The South African Institution of Mechanical Engineering

Tank Design, Construction and Installation Workshop

Duration - 2 Days : Time - 08h30 – 16h30 (Registration at 08h00)

Manual, teas and lunch provided

CPD Validation Number : SAIMechE-1107-12/20

This workshop will earn delegates 2 credits in Category 1.

This workshop is suitable for SAIMechE groups 2, 3a & 3b.

Workshop Developer and Facilitator:

Dr. Herbert De Vries, BSc (Mech.Eng), Pr.Eng. G.C.C., MSAIMechE, MBL, DBL

SAIMechE Group Classification

0 = Non-technical, e.g., HR, Finance	1 = Candidate (including GCC) with < 5 years experience	**2 = Professional (**including GCC) with < 15 years experience	**3a =Professional and Appointment** with > 15 years experience with specialist interest	**3b = Senior Management** with > 15 years experience

Overview

With for example, crude oil demands growing globally, the design and maintenance of atmospheric and low pressure vessels for oil storage identifies a major component for storage tanks to be provided in pace with this growth. Other areas for tank design lie for example in the fabrication of tanks for the in-line storage of slurries which form part of mining flow lines. Water and sewage tanks for growing municipalities also provide specialist design and manufacturing work to be done to secure the safety of users of tanks in any form or function. Growing demands provides an opportunity for South African engineers to get more involved in the design and manufacturing of storage tanks. Using the recognized codes for tank design such as American Petroleum Institute (API) 650 BS EN 14015:2004 API 620, tank design codes reflect the culmination of decades of work by many dedicated people. Using and expanding on these standards helps to design tanks in terms of the forces brought to bear by the earth, water, chemicals and atmosphere.

Contents

Day 1 – Tank design codes, types practises, basic design calculations and installation considerations

- Overview
- Introduction
- Objectives
- Learning outcomes
- Tank design codes, legislation and standards
- Tank types, architecture and basic design considerations
- Materials and sizing
- Design of steel tanks
- Installation considerations
- Conclusion

Day 2 – Tank design, considering other materials and technologies

- Stainless steel tank design, construction and installation
- Thermo plastic tank design, construction and installation
- Fibre glass tanks design, construction and installation
- Pressure vessels design, construction and installation
- Conclusion

Outcome and Benefits

- Provide the fundamentals design requirements for storage tanks
- Understand the various techniques available for safe site installation and achieving quality assured standards for the construction of storage tanks
- Consider maintenance strategies for the inspection, assessment repair and maintenance of storage tanks
- Learn design code and standards for storage tanks, materials of storage construction and methods used for construction of storage tanks

Who Should Attend

Qualifications of target audience

- Graduate mechanical engineers
- Graduate and diploma Technicians
- Artisans who have advanced themselves through practical learning and application
- Management who have acquired technical expertise due to the nature of their work in engineering and manufacturing organisations

Corporate Position of target audience

- Senior executives of engineering and manufacturing organisations
- Consulting engineers
- Manufacturing engineering executives
- Manufacturing, engineering and maintenance management
- Chemical engineers
- Occupational health and safety management and officers
- Technicians
- Quality managers

Experience of target audience

Equal or greater than three years of working in organisations involved in technical and engineering work.