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## Fireguard<sup>®</sup>

1. Fireguard<sup>®</sup> is a Protected Tank defined as, "A method of tank construction that includes an aboveground atmospheric tank with secondary containment and an insulation system that is intended to limit the heat transferred to the primary tank when the construction is exposed to a 2-hour hydrocarbon pool fire and is provided with protection from physical damage."
2. UL 2085 Listed Protected tank. A Certificate of Compliance from UL is attached. UL 2085 requires the primary tank to be constructed per the requirements of UL 142 and Fireguard<sup>®</sup> complies with this requirement. UL 2085 has the following performance test requirements:
  - a. **FULL-SCALE FIRE TEST:** A test which simulates a hydrocarbon pool fire. The representative tank is placed in a 2000° F rapid rise furnace that meets the requirements of UL 1709, "Standard for Rapid Rise Fire Tests of Protection Materials for Structural Steel." The temperatures recorded on the primary tank at any time during the 2-hour fire exposure must not exceed an average maximum temperature rise of 260°F and a maximum temperature of any single thermocouple of 400°F. The emergency venting of the tank must not be impaired during the test. Immediately following the fire test, the tank is subjected to the Hose Stream Test and the primary tank must not leak.
  - b. **BALLISTICS PROTECTION:** A method of tank construction in which the tank system has a tested ability to prevent penetration of a bullet into the primary tank. The ballistics test shall require that the tank be shot at five times with a 150 grain (9.72 g) M-2 ball ammunition, having a muzzle velocity of 2700 feet per second (823 meters per second), fired from a .30 caliber rifle at a distance of 100 feet (30.5 m).
  - c. **HOSE STREAM RESISTANT:** A method of tank construction in which the tank system has a tested ability to prevent leakage of the primary tank or damage to the insulation material when the completed tank assembly is impacted with a stream of water for 2 ½ minutes, as per the UFC test criteria, with the purpose of simulating a fire hose. This test shall be conducted immediately after the furnace test.
  - d. **IMPACT PROTECTION:** A method of tank construction in which the tank

system has a tested ability to prevent leakage of the primary tank if impacted by a vehicle. Testing shall consist of hitting the completed tank assembly with a 12,000 pound (5455 kg) weight moving at 10 m.p.h.(16 kph), 18 inches (457 mm) off the ground in a one square foot area.

- e. INTERSTITIAL COMMUNICATION TEST: A test that ensures the communication inside the interstitial space of liquid, vacuum, or pressure at the monitoring point.
3. ULC-S655-98 Listed Protected Tank. ULC is Underwriters' Laboratories of Canada. Their requirements mirror the UL 2085 requirements.
4. UFC (Uniform Fire Code) Protected tank. UFC testing requirements are identical to UL 2085 described above.
5. SwRI 93-01 Standard for Protected Tanks is identical to UL 2085 with 2 exceptions. SwRI 93-01 requires the tank used in the impact protection test to be anchored, while UL 2085 requires it to be unanchored. In addition, SwRI 93-01 allows the fire test to be extended from 2 hours to 4 hours. Please note that a requirement for a 4 hour test is for a Fireguard<sup>®</sup> Tank with 6 inches of insulation.
6. Fireguard<sup>®</sup> meets the California Air Resources Board (CARB) testing requirements for air emissions.
7. The Fireguard<sup>®</sup> secondary containment is testable on-site using standard, economical testing procedures. Steel outer wall provides low-cost maintenance and protects the insulation material from weathering. (Exposed concrete outer walls are susceptible to cracking, spalling and weathering.)
8. Fireguard<sup>®</sup> includes a 30 year warranty.

# Certificate of Compliance

Certificate Number 0070130-MH17883  
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**Underwriters  
Laboratories Inc.®**

*Issued to:*

**Steel Tank Institute, Div of STI/SPFA**

570 Oakwood Rd.  
Lake Zurich, IL 36502

*This is to certify that  
representative samples of*

**Protected Aboveground Tanks for Flammable  
and Combustible Liquids**

*Have been investigated by Underwriters Laboratories Inc.® in  
accordance with the Standard(s) indicated on this Certificate.*


*Standard(s) for Safety:*

**UL 2085 Protected Aboveground Tanks for Flammable and Combustible  
Liquids**

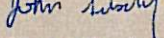
*Additional Information:*

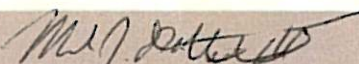
Listee's name, trade name, or trademark, a distinctive model designation or the equivalent, capacity of the primary containment tank, the month and year of manufacture, this tank requires emergency relief venting, the annular space requires emergency relief venting.

**Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.**

The UL Listing Mark generally includes the following elements: the symbol UL in a circle:  with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

**Look for the UL Listing Mark on the product**

Issued by:   
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