



594752 (M)

IDC Training House

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LEAK OR PRESSURE TESTING OF PRESSURE EQUIPMENT

PREPARES DELEGATE FOR THIS CERTIFICATION EXAM:

*** IICS 1.4 CERTIFIED LEAK & PRESSURE TESTING PERSONNEL**

COURSE DURATION: 2 DAYS

COURSE DESCRIPTION

The final testing before the blasting and painting of pressure equipment is normally the **Proof Pressure or Leak Test**.

Since pressure tests are conducted above the normal maximum allowable working pressure, they shall be carried out under controlled conditions, with appropriate safety precautions. Therefore the development of **special procedures** are essential.

Different international codes and standards require different approaches.

For instance the EN 13445 requires the Hydrotest pressure to be

$$P_t = 1,25 \cdot P_d \frac{f_a}{f_T^d} \quad \text{OR} \quad P_t = 1,43 \cdot P_s$$

whereby ASME VIII Div. 1 requires

... a hydrostatic test pressure that at every point in the vessel is at least equal to 1.3 times the maximum allowable working pressure³⁴ multiplied by the lowest stress ratio (LSR) for the materials of which the vessel is constructed. The stress ratio for each material is the stress value S at its test temperature to the stress value S at its design temperature...

Piping systems even require to calculate two pressures, the **system pressure** and the **max. pressure of connecting flanges**.

Under some circumstances Hydrotests might be replaced by a Pneumatic pressure test.

In order to carry out the pneumatic pressure test it might be necessary to calculate the stored energy and convert it to equivalent pounds of TNT.

This course enables the participants to **develop applicable pressure test procedures** and to **carry out the pressure test** in accordance to code requirements.

Participants can now pursue **IICS 1.4 Certified Leak & Pressure Testing Personnel** with the international certification body, IICS.



Log in to www.international-inspector-certification.com for more information about IICS.



WHO SHOULD ATTEND?

This class is designed for:

- Pressure Equipment Designer
- Manufacturers
- Technical Consultants
- Notified Bodies

COURSE DURATION

- 2 Days Training

DAILY SCHEDULE

- 8:30am - 5:30pm

ITEMS TO BRING

- Calculator
- Lots of Questions
- A "CAN-DO" Attitude

Stationeries such as pen and highlighter will be provided.



PROGRAM OBJECTIVES

- Understand code requirements towards Pressure Tests
- Develop Pressure Test procedures
- Perform the applicable Pressure Test
- Interpret pressure test results

COURSE OUTLINE

DAY 1

- ASME V
 - * Article 10 "Leak Testing"
- Static head principle
- Hydro test in accordance to ASME VIII Div. 1 and 2
- Pneumatic test in accordance to ASME VIII Div. 1 and 2
- Leak Testing in accordance to ASME B31.3 and B-16.5
- Leak testing in accordance to API 510 & 570
- Pressure testing in accordance to ASME PCC-2

DAY 2

- Pressure Testing in accordance to the European Codes (EN 13445, EN 12952, EN 12953 etc.)
- Development of a pressure testing procedures
- IICS 1.4 Exam





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)



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)

