

# • Ultrasonic Immersion Testing / Automated UT (AUT)

(Not offered on regular basis)

Course covering detailed theory and applications involving automated systems and immersion testing practical. Both UT I and UT II courses will carry an introduction to Automated testing. Course includes detailed discussion on set-up parameters of Automated UT and immersion systems. Separate course available on request.

Course is ideal for working professionals in the maintenance industries. ASNT, CSWIP / PCN certificate holders may find this very useful to their career.

## • Eddy Current Testing / Automated ET (AET)

Course covering detailed theory and applications involving automated systems. Applications on the automated ET will be discussed and practical session using Automated ET equipment will be provided.

The participant will be taught on the set - up parameters, operation, acquisition & evaluation of the test results and the code compliance. Separate course available on request. Contact NDTech for duration & fee. Course is ideal for working professionals in the maintenance industries. ASNT, CSWIP / PCN certificate holders may find this very useful to their career.

#### • Ultrasonic Time of Flight Diffraction (TOFD)

(Not offered on regular basis)

Short, intensive courses are offered in Ultrasonic TOFD TOFD is a proven test method to scan welds of high thickness in a very short

time and several major industries have acknowledged the advantages of this method. TOFD equipment, scanner assembly, reference materials, test specimens and evaluation software will be used in the class.

Participants are expected to learn setting up , operation of the TOFD equipment, recording and evaluation of the test results.

## Computers in class room

Dedicated computers are available in the class room for the use of the candidates for taking Class examinations. Custom made software with thousands of questions in several NDT methods are provided at the class. Imported software for NDT, Materials and process methods are also provided at the class.

#### NDT Accessories

Variety of probes, reference blocks, Test specimens, Codes, standards and other reference materials are available at the class for practical.

## Time provided with instruments

All participants are encouraged to spend as much time as needed at NDTTech to master the testing skills even after the completion of the course. Additional time is provided free of charge after the examinations. Regular classes are offered Monday to Friday, 09:30 to 16:30 hours and 09:30 to 13:00 Saturday.

#### Examinations

Three examinations will be taken in each method for Level I / II. This would include (1) A closed book, General examination on the fundamentals of the subject, (2) An open book, Specific examination on any of the International code or standard or your company specification provided and (3) Practical examination with the equipment used in the method. 80% average is required to pass the examination. Multiple choice questions will be given for examinations. All Examinations are taken in English. Please request your employer to contact us for training or certifying to Level II based on your written practice and provide a copy of the NDT procedure in advance for training. Training certificate will be issued to successful participants within 10 working days from the date of examination.

# NDT Refresher courses (Not offered on regular basis)

This course is designed for the level III aspirants and involves detailed theory, applications and class room exercises and class examinations. For Duration and Fee, please contact the course director.

## General - For all courses in NDT

A brief introduction to NDT, Destructive Testing , Inspection techniques, materials and processes, type of defects, certification, employment, other NDT related courses etc will be discussed prior to the start of any Level I / II course. Introduction also uses detailed video imported from ASNT and TWI. It is important that the participant attends this session in any course.

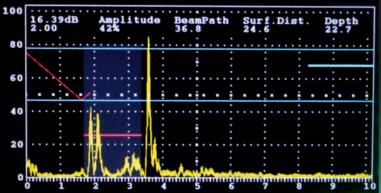
#### Course registration

Participants are required to bring copies of their existing certifications, written authorization by the employer to certify you to their written practice.

Certification to all levels of qualification is the responsibility of the employer.

NDTTech provides training to meet the requirements for certification by the employer.







What you get from us:

Full confidence to confront work issues

Our dedicated and experienced instructors would spend time with you to clarify your doubts and make you a professional.

Network with other NDT professionals

Visit us in person or call.

We are open from 09:00 to 15:00 Monday to Friday. Please call us before your visit.



# Build your career... Not just Certification!



PIONEERS IN ORGANIZED NDT TRAINING IN KERALA

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OR TRAINING





ORIGINAL QUIPMENT DEVELOPERS & IN ULTRASONIC EDDY CURRENT



NDT Technology (P) LTD

Organized training-since 1998

Above State Bank of India, M.C. Road, Pallom,
Kottayam 686012, Kerala, India.
Tel / WhatsApp:+91 8547282830, 9447705887
E: info@ndttech.org
W:ndttech.org | Follow us on f /NDTTech





NDT Technology (P) LTD was founded in 1998 with the objective of advancing the science, technology and application of Nondestructive testing and to impart the specialized skills required by the professionals engaged in NDT, Engineering Inspection, Construction and Quality Control.

NDTTech offers training, consultation, certification and Inspection services in

Nondestructive testing, Engineering Inspection and quality control. NDTIech is promoted by NDT professionals who have been very active in the development of technology, applications and training of professionals in India and abroad. So far, majority of the NDT professionals in India had been trained on-the-job by their employers, as no organized training facilities were available. NDTIech is trying to bridge this gap by providing the required training with a combination of

Training courses in NDT currently offered by NDTTech are formulated based on the requirements of the personnel qualification and certification in Nondestructive testing 'Recommended Practice No. SNT-TC-1A' of The American Society For Nondestructive Testing Inc. The training offered at NDTTech may be considered for qualification of the individual by their employers based on their written practice.

The faculty consists of well-qualified and experienced instructors. These instructors have been involved in training of NDT professionals in India and abroad for several years and possesses quality experience in NDT.

At NDTTech, all NDT courses are being conducted by ASNT certified level III, Welding Inspection courses are conducted by the American Welding Society Certified Welding Inspector / CSWIP 3.2, and ISO 9000 courses are conducted by Certified Lead Assessor. All our instructors are ASNT certified Level III personnel and have the field experience of 20 – 40 years.

#### NDT EQUIPMENT

State-of-the art NDT instruments, both manual and fully automated systems are available with

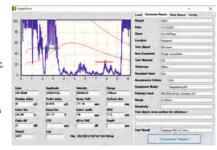
classroom training and on-the-job practical

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us for hands on experience. A technical library with a number of books and reference material on NDT and engineering Inspection are provided to assist the students in the acquisition of

specific knowledge required.

Participants are taught to calibrate, test, acquire the test result, transfer to PC, interpret, prepare a test report and interpret result to the referencing code (ASTM/ASME/Company spec) in the following training courses



# **COURSES OFFERED**

Radiographic Testing (RT) (Not offered on regular basis)

Radiographic testing involves the use of penetrating X or gamma radiation to examine parts and products for imperfections. An X-ray machine or radioactive isotope is used as a source of radiation. Radiation is directed through a part and onto the film. When the film is developed, a shadowgraph is obtained that shows the internal soundness of the part.

# Ultrasonic Testing (UT) - Regular, online & offline

Ultrasonic testing uses the transmission of high frequency sound waves into a material to detect imperfections within the material or changes in material properties. The most commonly used ultrasonic testing method is Pulse echo, wherein sound is introduced into the test object and reflections are returned to a receiver from internal imperfections and geometrical surfaces of the part.



## Eddy Current Testing (ET) - Regular, online & offline

Eddy current Testing is based on the principle that a coil in air with alternating current flowing through it has unique and measurable resistive and inductive reactance components of it's electrical impedance. Eddy currents are induced when an electrically conductive test object is placed close to the coil. Mutual induction occurs and both components of the circuit impedance are changed by a given amount.

This change is based on frequency of AC used, proximity between probe coil and test part, dimensions of the test part, it's conductivity, permeability and the presence of flaws or discontinuities.

# Magnetic Particle Testing (MT) - Regular, online & offline

Magnetic particle testing is done by inducing a magnetic field in a ferromagnetic material and dusting the surface with Iron particles.

Surface imperfections will distort the magnetic field and concentrate the iron particles near the imperfections, thus indicating their presence.

# Penetrant Testing (PT) - Regular, online & offline

Liquid Penetrant testing is probably the most widely used NDT method. The test object or material is coated with a visible or fluorescent dye solution. The excess dye is removed from the surface, and then a developer is applied.

The developer acts like a blotter. It draws penetrant out of the imperfections which are open to the surface. With visible dyes, the vivid color contrast between the penetrant and the developer makes the bleed out easy to see.

An ultraviolet lamp is used to make the bleed out fluoresce brightly, thus allowing the imperfection to be seen clearly.

## Introduction to NDT (Not offered on regular basis)

Introductory course covering the most commonly used NDT methods and techniques. An excellent course for those who are not directly involved in NDT. Offered to Industries and individuals.

# NDT Special applications (POST LEVEL II)

Post Level II courses are usually taken up by the experienced ndt / inspection professional. Inspection Supervisors, Engineers, Inspectors and senior technicians attend these courses to enhance their knowledge base and for career growth.

# Radiographic Film Interpretation (RTFI)

(Not offered on regular basis)

The course is designed for the certified level II RT personnel. Various codes and standards are included along with a number of radiographs containing natural defects. (ASME Sec VIII, API 1104, AWS D 1.1, ASME B 31.3) Radiographic films with natural and artificial discontinuities in welds are being provided for practical.

Participant should be able to independently carry out film interpretation to any of the above codes upon completion of this course.

Detailed acceptance – rejection criteria are being discussed in the class for a thorough understanding of the subject.

Course is ideal for those who plan for any Welding Inspector examinations or the AWS or CSWIP Senior Welding Inspector examinations. Most construction companies may require an in-depth knowledge of RTFI and our course is designed to meet the challenges faced by the Inspectors in the field.



# Ultrasonic Testing Applications

## • Level II A - Ultrasonic Testing of Pipes for Corrosion

Course covering normal beam inspection, sizing, mapping and recording of corrosion, HIC and other flaws found in plates and pipes of various sizes. Participant should be able to independently carry out this work upon completion of this course.

Course is ideal for UT Level II certified personnel who are looking for employment with Oil and Gas companies. Special course dates may be available

#### • Level II B - Ultrasonic Testing of welds

Course covering plate and pipe butt weld examination per ASME sec VIII and AWS D1.1 Butt joints are being provided for the practical with designated blocks for the sensitivity setting and equipment verification. Participant should be able to independently carry out this work upon completion of this course

Course is ideal for UT Level II certified personnel (ASNT or CSWIP/PCN) who are looking for employment with Oil and Gas companies or with any major Engineering or Service companies. Special course dates may be available.

## Level II C - Ultrasonic testing of welds to API RP 2X (TKY Joints)

Course covering TKY weld examination per API RP 2X. Extensive practical on TKY welds will be provided. Course includes detailed interpretation of API RP 2X

This is a progressive training course and admission to Level IIC would require the candidate to pass Level II A and B. The participant will be taught on the following: Construction of Beam Profiles, Construction of DAC Curves, Flaw sizing techniques, Transfer correction, Mode conversion effects, Testing UFD for Vertical, Horizontal Linearity, Selection of probes, Reserve Gain, Internal Reflectors Limit for probes, Construction of weld cross section involving curvature using profile-gauge and other methods, Estimating change of angle, beam-path, surface distance for curved surfaces, Construction of a flaw locating rule for TKY Weld Inspection, Applying different acceptance criteria and Report preparation. Participant should be able to independently carry out this work upon completion of this course.

Course is ideal for working professionals in the construction of offshore oil platforms. ASNT , CSWIP / PCN certificate holders may find this very useful to their career.

