

Hazardous Materials Bulletin

EPA METHOD 27 TEST

December 2007

When applicable, Section 180.407(h)(2) of Title 49 of the Code of Federal Regulations (CFR) permits the use of EPA Method 27 Test as an alternative test to the leakage test for specification cargo tanks equipped with vapor collection systems used to transport petroleum distillates. Method 27 Test is the Environmental Protection Agency's (EPA) "Method 27- Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure-Vacuum Test," referenced in Title 40 CFR, Part 60, Appendix A.

The Michigan Department of Environmental Quality (MDEQ), however, has adopted a Vapor Tightness Test into their promulgated rules (R336.1627 and R336.2005) that differs from EPA Method 27 Test. This bulletin is to advise motor carriers and testing facilities of the differences in the two standards, and under which conditions either test may be used.

The Pipeline and Hazardous Material Safety Administration (PHMSA) is the agency within the U.S. Department of Transportation (USDOT) that is responsible for issuing hazardous materials regulations and interpretations. **It is the position of RSPA that the ONLY Vapor Tightness Test that is allowable under Section 180.407(h) is the EPA Method 27 Test, as amended. The MDEQ Test DOES NOT qualify as a substitution leakage test under Title 49.** The MDEQ Test is a stand-alone, separate requirement from Title 49.

The cargo tank owner should be aware of the differences between the prescribed leakage test, the Method 27, and the MDEQ test. The leakage test as specified in 180.407(h)(2) pressurizes each compartment individually to 80% of the design pressure. Additionally, the leakage test, as prescribed, pressurizes each compartment individually and the test pressure must be **maintained** for 5 minutes. The Method 27 and the MDEQ test process is to pressurize the entire tank as a single unit then determine if the pressure loss exceeds the acceptable levels identified in the chart below. This method fails to identify potential leaks between single bulkhead tanks.

Further, the EPA Test is a substitution for only part of the leakage test. The other provisions of the USDOT leakage test not covered under the EPA Test must still be completed. An individual conducting the EPA Test only needs to be registered with the USDOT as a Registered Inspector if they affix the leakage test sticker to a vehicle and certify the vehicle as passing the leakage test. If a Registered Inspector sub-contracts the EPA Test to another individual, but the Registered Inspector certifies the vehicle, then the Registered Inspector is responsible for the ENTIRE test and certification.

The revised test requires the tank to be tested under the following values: Test shall last 5 minutes, tank shall be pressurized to +460 mm (+18 inches or +0.6 psi) of water column and then evacuation to - 150 mm (-6 inches or -0.2 psi) of water column.

The revised test requires the results to be in compliance with the following table:

Cargo tank or compartment capacity, liters (gal)	Annual certification allowable pressure or vacuum changes in 5 minutes, mm H ₂ O (in. H ₂ O)	Allowable pressure change in 5 minutes at any time, mm H ₂ O, (in. H ₂ O)
9,464 or more (2,500 or more)	25 (1.0)	64 (2.5)
9,463 to 5,678 (2,499 to 1,500)	38 (1.5)	76 (3.0)
5,679 to 3,785 (1,499 to 1,000)	61 (2.0)	89 (3.5)
3,782 or less (999 or less)	64 (2.5)	102 (4.0)

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Michigan State Police - Traffic Safety Division, www.michigan.gov/motorcarrier

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