



ASNT NDT Inspector Level-I&II Training Course

Course Description

This course gives a broad knowledge about “In-Service Inspection of pressure vessel” and prepares students for the

NDT (PT, MT, UT, RT)

Exam. The course is an intensive 208 Hrs(total). course with Special emphasis on the use of the related codes and Calculations.

This course content includes:

- ◆ **Organization of the Code**
ASME Sec-V, API 5L

Class Participants

Students should have some of experience at

However, participants who do not meet this requirement are also welcomed to attend this Training to further their knowledge in the related areas.

Class Participants

The scheduled dates for NDT Inspector Certification Examination are as below:

Places: Gujarat (Vadodara), Bihar (Patna), Rajasthan, Westbengal, Assam, Tamil Nadu (Chennai, Coimbatore), Kerala (Cochin, Trishhur), AP (Hyderabad)

Other Countries: UAE, THAILAND, NIGERIA, CANADA, USA, SINGAPORE

BANGLADESH, DUBAI, SRILANKA

Course Description

The course provides participants with the knowledge Necessary to:

- ◆ successfully pass the NDT Boiler & Pressure Vessel inspector certification exam
- ◆ Effectively use major codes: ASME VIII DIV 1; API 5L Sections V
- ◆ Use NDT requirements during inspection, repairs, and alterations of Boiler & Pressure Vessel
- ◆ Review welding procedures (WPS/PQR) and welder performance qualifications (WPQ)

PRICE (Training and Exam) : Contact by email
Payment In advance. Certification time : 4 weeks

Notes

This is an intense course with daily homework and a final exam (NDT exam). A study guide is issued to direct participant's pre-class study.

Who should join

Boiler & Pressure vessel inspection engineers and managers, Inspection personnel, plant operating engineers and managers, who wish to appear for NDT examination.

Maintenance engineers and technicians and people Involved in trouble shooting of plant operations.

Bring to Class

Students should bring to class: a calculator, a straight edge (or triangle), pencils, highlighters, lots of questions, and a “CAN-DO” attitude. Also, participants must bring the appropriate codes required for the NDT exam.

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NDT VT

Inspector

24 HRS. Training Course

Tentative training schedule

VT Course outline

- Fundamentals of light and lighting
- Physiology of vision
- Fundamentals of Imaging
- Visual Weld testing practices
- Effect of fatigue
- Fibre optic Bore scopes
- Documentation of visual testing
- Analysis of visual testing

DAY 1 and DAY 2

1. Fundamentals, Vision and light
2. Ambient conditions, Test object characteristics
3. Equipment Accessories, Magnifiers/ microscopes
4. Mirrors, Dimensional, Borescopes
5. Video systems, Machine vision, Replication
6. Temperature indicating devices and materials
7. Chemical aids, Surface comparators
8. Lasers, Applications and Requirements
9. Raw materials, Primary process materials
10. Joining processes, Fabricated components
11. In-service materials, Coatings
12. Other applications, Requirements
13. Variables Affecting Results of interpretation/ Evaluations
14. Equipment including type and intensity of light
15. Material including the variations of surface finish
16. Discontinuity
17. Determination of dimensions (ie: depth, width, length, etc.)
18. Sampling/ scanning
19. Process for reporting visual discontinuities
20. Personnel (human factors)
21. Documentation

Training Course objective

- Identifying various weld discontinuities
- Understanding the relevant welding technology related to visual inspection
- Understanding the need for documentation in welding
- Familiarity with codes and standards related to inspection requirements
- Carrying out inspection of parent materials and consumables
- Perform visual inspection of welds, report on them and assess their compliance with specified acceptance criteria
- Gaining sufficient knowledge to successfully complete the CSWIP 3.0 Visual Welding Inspector examinations.

Required codes for exam

DAY 2

Purpose of the Code

◆ Scope of the Code

◆ Organization of the Code
ASME Sec-V Article-6 & 24

◆ Specification

◆ Acceptance Standards

EXAMINATION: (i) General, (ii) Specific, (iii) Practical



NDT MT

Inspector

40 HRS. Training Course

Tentative training schedule

DAY 1 & 2

- 1) Welcome & Introduction
- 2) **MAGNETIC PARTICLE TESTING Fabrication.**
Understand the following key concepts.

◆ Introduction

◆ Magnetic Flux

Detection of leakage field

◆ Magnetic Materials

Diamagnetic Metals,
Paramagnetic Metals
Ferromagnetic Metals

◆ Magnetic Field

Longitudinal & Circular Magnetic field

◆ Field direction for flaw detection

Yoke Method, Prod Method, Coil Method, Head Shot
Method, Central Conductor Method

◆ Magnetizing Current:

Alternating Current, Half wave rectified Direct Current
Full wave rectified Direct Current, Three phase rectified
Direct Current

◆ Magnetic field around a conductor revealed by
iron powders:

◆ Coil method for longitudinal magnetization

◆Magnetic Particles:

Day Magnetic powder Fluorescent & Non-Fluorescent
Wet Magnetic powder Fluorescent & Non-Fluorescent

◆ Contamination of Fluorescent & Non-Fluorescent
suspension

◆ Pie Gauge / Field indicator:

◆ Residual field meter:

◆ Magnetization of Irregularly Shaped Specimens

◆ Demagnetization:

◆ Lighting for **MAGNETIC PARTICLE TESTING**
Inspection

Ultraviolet Light & Visible Light
UV Meter & Lux Meter

Practical Examination

DAY 3 day 4

Day Magnetic powder Fluorescent / Non-Fluorescent
Wet Magnetic powder Fluorescent /Non-Fluorescent

◆ Yoke Method

Knowledge of

- ◆ Prod Method
- ◆ Coil Method
- ◆ Head Shot Method
- ◆ Central Conductor Method

Required codes for exam

DAY 4 and day 5

◆ Purpose of the Code

◆ Scope of the Code

◆ Organization of the Code

ASME Sec-V Article-7 & 25

◆Specification

SD-1186, SE-709.

◆ Acceptance Standards

ASME Sec-VIII, Division-1, Appendix-6

◆ EXAMINATION: (i) General, (ii) Specific,
(iii) Practical