

List of Frequently Utilized Storage Tank Standards and Practices

Below is a list of frequently used storage tank standards and practices from organizations that are referenced in 25 PA Code, Chapter 245. There may be other applicable standards. The current (or most recent) edition/revision of a publication should be used.

American Petroleum Institute	
Number (ID)	Title &/or Description
Construction Standards:	
API Spec 12D	Specifications for Field Welded Tanks for Storage of Production Liquids
API Spec 12F	Shop Welded Tanks for Storage of Production Liquids
API Spec 12P	Specifications for Fiberglass Reinforced Plastic Tanks
API Std 620	Design and Construction of Large, Welded, Low Pressure Storage Tanks
API Std 650	Welded Steel Tanks for Oil Storage (Replaced several API 12 series Spec's)
API Std 2000	Venting Atmospheric and Low-pressure Storage Tanks
API Std 2610	Design, Construction, Operation, Maintenance, and Inspection of Terminal & Tank Facilities
Inspection Standards: (Includes Construction Alteration, and Reconstruction Standards)	
API Std 510	Pressure Vessel Inspection Code (Maintenance Inspection, Rating, Repair and Alteration)
API Std 570	Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems
API Std 653	Tank Inspection, Repair, Alteration, and Reconstruction
API Std 2015	Requirements for Safe Entry & Cleaning of Petroleum Storage Tanks
Recommended Practices:	
API RP 12H	Installation of New Bottoms in Old Storage Tanks
API RP 12R	Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service
API RP 574	Inspection Practices for Piping System Components
API RP 575	Inspection of Atmospheric and Low Pressure Storage Tanks
API RP 580	Risk Based Inspection
API RP 651	Cathodic Protection of Aboveground Petroleum Storage Tanks
API RP 652	Lining of Aboveground Petroleum Storage Tank Bottoms
API RP 1107	Pipeline Maintenance Welding Practices
API RP 1110	Pressure Testing of Liquid Petroleum Pipelines
API RP 1604	Closure of Underground Petroleum Storage Tanks
API RP 1615	Installation of Underground Petroleum Storage Systems
API RP 1626	Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations
API RP 1627	Storing and Handling of Gasoline-Methanol/Cosolvent Blends at Distribution Terminals and Service Stations
API RP 1631	Interior Lining and Periodic Inspection of Underground Storage Tanks
API RP 1632	Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems
API RP 1637	Using the API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Gasoline Dispensing Facilities and Distribution Terminals
API RP 2003	Protection Against Ignitions Arising Out of Static, Lightning and Stray Currents
API RP 2016	Guidelines for Entering and Cleaning Petroleum Storage Tanks

American Petroleum Institute	
Number (ID)	Title &/or Description
API RP 2027	Ignition Hazards Involved in Abrasive Blasting of Atmospheric Storage Tanks in Hydrocarbon Service
API RP 2350	Overfill Protection for Storage Tanks in Petroleum Facilities
Other Publications:	
API – 334	A Guide to Leak Detection for Aboveground Storage Tanks
API Pub 2009	Safe Welding, Cutting and Hot Work Practices in the Petroleum and Petrochemical Industries
API Pub 2200	Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines
API – 2207	Preparing Tank Bottoms for Hot Work
API Pub 2217A	Guidelines for Work in Inert Confined Spaces in the Petroleum Industry

Petroleum Equipment Institute	
Number (ID)	Title &/or Description
Recommended Practices:	
PEI RP 100	Recommended Practices for Installation of Underground Liquid Storage Systems
PEI RP 200	Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling

National Leak Prevention Association	
Number (ID)	Title &/or Description
Recommended Practices:	
NLPA Std 631	Entry, Cleaning, Interior Inspection, Repair and Lining of Underground Storage Tanks

NACE International – The Corrosion Society	
Number (ID)	Title &/or Description
Inspection Standards:	
NACE TM 01-01	Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Tank Systems
NACE TM 04-97	Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping Systems
Recommended Practices:	
NACE 1/SSPC-SP5	Steel Structures Painting Council: “White Metal Blast Cleaning”
NACE 2/SSPC-SP10	Steel Structures Painting Council: “Near White Metal Blast Cleaning”
NACE 3/SSPC-SP6	Steel Structures Painting Council: “Commercial Blast Cleaning”
NACE 4/SSPC-SP7	Steel Structures Painting Council: “Brush Off Cleaning”
NACE 10/SSPC-PA6	Steel Structures Painting Council: “Fiberglass-Reinforced Plastic (FRP) Linings Applied to Bottoms of Carbon Steel Aboveground Storage Tanks”
NACE RP 0169	Control of External Corrosion on Underground or Submerged Metallic Piping Systems

NACE International – The Corrosion Society	
Number (ID)	Title &/or Description
NACE RP 0172	Surface Preparation of Steel and Other Hard Materials by Water Blasting Prior to Coating or Recoating
NACE SP 0177	Mitigation of Alternating Current and Lightning Effects on Metallic Structures and Corrosion Control Systems
NACE RP 0178	Design, Fabrication, and Surface Finish of Metal Tanks and Vessels to be Lined for Chemical Immersion Service
NACE RP 0184	Repair of Lining Systems
NACE RP 0187	Design Considerations for Corrosion Control of Reinforcing Steel in Concrete
NACE SP 0188	Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates
NACE RP 0193	External Cathodic Protection of On-Grade Carbon Steel Storage Tank Bottoms
NACE RP 0275	Application of Organic Coatings to the External Surface of Steel Pipe for Underground Service
NACE RP 0285	Corrosion Control of Underground Storage Tank Systems by Cathodic Protection

National Fire Protection Association	
see also 37 PA Code Chapters 11 and 13, Flammable & Combustible Liquids Handbook	
Number (ID)	Title &/or Description
Construction Standards:	
NFPA 70 (NEC)	National Electric Code®
NFPA 30	Flammable and Combustible Liquids Code
NFPA 30A	Motor Fuel Dispensing Facilities and Repair Garages
NFPA 303	Marinas and Boatyards
Recommended Practices:	
NFPA 77	Static Electricity
NFPA 326	Safeguarding Tanks and Containers for Entry, Cleaning or Repair

Underwriters Laboratories	
Number (ID)	Title &/or Description
Construction Standards:	
UL Std 58	Standards for Steel Underground Tanks for Flammable and Combustible Liquids
UL Std 142	Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids
UL Std 567	Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas
UL Std 842	Standard for Valves for Flammable Fluids
UL Std 860	Standard for Pipe Unions for Flammable and Combustible Fluids and Fire Protection Service
UL Std 971	Standard for Nonmetallic Underground Piping for Flammable Liquids
UL Std 1316	Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohol and Alcohol-Gasoline Mixtures
UL Std 1746	Standard for External Corrosion Protection Systems for Steel Underground Storage Tanks
UL Std 2085	Standard for Protected Aboveground Tanks for Flammable and Combustible Liquids
UL Std 2245	Standard for Below-grade Vaults for Flammable Liquid Storage Tanks

American National Standards Institute	
Number (ID)	Title &/or Description
Construction Standards:	
ASME B31.3	American Society of Mechanical Engineers: "Process Piping"
ASME B31.4	American Society of Mechanical Engineers: "Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia and Alcohols"
Recommended Practices:	
ASSE Z117.1	American Society of Safety Engineers: "Safety Requirements for Confined Spaces"

American Society for Testing and Materials	
Number (ID)	Title &/or Description
Construction Standards:	
ASTM A182/A182M	Standard Specification for Forged or Rolled Alloy Stainless Steel Pipe Flanges, Forged Fittings and Valves and Parts for High-Temperature Service
ASTM D2996	Standard Specification for Filament-Wound Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
ASTM D4097	Standard Specification for Contact-Molded Glass-Fiber-Reinforced Thermoset Resin Corrosion Resistant Tanks
ASTM D5685	Standard Specification for Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Pressure Pipe Fittings
Recommended Practices:	
ASTM E797	Standard Practice for Measuring Thickness by Manual Ultrasonic Pulse-Echo Contact Method
ASTM D2794	Standard Test Method for Resistance of Organic Coatings on the Effects of Rapid Deformation (Impact)

Steel Tank Institute	
Number (ID)	Title &/or Description
Construction Standards:	
STI P3	Specification and Manual for External Corrosion Protection of Underground Steel Storage Tanks
STI F841	Standard for Dual Wall Underground Steel Storage Tanks
STI F894	Act-100® Specification For External Corrosion Protection of FRP Composite Steel USTs (See also Association of Composite Tanks)
STI F921®	F921® Standard for Aboveground Tanks with Integral Secondary Containment
STI F922	Specification for Permatank®
STI F941	Standards for Fireguard® Thermally Insulated Aboveground Storage Tanks
STI R951	Specification for Tanks Using Low Levels of Pressure in the Tanks Interstice
STI F961	ACT-100U Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks
Inspection Standards:	
STI SP001	Standard for Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible and Flammable Liquids
Recommended Practices:	
STI SP031	Standard for Repair of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible & Flammable Liquids

Steel Tank Institute	
Number (ID)	Title &/or Description
STI R821	sti-P3 Installation Instructions
STI R891	RP for Hold Down Strap Isolation
STI R892	RP for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems
STI R912	Installation Instructions for Shop Fabricated Aboveground Storage Tanks for Flammable, Combustible Liquids
STI R913	Act-100® Installation Instructions
STI R923	Permatank® Installation Instructions
STI R931	F921® Installation Instructions
STI R942	Fireguard® Installation & Testing Instructions for Thermally Insulated, Lightweight, Double Wall Fireguard Aboveground Storage Tanks
STI R971	ACT-100-U® Installation Instructions
STI R972	RP for the Addition of Supplemental Anodes to sti-P3® USTs

Steel Structures Painting Council see also NACE International	
Number (ID)	Title &/or Description
Recommended Practices:	
	SSPC Painting Manual volume I
	SSPC Painting Manual volume II

Association of Composite Tanks	
Number (ID)	Title &/or Description
Construction Standards:	
ACT 100	Specification for the Fabrication of FRP Clad Underground Storage Tanks

Fiberglass Petroleum Tank and Pipe Institute	
Number (ID)	Title &/or Description
Recommended Practices:	
FFTP 1	Fiberglass Piping Systems Installation Check List for Underground Petroleum Pipe
FTPI RP T-95-02	Remanufacturing of Fiberglass Reinforced Plastic (FRP) Underground Storage Tanks

American Concrete Institute	
Number (ID)	Title &/or Description
Recommended Practices:	
ACI 350	Environmental Engineering Concrete Structures