

GLOBAL EXPERTS INSTITUTE FOR TRAINING.
ISO 9001-2008 TRAINING PROVISION CERTIFIED

Design of Storage Tanks, Operation, and Troubleshooting

Schedule Dates:

Start Date	End Date	Place
11 Jan 2026	15 Jan 2026	Dubai – The H Hotel

Program Introduction:

Storage tanks are a fundamental component of oil, gas, petrochemical, and industrial facilities, serving as critical units for storing liquids, chemicals, and petroleum products. The design, operation, and maintenance of these tanks require precise engineering to ensure safety, efficiency, and regulatory compliance. This course provides participants with in-depth knowledge of storage tank design principles, operational best practices, and troubleshooting methods for common problems. By combining theory, standards, and real-world case studies, participants will gain the expertise needed to optimize tank performance and minimize operational risks.

Program Objectives:

- ✓ Understand the fundamentals of storage tank design and engineering standards.
- ✓ Identify different types of storage tanks and their applications.
- ✓ Apply API and other international codes in tank design.
- ✓ Select appropriate materials for tank construction and lining.
- ✓ Analyze structural and mechanical design requirements.
- ✓ Understand tank foundation and settlement considerations.
- ✓ Implement safe operating practices and monitoring systems.
- ✓ Manage filling, emptying, and mixing operations efficiently.
- ✓ Detect and troubleshoot common operational problems.
- ✓ Apply corrosion prevention and control techniques.
- ✓ Develop maintenance and inspection programs.
- ✓ Enhance safety through risk assessment and hazard control.

Who should attend?

- Mechanical engineers and design engineers.
- Operations and maintenance engineers.
- Project engineers in oil, gas, and petrochemical sectors.
- Quality and inspection engineers.
- Safety engineers and HSE professionals.
- Tank fabrication and construction supervisors.
- Technical staff involved in storage tank operation or troubleshooting.

Program Outlines

Day One

- Introduction to Storage Tank Design and Applications
- Types of Storage Tanks: Fixed Roof, Floating Roof, Spherical, and More
- Industry Codes and Standards (API 650, API 620, API 653, etc.)
- Tank Design Parameters: Capacity, Pressure, Temperature
- Selection of Construction Materials and Protective Linings

Day Two

- Structural Design: Shell, Roof, and Bottom Plate Considerations
- Foundation Design and Settlement Issues
- Tank Accessories: Vents, Nozzles, Manways, and Fittings
- Floating Roof Systems and Seal Designs
- Safety Systems: Pressure Relief Valves and Emergency Vents

Day Three:

- Operational Procedures for Filling and Emptying Tanks
- Mixing and Blending Operations in Storage Tanks
- Temperature Control Systems for Stored Products
- Monitoring Systems: Level, Pressure, and Temperature Sensors
- Corrosion Mechanisms in Storage Tanks

Day Four:

- Coating, Cathodic Protection, and Corrosion Control Methods
- Inspection and Testing: Hydrostatic, Ultrasonic, and NDT Methods
- API 653 Requirements for Repair and Alteration
- Common Operational Problems and Root Cause Analysis
- Troubleshooting Leakage, Deformation, and Settlement Issues

Day Five:

- Emergency Response to Tank Failures or Accidents
- Maintenance Planning and Preventive Strategies
- Environmental and Safety Considerations in Tank Operations
- Advances in Tank Design and Smart Monitoring Technologies
- Case Studies and Practical Troubleshooting Workshop

Training Methodology:

- Slide presentations
- Interactive discussion
- Simulations and Gamification
- Online Video material

Cost Quotation in Kuwaiti Dinars

The total cost includes:

- 🌐 Instructor(s) expenses
- 🌐 Training materials
- 🌐 Certification
- 🌐 Lunch Included

Total Cost: 1350 KD per Participant

(One Thousand Three Hundred Fifty Kuwaiti Dinar)