CARGO TANK VAPOR INTEGRITY TEST

Company Performing Test:_____ Phone:_____

Address:_____

Tank Owner:_____ Phone:_____

Address:_____

Owner s Tank I.D. No.(Unit No.) _____ Veh. License No. _____

Manufacturer s Serial No. (VIN) _____ Mfg. By _____ Year _____
Type of Tank: Truck _____ Semi _____ Pull Trailer _____
New Tank _____ Used Tank _____ Repaired _____ Retest _____
Nominal Capacity: _____ No. of Compartments: _____
Compartment Capacity: 1_____ gal., 2_____ gal., 3_____ gal., 4_____ gal., 5_____ gal.
Method 27 Test: Date of Test: _____ Conducted by: _____ Title:_____
Maximum Compartment Capacity: _____ gal.

Test #1 Initial Test Pressure _____/_____ inches of water at _____/_____ (time) (Ave) _____
Final Valve Pressure _____/_____ inches of water at _____/_____ (time) (Ave) _____
Pressure Change _____/_____ inches of water in five (5) minutes

Test #2 Initial Test Vacuum _____/_____ inches of water at _____/_____ (time) (Ave) _____
Final Valve Vacuum _____/_____ inches of water at _____/_____ (time) (Ave) _____
Vacuum Change _____/_____ inches of water in five (5) minutes

Test #3 Internal Vapor Valve Test
Initial Valve Pressure _____ inches of water at ___:___ (time)
Final Valve Pressure _____ inches of water at ___:___ (time)
Valve Pressure Change _____ inches of water in five (5) minutes
Subtract Pressure Change Test #1 _____ from Test #3 _____
Final Vapor Valve Pressure Change _____ inches of water

Maximum five minute pressure increase is equal to or less than 130 mm H_2O (5 in. H_2O): Yes No

Tests were conducted of: Complete Tank _____ Separate Compartment _____
Passed MACT Standards: Yes No Passed First Time: Yes No
Remarks and Repairs Completed: _____
_____
_____
_____
_____

I certify that the above described cargo tank has been tested in accordance with the test procedures as required in Colorado s Regulation No. 7 Appendix D and has successfully met the requirements of U.S. EPA regulations for Colorado air quality control and U.S. EPA Method #27 and 40 C.F.R. Section 63.425.

Test Approved By: _____

LM/JC97 Signature of Service Manager

The **annual certification test** consists of the following test methods and procedures.

1. Method 27 tests shall be conducted according to the following.
    1. Conduct the test using a time period (t) for the pressure and vacuum tests of five minutes.
    2. The initial pressure (P_i) for the pressure test shall be 18 inches of water (460 mm H_2O), gauge.
    3. The initial vacuum (V_i) for the vacuum test shall be 6 inches of water (150 mm H_2O), gauge.
    4. The maximum allowable pressure and vacuum changes ($\triangle p$, $\triangle v$) are as show in the second column of the following table.

Cargo tank or compartment capacity, gal (liters)	Annual certification allowable pressure or vacuum change in 5 minutes, in. H_2O (mm H_2O)	Allowable pressure change in 5 minutes at any time, in. H_2O (mm H_2O)
2500 or more (9464 or more)	1.0 (25)	2.5 (64)
2499 to 1500 (9463 to 5678)	1.5 (38)	3.0 (76)
1499 to 1000 (5679 to 3785)	2.0 (51)	3.5 (89)
999 or less (3782 or less)	2.5 (64)	4.0 (102)

2. Test #1: the pressure test should be conducted as follows.
    1. Connect air supply to tank discharge piping. Connect manometer gauge to vapor recovery outlet.
    2. Interconnect all compartments through the vapor recovery system. Open all emergency and discharge valves.
    3. Apply air pressure slowly. Pressurize the tank to 18 inches of water. Close off air supply to tank, allow the tank to stabilize (adjust the pressure if necessary to compensate for temperature alterations, etc.). Record clock time and initial pressure. If tank will not stabilize, determine areas of leakage, correct and repressurize per this procedure.
    4. At the end of the 5 minute period, record the final pressure and clock time.
    5. Repeat for each compartment if not interconnected.

3. Test #2: the vacuum test should be conducted as follows.
    1. Connect vacuum source to vapor recovery outlet.
    2. Interconnect all compartments through the vapor recovery system. Open all emergency and discharge valves.
    3. Evacuate the tank slowly to 6 inches of water. Close off vacuum source, allow the tank to stabilize (adjust the initial pressure to maintain stabilization). Record clock time and initial pressure. If tank will not stabilize, determine areas of leakage, correct and repressurize per this procedure.
    4. At the end of the 5 minute period, record the final pressure and clock time.
    5. Repeat for each compartment if not interconnected.

4. Test #3: the internal vapor valve should be done as follows.
    1. After completing the test described in section 2.2.1 above, use the procedures in Method 27 to repressurize the tank to 18 inches water and allow the tank to stabilize.
    2. Close the tank s internal vapor valve(s) and emergency valves, thereby isolating the vapor return line and manifold from the tank. Open shutoff valve to relieve the pressure in the vapor recovery system to atmospheric pressure and record initial pressure and time.
    3. After five minutes, close the shutoff valve. Then open the emergency valves and vapor vents. Record the gauge pressure in the vapor return line and manifold.

5. Subtract the pressure change of Test #1 from Test #3. This difference shall not exceed 3 inches of water.

6. The maximum allowable five minute pressure increase is 5 in. H_2O.

For a more detailed procedure of these tests please consult Appendix D in Air Quality Control Commission s Regulation No. 7, see U.S. EPA Method 27, or contact Colorado s Air Pollution Control Division.