

Results of U.S. EPA Standard Evaluation Nonvolumetric Tank Tightness Testing Method

This form tells whether the tank tightness testing method described below complies with the performance requirements of the federal underground storage tank regulation. The evaluation was conducted by the equipment manufacturer or a consultant to the manufacturer according to the U.S. EPA'S "Standard Test Procedure for Evaluating Leak Detection Methods: Nonvolumetric Tank Tightness Methods." The full evaluation report also includes a form describing the method and a form summarizing the test data.

Tank owners using this leak detection system should keep this form on file to prove compliance with the federal regulations. Tank owners should check with State and local agencies to make sure this form satisfies their requirements.

Method Description

Name: Alert Ullage System

Version Number: Model 1050 (1.5 psi and -1.0 psi)

Vendor: Alert Technologies
636 East 11th St.
Indianapolis, IN 46202
(317) 631-5580

Evaluation Results

This method, which declares a tank to be leaking when **The noise level increases over ambient pressure in the bandwidths detectable by the transducer** has an estimated probability of false alarms [P(FA)] of 0 false alarms out of 21 tests. A 95% confidence interval for P(FA) is from 0 to **13.3%**.

The corresponding probability of detection [P(D)] of a **0.10** gallon per hour leak is **100** % based on the test results of 21 detections out of 21 simulated leak tests. A 95% confidence interval for P(D) is from **86.7** to **100%**.

Does this method use additional modes of leak detection? () Yes (X) No. If Yes, complete additional evaluation results on page 3 of this form.

Based on the results above, and on page 3 if applicable, this method (X) does () does not meet the federal performance standards established by the U.S. Environmental Protection Agency (0.10 gallon per hour at P(D) of 95% and P(FA) of 5%). (Ullage test only)

Test Conditions During Evaluation

The evaluation testing was conducted in a **10.000** gallon (X) steel () fiberglass tank that was **96** inches in diameter and **324** inches long, installed in **crushed limestone** backfill.

The ground-water level was **0** inches above the bottom of the tank.

Test Conditions During Evaluation (continued)

The tests were conducted with the tank **60 and 95** percent full.

The temperature difference between product added to fill the tank and product already in the tank ranged from **N/A** degrees F to **N/A** degrees F, with a standard deviation of **N/A** degrees F.

The product used in the evaluation was **unleaded gasoline**.

This method may be affected by other sources of interference. List these interferences below and give the ranges of conditions under which the evaluation was done. (Check None if not applicable)

(X) None

Interferences	Range of test conditions
Vibration due to nearby equipment	Zero pressure must produce a flat-line response before testing
Dripping condensation	Data is sporadic

Limitations on the Results

1. The performance estimates above are only valid when:
2. The method has not been substantially changed.
3. The vendor's instructions for using the method are followed.
4. The tank contains a product identified on the method description form.
5. The Ullage is **8,000** gallons or smaller.
6. The difference between added and in-tank product temperatures is no greater than **N/A** degrees Fahrenheit.

(X) Check if applicable:

Temperature is not a factor because **This is a test of the Ullage only.**

7. The waiting time between the end of filling the test tank and the start of the test data collection is at least N/A hours.
8. The waiting time between the end of "topping off" to final testing level and the start of the test data collection is at least N/A hours.
9. The total data collection time for the test is at least 5 minutes.
10. The product volume in the tank during testing is N/A % full.
11. This method (X) can () cannot be used if the ground-water level is above the bottom of the tank.

Other limitations specified by the vendor or determined during testing:

12. **This test must be combined with other test results for a full system test. It tests only the Ullage of the tank. No information is provided as to the rest of the tank.**

Safety disclaimer: This test procedure only addresses the issue of the method's ability to detect leaks. It does not test the equipment for safety hazards.

Additional Evaluation Results (If applicable) **NONE**

This method, which declares a tank to be leaking when _____
_____ has an estimated probability of false alarms [P(FA)] of _____% based on the test results of _____ false alarms out of _____ tests. Note: A perfect score during testing does not mean that the method is perfect. Based on the observed results, a 95% confidence interval for P(FA) is from 0 to _____%.

The corresponding probability of detection [P(D)] of a _____ gallon per hour leak is _____% based on the test results of _____ detections out of _____ simulated leak tests. Note: A perfect score during testing does not mean that the method is perfect. Based on the observed results, a 95% confidence interval for P(D) is from _____ to _____%.

> Water detection mode (if applicable) NOT APPLICABLE TO ULLAGE TEST

Using a false alarm rate of 5%, the minimum water level that the water sensor can detect with a 95% probability of detection is _____ inches.

Using a false alarm rate of 5%, the minimum change in water level that the water sensor can detect with a 95% probability of detection is _____ inches.

Based on the minimum water level and change in water level that the water sensor can detect with a false alarm rate of 5% and a 95% probability of detection, the minimum time for the system to detect an increase in water level at an incursion rate of 0.10 gallon per hour is _____ minutes in a _____ gallon tank.

Certification of Results

I certify that the nonvolumetric tank tightness testing method was installed and operated according to the vendor's instructions. I also certify that the evaluation was performed according to the standard EPA test procedure for nonvolumetric tank tightness testing methods and that the results presented above are those obtained during the evaluation.

H. Kendall Wilcox, President
(printed name)

(signature)

March 15, 1992
(date)

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