fiberglass-reinforced plastic (not concrete or metal)
- liquid-tight sides, bottom, and points of piping penetration

Secondary containment is not required for replacement dispensers if no piping work is performed beneath shear valve or check valve.

Follow UL-Canada C107.21-1992.

Shear valves must be securely anchored.

## Submersible pump

Submersible pump, including any replacement pump head, must have **secondary containment** beneath the pump head:

- synthetic materials such as fiberglass-reinforced plastic (not concrete or metal)
- liquid-tight sides, bottom, cover, and points of piping penetration

Follow UL-Canada C107.21-1992.

## Spill and overfill prevention

Fill pipe must have liquid-tight spill catchment basin (spill bucket).

The tank must have an overfill prevention device that will:

- automatically shut off flow into tank (fill pipe flapper valve)
- alert fill operator by restricting flow (vent pipe ball float)
- alert fill operator by audible high level alarm

## Notification after installation

Within 30 days after initial use of UST system, notify the MPCA Storage Tank Program of the completion of installation by fax or mail using the “Notification of Installation or Change in Status” form. The form must be signed by the owner or operator and by the certified contractor.

## Records

The owner must keep documentation of UST system design such as invoices, specifications, operational manuals, and manufacturer/model/performance claims for tanks, piping, overfill prevention equipment, line leak detectors, leak detection sensors, dispenser and submersible pump containment, etc.

Documentation should be obtained from contractors, kept for the life of the tank, and passed on to any subsequent owner.

## Special tank types

For **heating oil tanks**, see UST fact sheet #1.08, “Heating Oil Underground Storage Tanks”.

For **emergency generator tanks**, see UST fact sheet #1.18, “Emergency Generator Underground Storage Tanks”.

---

## Need more information?

Visit the UST Program at <http://www.pca.state.mn.us/cleanup/ust.html>. The site has forms, fact sheets, and other information about USTs and UST requirements.

You can also call the MPCA at 651-296-6300 or 1-800-657-3864.

---