



A Successful 5-Day In-house Training Course

Design & Fabrication of Storage Tank in Accordance with API 650



This course is Designed, Developed, and will be Delivered under
ISO Quality Standards





Design & Fabrication of Storage Tank in Accordance with API 650

WHY CHOOSE THIS TRAINING COURSE?

Design & Fabrication of Storage Tank in Accordance with API 650 is a course designed for participants that want an insight of how tank farm storage tanks are designed and constructed. This course provides a comprehensive detailed overview of the American Petroleum Institute API-650.

Storage tanks are used in industries such as petroleum production, refinery tank farms, intermediate product storage and product transfer operations, petrochemicals, as well as other industries consuming or producing flammable liquids, that hold flammable liquids, for short, medium or long-term storage. Crude oil or crude product storage tank design and construction, will be covered.

WHAT ARE THE GOALS?

The aim of this PetroKnowledge training course is to provide the delegates with a sound understanding of the main features of the design and construction of above ground storage tanks for the storage of flammable fluids.

By the end of this training course, participants will learn to:

- Learn about tank design features and components
- Understand storage tank construction methods
- Know the various materials of construction associated with storage tanks
- Grasp the relevant types of storage tanks and their associated terminology
- Appreciate the governing equations associated with tank design
- Learn about tank standards and codes

WHO IS THIS TRAINING COURSE FOR?

This PetroKnowledge training course is intended for tank farm and refinery employees or engineers who are required to select and or are involved in tank design, as well as anyone working in crude oil and or product storage facility. It is also intended for, but not limited to, professionals involved in handling, loading, or discharging of oil and gas cargoes. This training course is suitable to a wide range of professionals but will greatly benefit:

- Team Leaders, Project Managers, Refinery Managers, Plant managers, Oil Terminal
- Managers/Superintendent/Supervisors, Section Heads, Plant Supervisors, Process Engineers, Mechanical Engineers, Electrical Engineers, Instrumentation/Control Engineers, technical staff and contractor personnel involved in oil movement and storage

HOW WILL THIS TRAINING COURSE BE PRESENTED?

The training course will be conducted along workshop principles with formal lectures, computer simulation, videos and interactive worked examples. Relevant case studies will be provided to illustrate the application of each tool in an operations environment. Each learning point will be reinforced with practical exercises and ample opportunities for discussion and sharing of experiences.

The programme will be presented with the use of PowerPoint slides and videos. This will be augmented by case studies and facilitated discussions, to engage the delegates and to encourage the exchange of ideas.

Participants to this training course will receive a thorough training on the subjects covered by the seminar outline with the Tutor utilising a variety of proven adult learning teaching and facilitation techniques.



DAILY AGENDA

Day One: Storage tanks Introduction

- Introduction and uses of Storage Tanks
- Review of Energy Production and Consumption
- Basic properties and characteristics of petroleum and products in storage
- Storage of flammable liquids - safety & risk
- Fire Fighting & Fire Protection
- Handling oils spills and other emergencies

Day Two: Tank design Standards and Codes

- API Standard 650 Design and construction of new storage tanks
- Types of tanks, Bolted, Welded, etc.
- Tank Components, fittings and Equipment
- Tank Roofs, Fixed, Floating, Roof Supports etc.
- Tank Rim and Seals
- Tank Vents & Vacuum breakers
- Tank Drainage and water Separation
- Design, Sample Problem of a Heated Tank

Day Three: Tank Selection and design

- Tank Selection Criteria
- Tank capacity & Volume Calculations
- Cylindrical and spherical tanks
- Tank Piping Systems, mixers and BS&W Control
- Double Wall Storage Tank
- Foundations construction basics
- Syndicate exercise - Tank Layout and Spacing

Day Four: Tank Construction Engineering Considerations

- Materials selection
- Welding and welding inspection
- Design Loading and Selected Tank Equations
- Tank Coatings
- Tank Manufacturing and assembly
- Tank Damage
- Corrosion protection, Cathodic protection, etc.

Day Five: Maintenance and Inspection

- API Standard 653 - Tank Inspection, Repair, Alteration and Reconstruction
- Nondestructive inspections
- Tank Failure Case Studies
- Tank Inventory System (TIS)
- Level Measurement Sensors, techniques and control

ORGANISATIONAL IMPACT

Give your organisation the edge in the expanding Storage Tank industry sector and its impact on the world's energy supply chain. Specifically, the organisation will benefit from trained personnel with enhance capability in tank selection design and construction as well as maintenance and inspection.

PERSONAL IMPACT

You will learn the critical aspects of Design & Fabrication of Storage Tank in Accordance with API 650 namely:

- Mastering the fundamentals of storage tank design and construction
- Gaining a greater understanding of ins and outs of API 650
- Seeing real life factually based tank design case studies
- Understanding and focusing the importance of tank maintenance and inspection

QUALITY CERTIFICATION

ISO 29990 : 2010 Certified

Recognised Provider

ISO 9001: 2015 Certified

The PMI® Registered Education Provider logo is a registered mark of the Project Management Institute, Inc.

OFFICES:

Middle East:

P.O. Box: 135120,
Abu Dhabi
United Arab Emirates
Tel: **+971 2 557 7389**

Europe:

1 Berry Street,
Aberdeen AB25 1HF
Scotland, United Kingdom
Tel: **+44 1224 841557**

USA:

Pennzoil Place
700 Milam, Suite 1300 - North Tower
Houston, Texas 77002, USA
Tel: **+1832 871 5091**

Email: info@petroknowledge.com
www.petroknowledge.com



Developing Potential. Delivering Success.

Follow us on:

