

Missouri Department of Natural Resources
Water Pollution Control Program

UST Technical Bulletin
Leak Detection Methods
#3 of 8

TANK TIGHTNESS TESTING

What is it?

A precision measurement of liquid level changes in a full or overfull tank. This test must account for changes caused by temperature, air pockets, tank deformation, evaporation, and the water table.

If after allowing for the above factors, the calculated loss rate exceeds the test equipment leak threshold (no greater than 0.1 gallon per hour), the tank is leaking.

Requirements:

1. Test should account for all factors that could cause a level change other than leakage.
2. Testers should be trained and certified by the testing equipment manufacturer.
3. Keep a record of each test result on file.
- 4a. Test is performed annually on existing tanks not meeting the criteria of.
- 4b. Test is performed every 5 years on new tank systems (installed after 12/22/88) or on tank systems meeting the full upgrade requirements.

Advantages: No equipment investment necessary for tank owner. Can be applied to the piping.

Disadvantages: Annual cost of testing. Disruption of daily operations during testing. Must be used in combination with inventory method or manual tank gauging method to qualify as an approved leak detection method.

After December 22, 1990, vendors or manufacturers of these tests must be able to demonstrate through third-party certification that the method is capable of detecting the leak rate specified with a statistical probability of at least 95% with no more than a 5% probability of a false alarm. Ask for documentation.