API 570 Piping Inspector Certification Preparation Training Course

26 - 30 Oct 2026

Lisbon

4500 € (Per Person)

Ref: #OG4383_99031

Course Introduction / Overview:

This comprehensive training course is designed to provide a complete understanding of the API 570 Piping Inspection Code, preparing candidates for the certification exam and enhancing their professional capabilities in the field of in-service piping system inspection. The curriculum delves deep into the essential codes and standards, including ASME B31.3 Process Piping and ASME B16.5, ensuring participants can confidently interpret and apply these critical documents. We will explore the core principles of piping design, materials, fabrication, and examination, with a strong focus on identifying and evaluating degradation mechanisms as detailed in API 571. The course structure is influenced by the practical methodologies found in works like "Piping Calculations Manual" by E. Shashi Menon, which emphasizes the application of engineering principles to real-world problems. At BIG BEN Training Center, we are committed to delivering a program that not only covers the body of knowledge required for the exam but also fosters the critical thinking skills necessary for effective asset integrity management. Participants will gain proficiency in performing internal, external, and on-stream inspections, understanding welding procedures, and applying non-destructive testing (NDT) methods to ensure the continued safety and reliability of process piping systems.

Target Audience / This training course is suitable for:

- Piping Inspectors and Engineers.
- Asset Integrity Engineers.
- Mechanical Engineers.
- Corrosion Engineers.
- Quality Assurance and Control Personnel.
- Maintenance and Reliability Professionals.
- NDT Technicians seeking to advance their careers.
- Project Engineers involved with piping systems.

Target Sectors and Industries:

- Oil and Gas Production and Refining.
- Petrochemical and Chemical Processing Plants.
- Power Generation Facilities.
- Pulp and Paper Manufacturing.
- Pharmaceutical and Food Processing Industries.
- Fertilizer Plants.
- Governmental bodies and regulatory agencies overseeing industrial safety.
- Engineering, Procurement, and Construction (EPC) companies.

Target Organizations Departments:

- Inspection and Non-Destructive Testing (NDT) Departments.
- Asset Integrity Management.
- Maintenance and Reliability.
- Engineering and Design.
- Quality Assurance / Quality Control (QA/QC).
- Operations and Production.
- Health, Safety, and Environment (HSE).

Course Offerings:

By the end of this course, the participants will have able to:

- Interpret the requirements of API 570, API 571, API 574, API 577, and API 578.
- Navigate and apply the principles of ASME B31.3 Process Piping and ASME B16.5.
- Calculate corrosion rates, remaining life, and retirement thickness for piping systems.
- Identify various types of piping components, materials, and their potential failure modes.
- Understand welding processes, procedures (WPS/PQR), and associated inspection requirements.
- Select and apply appropriate NDT methods for piping inspection.
- Develop effective inspection plans and strategies based on risk and code requirements.
- Evaluate and recommend repairs, alterations, and rerating procedures for in-service piping.
- Confidently prepare for and approach the API 570 certification examination.

Course Methodology:

The training methodology employed by BIG BEN Training Center is highly interactive and participant-focused, designed to maximize knowledge retention and practical application. This course moves beyond traditional lectures by integrating a dynamic blend of learning techniques. Each day features in-depth presentations on core concepts, followed by intensive workshops where participants work through real-world problems and calculations drawn from industry scenarios. We utilize a vast library of case studies illustrating common and complex piping degradation issues, repair challenges, and inspection findings. Collaborative group discussions are a cornerstone of the program, encouraging participants to share their experiences and learn from their peers under the guidance of an expert instructor. A significant portion of the course is dedicated to mock examination sessions that simulate the actual API 570 exam environment, providing invaluable practice and personalized feedback to identify areas for improvement. This hands-on, problem-solving approach ensures that participants not only learn the theoretical aspects of the codes but also develop the practical judgment and confidence required to excel as a certified API 570 Piping Inspector.

Course Agenda (Course Units):

Unit One: Fundamentals of API 570 and Piping Systems

- Scope and application of API 570 Piping Inspection Code.
- Roles, responsibilities, and qualification requirements for inspectors.
- Introduction to piping components, materials, and classifications.
- Fundamentals of ASME B16.5 Pipe Flanges and Flanged Fittings.
- Overview of piping drawings, symbols, and isometrics.
- Concepts of pressure design for piping components.
- Safety precautions for process piping inspection.

Unit Two: ASME B31.3 Process Piping Code

- Understanding the scope and structure of ASME B31.3.
- Material requirements and limitations.
- Design considerations for pressure, temperature, and external loads.
- Requirements for fabrication, assembly, and erection.
- Preheating and post-weld heat treatment (PWHT) principles.
- Inspection, examination, and testing rules.
- Pressure testing procedures, including hydrostatic and pneumatic tests.

Unit Three: Damage Mechanisms and NDT

- Introduction to API RP 571 Damage Mechanisms Affecting Fixed Equipment.
- General and localized corrosion, erosion, and erosion-corrosion.
- Environment-assisted cracking (SCC, HIC, SOHIC).
- Metallurgical and high-temperature degradation mechanisms.
- Introduction to API RP 577 Welding Inspection and Metallurgy.
- Review of common welding processes and discontinuities.
- Overview of Non-Destructive Examination (NDT) methods (VT, PT, MT, RT, UT).

Unit Four: Inspection, Repair, and Alteration

- API RP 574 Inspection Practices for Piping System Components.
- Inspection planning and risk-based inspection (RBI) concepts.
- Techniques for internal, external, and on-stream inspection.
- Inspection of buried piping systems.
- API 570 rules for repairs, alterations, and rerating of piping systems.
- Welded repairs, temporary repairs, and insert patches.
- Rerating calculations and documentation requirements.

Unit Five: Calculations, Data Evaluation, and Exam Preparation

- Calculating corrosion rates and remaining service life.
- Determining minimum required thickness (t-min) and MAWP.
- Pressure testing calculations and requirements.
- API RP 578 Material Verification Program for new and existing alloy piping.
- Evaluation of inspection data and fitness-for-service (FFS) concepts.
- Comprehensive review of the API 570 Body of Knowledge.
- Intensive mock examination practice and question review sessions.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

As the industry increasingly adopts Risk-Based Inspection (RBI) methodologies, how should a certified inspector balance the prescriptive requirements of codes like API 570 with the more flexible, data-driven approach of RBI to ensure both compliance and optimal asset integrity?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by focusing on the practical application of knowledge, moving beyond simple code memorization to cultivate the critical judgment essential for a competent inspector. While other programs may concentrate solely on passing the exam, our curriculum is structured to build a deep, foundational understanding of the "why" behind the code rules. We achieve this by integrating numerous real-world case studies and problem-solving workshops that challenge participants to apply code principles to complex, ambiguous scenarios they will encounter in the field. The training emphasizes the interconnectedness of various codes, such as API 570, API 571, and ASME B31.3, ensuring participants see the complete picture of piping integrity management rather than viewing each document in isolation. Furthermore, the expertise of the instructors at BIG BEN Training Center provides invaluable insights into industry best practices and the subtle nuances of code interpretation that are not found in textbooks. The course is not just a preparation for an exam; it is a comprehensive professional development experience designed to create highly skilled, confident, and effective piping inspectors.