



Approval # 20100006
(Renewal for 20070002)

Environmental & Regulatory Services Division
Bureau of Petroleum Products and Tanks
201 West Washington Avenue
P.O. Box 7837
Madison, WI 53707-7837

Wisconsin COMM 10 Material Approval

Equipment: Petro Tite Line Tester

Manufacturer: Purpora Engineering, LLC
P.O. Box 80265
Saukville, WI 53080

Expiration of Approval: December 31, 2012

SCOPE OF EVALUATION

The Petro Tite Line Tester, manufactured by Purpora Engineering, LLC, has been evaluated in accordance with **s. Comm 10.515(8)(c)** of the current edition of the Wisconsin Administrative Flammable and Combustible Liquids Code for use as a line tightness tester. Evaluation was for use with both rigid and flexible lines.

This evaluation summary is condensed to provide the specific installation, application and operation parameters necessary to maintain the subject systems in compliance with the Wisconsin Administrative Code – Comm 10.

DESCRIPTION AND USE

The Petro Tite line leak detection system uses a preset threshold and a single test to determine whether a pipeline is leaking. The system declares a leak if the output of the measurement system exceeds a threshold of 0.05 gallon per hour.

The systems may be used when trapped vapor is present in the pipeline. Prior to the start of the test, the line is purged of air and vapor. The Petro Tite method tests for the presence of vapor at the end of the test. If the bleed back test results fall within the tolerance of the method, the results are valid.

The system may be used on lines that contain gasoline, diesel, aviation fuel, #4 and #6 fuel oil, waste oil, and some solvents.

TESTS AND RESULTS

The performance of the Petro Tite pipeline leak detection system was determined using the EPA protocol for evaluation of pipeline leak detection systems. When using a leak detection threshold of 0.05 gph, the system is capable of detecting a 0.1 gallon per hour leak at 20 psi with a P_{FA} of 0.37 percent and a P_D of 99.9 percent.

The EPA test procedure used addressed only the issue of the methods ability to detect leaks and not safety hazards.

LIMITATIONS / CONDITIONS OF APPROVAL

- The Petro Tite Line Tester is approved for use on pipeline systems for underground storage tank facilities that contain petroleum or other chemical products. It is approved for use on both rigid and flexible piping.
- The operating instructions and test procedures specified by Purpora Engineering, LLC shall be used to conduct all tests.
- Line tester operation shall be verified annually, and calibrated in accordance with manufacturer's instructions if necessary. Technician must hold a current Petro-Tite certification to operate equipment. Re-certification is required by the manufacturer every 2 years.
- The manufacturer shall submit for a revision to this Wisconsin Material Approval application if any of the functional performance capabilities of this equipment are revised. This would include, but not be limited to changes in software, hardware, or methodology.
- **Mechanical line leak detectors shall be removed or manually isolated from the pipeline for duration of the test, or check valve in pump must be manually closed if testing is to be conducted with mechanical line leak detector in place.**
- The systems may be used when trapped vapor is present in the pipeline. Prior to the start of the test, the line is purged of air and vapor. The Petro Tite method tests for the presence of vapor at the end of the test. If the bleed back test results fall within the tolerance of the method, the results are valid.

- Critical performance parameters for the Petro Tite Line Tester:

Rigid Piping:

Parameter	Value
Test Line Pressure	- 150% of normal operating pressure - 15 psi for suction systems
Maximum Test Line Pressure	120 psi
Maximum Test Line Size	6 in.
Minimum waiting period between last product dispensing and start of data collection	None
Minimum time for test ¹	0.5 hours (if detected leak rate < 0.005 gph) 1 hour (if detected leak rate > 0.005 gph within the 1 st 30 minutes of test)
Total maximum allowable volume of product in any rigid test pipeline	129 gallons or less

1: These test times are applicable for all sizes of steel piping and for fiberglass piping with a diameter less than 3-inches; for fiberglass pipe 3-inches or greater in diameter add 1 hour to the listed test time. For example 3-inch fiberglass pipe with a leak rate of less than 0.005 gph should be tested for 1.5 hrs, not 0.5 hour.

Flexible Piping:

Parameter	Value
Test Line Pressure	60 psi
Maximum Test Line Pressure	120 psi
Minimum waiting period between last product dispensing and start of data collection	None
Minimum time for data collection ¹	1.5 hours (if detected leak rate < 0.005 gph) 2 hours (if detected leak rate > 0.005 gph within the 1 st 30 minutes of test)
Minimum Flexible Piping Bulk Modulus	1,280 psi
Total maximum allowable volume of product in any flexible test pipeline	49.6 gallons or less

1: Included in this time is a 1 hour pretest consisting of 2 segments(30 minute pressurization at 90 psi followed by 30 minute pressurization at 60 psi). After pretest is completed, the test is run in 15 minute intervals.

This approval will be valid through December 31, 2012, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

DISCLAIMER

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement unless specified in this document.

Effective Date: January 1, 2010

Reviewed by: _____

Greg Bareta, P. E.
Engineering Consultant
Bureau of Petroleum Products and Tanks

Approved by: _____ Date: _____