

# Certification Overview

This is an overview of third party approvals for the **Alert Technologies Precision Tank Test System**. Testing is in accordance with the U. S. EPA's "Standard Test Procedure for Evaluating Leak Detection Methods".

## Volumetric Tank Tightness Testing Method

- 1) Test Time Required
  - A) 1 Hour
    - a) 15,000 gallon maximum tank volume
    - b) 60% to 95% product level
    - c) At least 6 hours since any substantial amount of product added to tank
  - B) 2 Hour
    - a) 30,000 gallon maximum tank volume
    - b) 20% to 95% product level
    - c) No waiting time after filling (with temperature restrictions)
  - C) 4 Hour
    - a) Over 30,000 gallon tank volume (72,948 maximum)
    - b) 50% to 95% product level
    - c) No waiting time after filling (with temperature restrictions)
  - C) Incremental leak test, 2 hour accumulated data
    - a) 15,000 gallon maximum tank volume
    - b) 20% to 95% product level
    - c) No waiting time after adding product to tank
    - d) 2 hours accumulated data requires approximately 4 hours to acquire 2 hours of data in a tank being used 50% of the time during test.
- 2) Tank Volume
  - A) To 72,948 gallons
    - a) Over 30,000 gallons tank must be 50% full
    - b) 0 to 30,000 gallons tank must be between 20% and 95% full
- 3) Temperature Restrictions
  - A) As a mass sensing device temperature variations have little effect on the product being tested but can affect the tank itself if the product volume added is over 25% of tank volume. A fill causes the tank to expand, particularly on the ends, and requires a relaxing period before testing. As product height is not a major factor with the Alert system we recommend not filling before testing.
  - B) ***The following numbers show restrictions related to temperature variations as tested caused by significantly adding to the tank product contents prior to testing. Although listed as temperature restrictions these time restrictions relate more closely to the time required for tank relaxation due to internal pressure changes.***
    - a) 0 hours waiting time in tanks to 15,000 gallons on incremental testing with at least 2 hours of accumulated quiet test time.
    - b) 1 hour waiting time in tanks to 30,000 gallons if product delivered is within 2.3°F.
    - c) 6 hours waiting time in tanks to 15,000 gallons if product delivered is within 8.9°F.
    - d) 6 hours waiting time in tanks of 15,000 to 30,000 gallons if product delivered is within 20.2°F.
    - e) 10 hours waiting time in tanks over 30,000 gallons if product delivered is within 2.6°F.

## Non-Volumetric Tank Tightness Testing Method

- 1) Test Time Required
  - A) 1 Minute regardless of Ullage volume.
- 2) Tank volume
  - A) N/A
- 3) Tank Ullage (Empty space above the product)
  - A) 24,000 gallons @ -1.5 psig differential
  - B) 8,000 gallons @ 1.5 or -1.0 psig differential
- 4) Temperature Restrictions
  - A) Temperature is not a factor because the physical principles of the test method do not depend on temperature.