
Arabian Institute For Training

General Mechanical Codes, Standards & Specifications

INTRODUCTION

- This training course is designed to give a detailed insight to the participants for understanding of Codes and Standards with emphasis on the right approach and methodology for using the codes. It helps the participants to understand the Code objectives, Code intents, stated and implied requirements (i.e., letter and spirit of the code). It also helps the participants to know the mandatory, recommended, and optional stipulations of the code.
- The training course also covers an overview of various codes and standards used in Process Industries for design, inspection, construction, and in-service inspection. This training course will be delivered in such a way that most of the code concepts will be clarified by both the code statements and the relevant examples. The training course also deals in: What is Code and what is standard (difference between codes and standards), Selection of appropriate code and standard for intended application, where one can take deviations from code etc. The training course is further designed such that participants with previous background of using the codes will understand the most effective and scientific use of codes for their purpose while the freshers will understand the correct approach and right use of the codes.

The training course will feature:

- The main concepts and technical terms of Engineering Code
- Introduction to the concepts of standardization and Codification
- The basic difference between code and standard
- The basic technical and scientific knowledge of Codes and standards
- An overview of commonly adopted codes and standards in the process Industries with specific emphasis on Oil & Gas, and Petrochemical Industries
- How to select appropriate code for design, material selection, inspection, and construction

OBJECTIVES

- Appreciate the meanings of different technical terms and concepts used in engineering Codes and Standards
- Choose the right engineering code for an intended application and carry out certain types of engineering calculations
- Be able to understand limitations imposed by various codes on material for construction for pressure components
- Understand Key Concepts of mechanical design, construction, Inspection and testing of pressure components
- Select the appropriate standard components

TRAINING METHODOLOGY

- A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivate everybody find the right answers. The delegates will also be encouraged to raise their own questions and to share in the development of the right answers using their own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the training course.

ORGANISATIONAL IMPACT

- This training course will help to improve the organization Standard Operating Procedures and process systems. The organization will find it easy to be engineering and quality certified and approved for many other companies and organization.

PERSONAL IMPACT

- Increase the personal ability to understand the local and international Mechanical code, Standard & Specifications as well Performing their jobs according to references. They will also be able to increase and update their knowledge reference to the best and current standards and improve their job processes, understand planning and schedule.

WHO SHOULD ATTEND?

This training course is suitable to a wide range of profession but will greatly benefit:

- Design engineers
- Mechanical engineers
- Plant Managers with or without experience in application of Codes & standards
- Inspection Professionals
- Maintenance Engineers & technicians
- All professionals involved in Inspection and troubleshooting of operating plants

Course Outline

Concept of Codes and Standards

- What is Code?
- What is Standard?
- What is Good Engineering Practice?
- Why adopt Codes?
- Introduction to various normally used engineering codes

Objectives of Codes and Standards

- What is Code Philosophy?
- Assumptions in Codes and Standards
- Information provided by Codes and Standard
- Information not provided by Codes and Standards
- Role of engineering judgment
- Code Requirements, Recommendations and options / alternatives
- Code Grammar, what means by SHALL, SHOULD & MAY
- Codes singulars and plurals
- Code contents, Stated & implied stipulations in the Codes

Various Design and Construction codes internationally adopted

- Codes for Pressure vessels
- Codes for Piping installations
- Codes for Tanks
- Other Engineering Codes/ miscellaneous Codes

Various in-service Inspection codes

- Codes for inspection of Pressure vessels
- Codes for inspection of Piping installations
- Codes for inspection of Tanks
- Difference between the construction codes and in-service inspection codes

Understanding of various codes

- Brief overview of Codes for Pressure vessels
- Brief overview of Codes for Piping installations
- Brief overview of Codes for Tanks
- Brief overview of Codes for inspection, Welding qualification and Materials

Understanding of Various In-service Inspection codes

- Brief overview of Codes for inspection of Pressure vessels (API510)
- Brief overview of Codes for inspection of Piping installations (API570)
- Brief overview of Codes for inspection of Tanks (API 653)

What is Standardization?

- Why adopt standards?
- Concept of standardization
- Principles behind usability of standards
- Introduction to various normally used Standards

Introduction to Various Standards

- Introduction to ASME B 16.5
- Introduction to ASME B 16.34
- Introduction to ASME B 36.10, 36.19
- Introduction to API 600 & 610
- ASTM material standards


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