



STI/SPFA Role in Standards and Listings

Steve Pollock

W-G1

February 28, 2024



26th California Unified Program
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What are Standards? (borrowed definitions)

- Can be voluntary or mandatory
- Many types – design, performance to management and operational
- Established by consensus that provides rules, guidelines or characteristics for products, services and systems. (UL)

What are Standards? (borrowed definitions)

- Establish accepted practices, technical requirements, and terminologies for diverse fields. (UL)

What are Standards? (borrowed definitions)

- Are used to improve product quality, enhance health and safety, strengthen market access and trade, and build consumer confidence. (ASTM)
- Tools of customer satisfaction and competitiveness for companies across a wide range of markets. (ASTM)
- 1200+ ASTM Standards

What are Standards? (borrowed definitions)

- PEI issues technical manuals and Recommended Practices
- Heavily researched, peer reviewed to address operational issues faced by the industry. (PEI)
- Manuals used by industry regulators, fire marshals, codes officials, industry associations. (PEI)

What are Standards? (common approaches)

- Established governance
- Consensus committees
- Transparency and openness
- Balance of stakeholders
- Notifications
- Balloting
- Address objections and negatives



What are Standards? (who watches the watchers)



The **American National Standards Institute (ANSI)** accredits standards development organizations (SDOs) and coordinates the United States' input into international standardization work with the International Organization of Standardization (ISO) and the International Electrotechnical Commission (IEC).



The **Standards Council of Canada (SCC)** accredits SDOs and coordinates Canada's input in international standardization work with ISO and IEC.

What are Standards? (who watches the watchers)

The WTO

The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations and ratified in their parliaments. The goal is to ensure that trade flows as smoothly, predictably and freely as possible.

What are Standards? (who watches the watchers)

OSHA's Nationally Recognized Testing Laboratory (NRTL) Program

Recognizes private sector organizations to perform certification for certain products to ensure that they meet the requirements of both the construction and general industry OSHA electrical standards. Each NRTL has a scope of test standards that they are recognized for, and each NRTL uses its own unique registered certification mark(s) to designate product conformance to the applicable product safety test standards. After certifying a product, the NRTL authorizes the manufacturer to apply a registered certification mark to the product. If the certification is done under the NRTL program, this mark signifies that the NRTL tested and certified the product, and that the product complies with the requirements of one or more appropriate product safety test standards.

What makes them mandatory?

- YOU!
- Incorporated by reference
 - Law, codes, regulations
- Cross referenced by other standards that incorporated by reference
- Transactional relationships

AST Shop Fab Gold Standard



UL 142

STANDARD FOR SAFETY

Steel Aboveground Tanks for
Flammable and Combustible Liquids

UL 2085

ISBN 0-7629-0238-8

Protected Aboveground Tanks
for Flammable and
Combustible Liquids

What is UL?

Three Distinct Organizations with One Common Mission: To Create a Safer World

UL Research Institutes (NFP)

Focus on rigorous independent research into ongoing and emerging human safety risks. As threats evolve and their consequences become more severe, UL Research Institutes pursues scientific discovery to advance public safety – marshalling resources to scan for, assess and address emerging human safety risks in areas such as autonomous systems and artificial intelligence.

UL Standards & Engagement (NFP)

A critical facilitator of standards-related public-private partnerships around the world. UL Standards & Engagement translates data and research into actionable safety standards and drive safety advocacy campaigns focussed on improving public safety.

UL Solutions

Partnering with customers and stakeholders around the world to help solve safety, security and sustainability challenges. A global safety science leader, UL Solutions delivers testing, inspection and certification services, together with software products and advisory offerings, that support our customers' product innovation and business growth.



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UL Certification and Listing

Our certifications demonstrate that your products have been tested to applicable standards. UL's recognized regulatory expertise provides critical credibility to authorities and the marketplace.

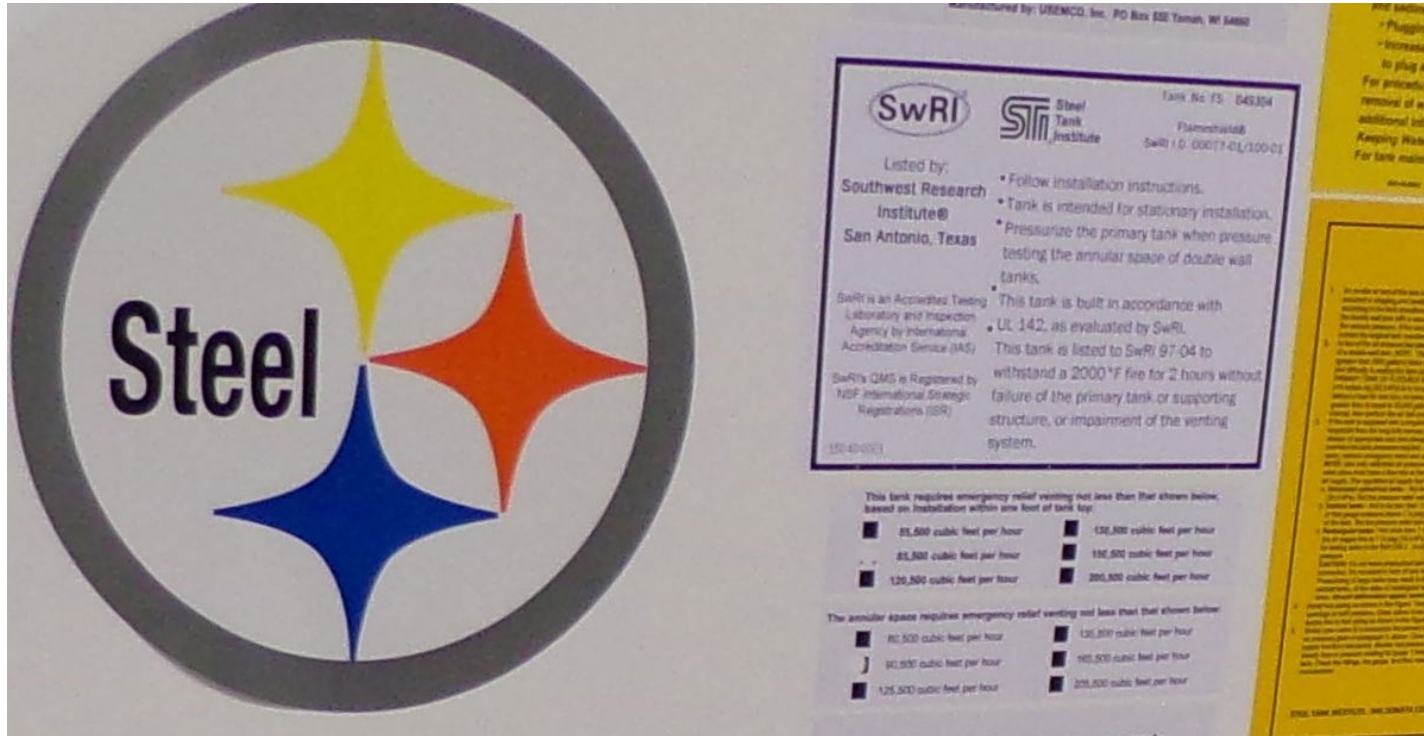


What are the other tank listings?



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What are the other tank listings?



Listed by:
Southwest Research Institute®
San Antonio, Texas

SwRI is a Nationally Recognized Testing
Laboratory under OSHA's NRTL Program.

SwRI is an Accredited Testing Laboratory
and Inspection Agency by International
Accreditation Service (IAS)

SwRI's QMS is Registered by NSF
International Strategic Registrations (ISR)



Serial No. FG xxxx

Fireguard® Tank
SwRI I.D. 00077-01/100-04

- UL 2085 Protected Tank.
- This tank is intended for installation in accordance with NFPA 30, NFPA 30A, the Uniform Fire Code and the International Fire Code.
- Follow installation instructions.
- Tank is intended for stationary installation.
- Pressurize primary tank when pressure testing interstitial space.
- This tank shall be investigated to determine acceptability for use after fire exposure damage, other physical damage, or misuse.
- Vehicle Impact Resistant.
- Projectile Resistant (if punched)

What are the other tank listings?

The screenshot shows the top navigation bar of the FM Approvals website. On the left is the FM Approved logo. The main navigation menu includes: SELECT LANGUAGE, CAREERS, CONTACT OFFICES WORLDWIDE, CONNECT WITH US (with a LinkedIn icon), and a search icon. Below this is a secondary menu with buttons for Approval Guide, RoofNav, Approval Standards, and Customer Portal. The right side of the header features the FM Approvals logo and the text "Member of the FM Global Group". A grey navigation bar below contains the following menu items: ABOUT FM APPROVALS, PRODUCTS WE CERTIFY, ADDITIONAL CERTIFICATIONS, FM MARKS & AUDITING, CUSTOMER APPLICATIONS, STANDARDS DEVELOPMENT, and INSIGHTS, PRODUCT ALERTS & EVENTS.

Home > Products We Certify > Flammable (Ignitable) Liquids Equipment

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FLAMMABLE (IGNITABLE) LIQUIDS EQUIPMENT

[Apply for Certification](#)

[Subscribe](#)

An ignitable liquid (formerly known as flammable liquid) fire can grow at a tremendous rate and quickly overpower an inadequate fire protection system.

Use of FM Approved fluids and FM Approved ignitable liquids equipment when used according to manufacturer's instructions, can reduce the fire size and growth rate when dealing with these challenging materials.



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Overview of Testing

- Design Performance Testing
 - One and done (sort of)
 - A novel design is put through the wringers

UL 142 PERFORMANCE TEST METHODS

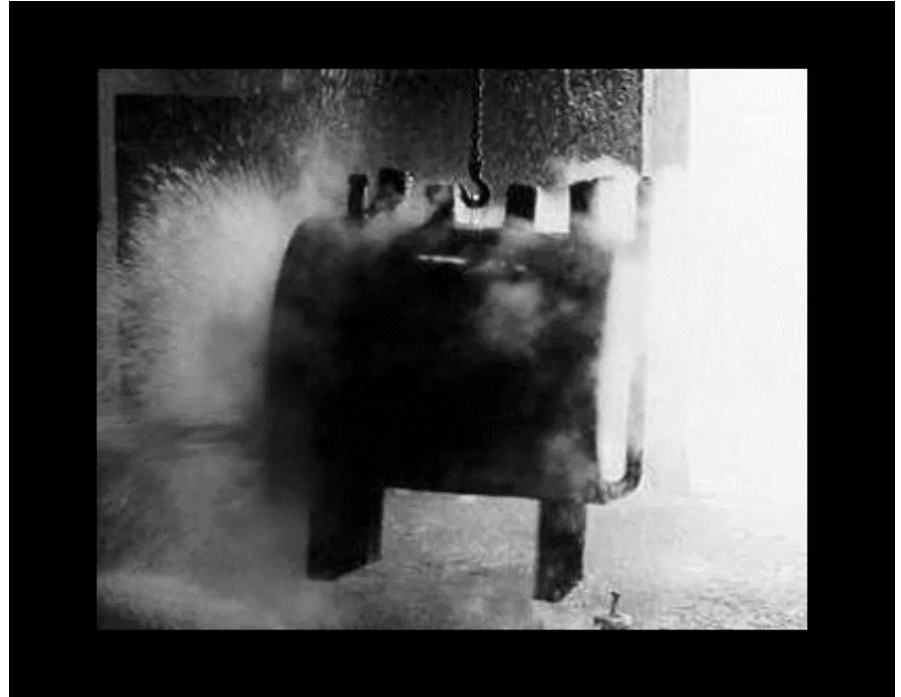
42 Tank Leakage Test

42.1 Caution

42.1.1 Caution – Testing with air pressure presents a risk of injury to persons and personnel should be instructed in precautions to be taken during such testing. The precautions should include the use of a pressure-relief device that will reduce the risk of the tank becoming pressurized in excess of the specified test pressure.

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Overview of Testing

- Manufacturing and Production Testing
 - Every tank going out of a shop

UL 142 **MANUFACTURING AND PRODUCTION TESTS**

49 Primary and Secondary Containment Tanks

49.1 Each primary and secondary containment tank, before painting, shall be tested by the manufacturer

and determined to be tight against leakage using the method of the Tank Leakage Test, described in 42.1,

42.2, and 42.3.

49.2 If leaks are noted during testing, the tank is to be made tight by welding and retested. Defects in

welds are to be repaired by chipping or melting out from one or both sides of the joint, as required, and rewelding

Overview of Testing

- Manufacturing and Production Testing
 - Every tank going out of a shop
 - Quarterly Inspections by listing organization
 - Quarterly inspections by STI/SPFA QC inspectors



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Overview of Testing

- Periodic Testing
 - Regulatory driven such as at installation
 - STI/SPFA R912
 - Tank Owner driven – what makes sense to confirm integrity?
 - SP001

Standards and Listings matter

- Cannot use UST listed tanks as AST's



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Check UL infographic to assist

https://collateral-library-production.s3.amazonaws.com/uploads/asset_file/attachment/47001/EIA22CS606279_-_Fueling_System_Infographic_aboveground-tanks.pdf





Any Questions?

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