



## **API 570 INSPECTION, REPAIR, ALTERATION, AND RERATING OF IN-SERVICE PIPING SYSTEMS**

**Duration**  
2 days

### **Designed for**

Engineers, inspectors, and maintenance personnel who are involved in inspecting, designing, operating, maintaining, repairing, and analysing pressure piping, and pipelines for safe operations in the refining, petrochemical and other related industries. It will assist with API 570 exam candidates for the Supplemental Inspector Certification.

The course is beneficial for Inspection, maintenance, fabrication, engineering, reliability, and repair personnel of process piping systems interested in learning more about the Codes and how to navigate through them.

\*It is recommended that attendees have a knowledge of either the inspection, design, fabrication, operation or maintenance of process equipment and piping, as well as some knowledge of the most common pressure equipment design codes/standards.

### **Description**

API 570 helps to Identify Damage Mechanisms in piping system and was created to link appropriate Non-Destructive Evaluation (NDE) technologies detecting/characterizing equipment damage to provide access to information in one concise source covering damage mechanisms. This Recommended Practice also assists in understanding damage inspected related to API 570.

### **Purpose**

The course designed to accommodate the issues that arise during the in-service inspection, assessment and repair of pressure piping.

### **Course highlights**

- Review of ASME B31.3 Process Piping
- Review of ASME B16.5 Flanges
- Review of API RP 578, Material Verification Program for New and Existing Alloy Piping Systems
- Review of API RP 577 Welding Inspection and Metallurgy
- Review of API RP 574 Inspection Practices for Piping System Components.
- Review of API RP 571 Damage Mechanisms
- Review of API 570 In-service Inspection Of Piping
- Review of ASME Section IX, Welding
- Review of ASME V NDE
- Corrosion Rate and Remaining Life determination
- Maximum Allowable Working Pressure
- Minimum Required Thickness
- Risk-Based Inspection
- Frequency and Extent of Inspection
- Corrosion Rate Determination
- Piping Stress Analysis
- Repairs, Alterations, and Rerating of Piping Systems
- Nondestructive Testing Requirements
- Weld WPS/PQR evaluation
- Practice Example Examinations

### **Objectives**

Explanations of all the information covered in the API 570 'Body of Knowledge' including: ASME welding requirements for pressure piping section IX; ASME non-destructive testing principles and application of Section V; pressure piping design review ASME B31.3, weld sizes, pipe branch reinforcement, brittle fracture, weld efficiency factors, post weld heat treatment; pressure piping inspection practices; API 570 inspection, repair and re-rating of piping, inspection intervals, inspection requirements, relationships to ASME codes. It covers Corrosion, minimum thickness determination and remaining life calculations; inspection and degradation mechanisms of piping corrosion and cracking mechanisms. The technical content of the examinations are well defined and linked closely to API and ASME codes and standards. The content of the exam preparation training courses reflects the scope of the examinations, in order to prepare the delegate to sit an official exam.