API 570
PIPING INSPECTOR
CERTIFICATION PREPARATION PROGRAM

COURSE DURATION: 7 DAYS

An intensive course with daily homework & a final exam (similar to API 570 exam); special emphasis on the use of related codes & calculations. Study Guide is provided for pre-class study.

Course Notes from
Mark Smith
Master Trainer from
MSTS Training Services

COURSE DESCRIPTION

The API 570 Piping Inspector Certification Preparation program is designed to equip individuals with broad knowledge base relating to **maintenance, inspection, alteration and repair of in-service metallic piping systems.**

This program is produced by **MSTS Inspection Training Services** in Oklahoma, U.S. All instructors trained by **Mark Smith** (Master Trainer of MSTS) are selected for their technical and **"wake-ability"** skills. ("Wake-ability" – the ability to minimize snores during long, boring technical training.) Our students generally have a 90% passing rate.

This program benefits employers and the industry as a whole by helping to:

- Provide a **continued high level of safety** through the use of inspectors specialized in process piping
- **Improve** management control of **process unit inspection, repair, alteration and rerating**
- **Reduce** the potential for **inspection delays** resulting from regulatory requirements

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PREPARE YOURSELF TO BE A CERTIFIED API 570 INSPECTOR!

COURSE OBJECTIVES

The course provides participants with the knowledge necessary to:

- Successfully pass the API 570 Piping Inspector certification exam
- Effectively use major codes: ASME B16.5 & B31.3; ASME B&PV Sections V & IX
- Perform all basic piping calculations needed for the API exam (e.g. tmin, test pressure, MAWP, MDMT, corrosion rates, remaining life, etc.)
- Use API's requirements during inspection, repairs, and alterations of piping
- Review welding procedures (WPS/PQR) and welder performance qualifications (WPQ)

COURSE OUTLINE

DAY 1

1) Welcome & Introduction

(Codes To Bring : API 570, API 574 & ASME B31.3)

2) ASME B16.5 – Flange Code.

Learn how to determine:

- Maximum Flange Pressure
- Maximum Flange Temperature
- Appropriate Flange Class
- Maximum Hydrotest Pressure
- Flange Dimensions
- Maximum allowed Flaw Size on Flange Face

3) API 570 Sections 1-4, 6

- Purpose of API 570
- Scope of API 570
- Responsibilities defined in API 570
- Inspection Types & Intervals
- Tips on how to memorize information in API Codes

Evening Session:

- ASME B16.5 & API 570 Homework
- Practice all Calculations covered in Class

WHO SHOULD ATTEND?

Designed for piping inspectors and engineers working in refineries, chemical & industrial plants, gas plants, pipeline terminals, and oil fields.

- Inspection / Mechanical Engineer
- Asset Integrity Engineer
- Material & Corrosion Engineer
- DOSH Officer
- Welding Inspector
- Project Engineer
- QA /QC / NDT Engineer
- Quality / Safety Coordinator
- Static Engineer, Technician

No required class pre-requisites. However, if you wish to pursue the API Certification Exam, a minimal years of experience on subject matter is required depending on your educational qualifications.

Please refer to the Exam Qualification Requirements at: www.api.org/icp

DAY 2

1) ASME B31.3 - Piping Code

Includes understanding:

- Purpose & Scope of the Code
- Organization of the Code
- Piping Classes specified by the Code
- Roles specified by the Code
- Tips on how to find information in the Code

2) ASME B31.3 – Calculations & Charts

Learn how to determine:

- Quality Factor – "E"
- Allowable Stress – "S"
- Minimum Thickness for a Pipe
- Appropriate Pipe Schedule for new Pipe
- Minimum Thickness for a Blank (Blind)

3) API 570 – Section 7

- Inspection Data Evaluation
- Calculate MAWP of a Piping System

Evening Session:

- ASME B31.3 & API 570 Homework
- Practice all Calculations covered in Class

DAY 3

1) ASME B31.3 - Piping Code

Includes understanding:

- Basic concepts of Piping Flexibility
- Selection of Piping Materials
- Fabrication Requirements

2) ASME B31.3 – Calculations & Charts

Learn how to determine:

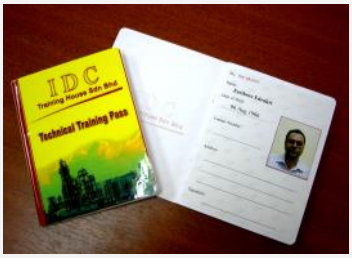
- Thermal Pipe Growth
- Minimum Design Temperatures
- Welding Preheat Requirements
- PWHT Requirements

3) API 570 – Section 8-9

- Repairs, Alterations & Rerating
- Underground Piping

BONUS !!!

Technical Training Passes will be provided



Evening Session:

- ASME B31.3 & API 570 Homework
- Practice all Calculations covered in Class. Also, complete the Corrosion Rate/Remaining Life Self-Study Module

DAY 4

1) ASME B&PV Section IX - Welding Code

Understand the following key concepts:

- Purpose of the Code
- Roles of the Welding Inspector
- Organization of the Code
- Welding Positions – Test and Field
- Testing Requirements and Acceptance Criteria
- Welder Qualification Process and Restrictions
- Tips on how to find information in the Code

2) ASME B&PV Section IX Review and Evaluate a WPQ (Welder Qualification).

Understand:

- Essential Variables for welder qualification
- Testing required for welder qualification

Evening Session:

- Section IX Homework
- Evaluate two WPQ's

DAY 5

1) ASME B&PV Section IX - Welding Code

Understand the following key concepts:

- Weld Procedure Qualification Process and Restrictions

2) WPS/PQR Review (Weld Procedure)

- Evaluate a WPS with the associated PQR

3) API 570 – Section 8 & 9

- Repairs, Alterations & Rerating
- Underground Piping

4) API 577 – Welding Inspection & Metallurgy

Evening Session:

- Section IX Homework. Evaluate one WPQ
- API 570 Homework
- Complete the API 578 Self-Study Module

COURSE DURATION

- 7 Days Training

DAILY SCHEDULE

- 8:30am - 5:30pm (Workshop)
- 6:00pm - 7:30pm
  (Evening session - Optional)

ITEMS TO BRING

- Calculator
- Lots of Questions
- A "CAN-DO" Attitude
- **Codes/Standards (in hardcopy)**
  *** Please refer to 570 Publications Effectivity Sheet at** https://www.api.org/~/media/Files/Certification/ICP/ICP-Certification-Programs/570/20190924_EKS_June%202020_570_Final.pdf

Stationeries such as pen and highlighter will be provided.

DAY 6

1) ASME B&PV Section V – NDE

Understand the following key concepts:

- Purpose of the Code
- Organization of the Code
- RT Techniques
- Purpose & Selection of IQI's
- RT Film Density Requirements
- Key terms discussed in the Code
- Tips on how to find information in the Code

2) API 570 Section 5

- Inspection & Testing Practices

3) API 571 - Damage Mechanisms in the Refinery Industry

Evening Session:

- ASME Section V & API 570 Homework
- Plus the "Mega-Problem". This exercise includes most of the calculations & tables covered in the class

DAY 7

1) Course Review

2) Practice Exam – Exam is similar to the API 570 exam

NOTE:

* Sequence of module is subject to training progress.

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TRAINER'S PROFILE

LUTZ SEIBT

Lutz Seibt has more than 25 years hands-on experience as an Authorized Inspector and Auditor acc. to German Pressure Vessel (AD Merkblaetter), Boiler (TRD) and Storage Tanks Codes, Pressure Equipment Directive (PED), Transportable Pressure Equipment Directive (TPED) and European Construction Material Directive; 9 years out of it within TUV's International Business Unit in Asia Pacific.

He has conducted numerous training sessions related to Pressure Equipments (based on American and European standards) in Malaysia, Singapore, Korea, China, Thailand and Vietnam.

TECHNICAL QUALIFICATIONS

- ✓ Certified International Welding Engineers (International Institute of Welding - IIW, Germany)
- ✓ Certified API 510 Pressure Vessel Inspector
- ✓ Certified API 570 Piping Inspector
- ✓ Certified API 577 Advanced Welding Inspection & Metallurgy Professional
- ✓ Certified Pedestal Crane Inspector acc. to API RP 2D (Cranetech Training & Inspection, Inc., USA)
- ✓ Certified Safety Engineer (Fachhochschule Frankfurt, Germany)
- ✓ Environmental Auditor (Technical Academy Esslingen, Germany)
- ✓ Bachelor Degree – Motor Vehicle Engineering

SPECIAL SKILLS

- ✓ Inspector for periodical inspection & certification of
  - ∗ Pressure vessels, Steam boilers, Piping Systems
  - ∗ Cranes, Hoisting equipment, Hoisting equipment of lifeboats
- ✓ Inspector for third party & welding inspection and QA/QC in manufacturing / construction of
  - ∗ Pressure vessels, Steam boilers, Piping Systems

COURSES CONDUCTED

- API 510 Pressure Vessel Inspector
- API 570 Piping Inspector
- API 577 Advanced Welding Inspection & Metallurgy Professional cum IDC Welding Inspector
- ASME IX "Welding Qualification"
- ASME VIII Division 1 "Pressure Vessel"
- European Pressure Equipment Directive (PED) 97/23/EC Simplified
- IDC Piping Specialist - Part 1: ASME B31.3 Process Piping
- Leak or Pressure Testing of Pressure Equipment
- Material Certificates (EN10204 / EN10168 / ISO10474)
- Welding & NDT Symbols (AWS / ISO Code)

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TRAINER'S PROFILE

LUTZ SEIBT

TESTIMONIALS

It was an excellent program conducted by a very experienced tutor. The discussion topics were directly related to my work scope and responsibilities & helpful and recommended this course to any inspection personnel.

E. Kannan
Discipline Head, Inspection Execution, Sarawak Shell Bhd

As always the course has been conducted to an excellent standard and the learning very much tuned to actual work environments. Very much recommended to all levels of the engineering community.

Pg Hassanal ASBPHM Puteh
Utilities Plant Inspector, Brunei LNG Sdn Bhd

What I like most about the Training is the **SIMPLIFICATION**.

P.Govalupillay
Managing Director, PT. Atmindo (Indonesia)

Before I attend this Training, my knowledge about the pressure vessel code is very poor. Now, I am **SELF-MOTIVATED** to know more about ASME, quite interesting.

Adi Setiawan
Engineer, PT. Atmindo (Indonesia)

The course was conducted successfully and I believe it helps me in having a better understanding of ASME IX "Welding Qualification".

Ir Mohd Rosli Salim
Inspector Engineer, Petronas Penapisan (Melaka)

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