Non Destructive Testing Training Centre (NDT)
Ruane-TATI Sdn. Bhd.

Ruane-Tati Sdn. Bhd.
Training & Examinations In Inspection
& Non-Destructive Testing

The Asian Training Centre
of Non-Destructive Testing And Inspection For A Successful Quality Future

1st centre in Asia accredited by Brittish Institute of NDT

TAILOR MADE COURSES

API 570 **PCN** SKM(JPK)

API 653 ICORR

API 510 ASNT

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Training & Examinations In Inspection
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Vision & Mission

The Asian Training Centre Of Non-Destructive Testing And Inspection For A Successful Quality Future.

The NDT and Inspection Training Centre that helps you, helps your business, be productive and successful quality future.

Culture

Be There To Help!

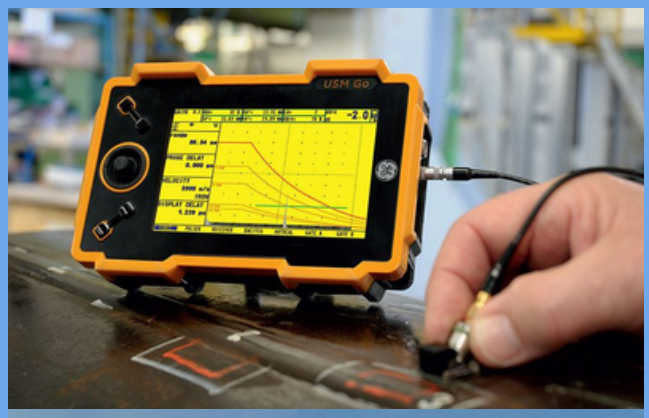
About this booklet

Full details of all standard courses, fees and commencement dates are contained in this booklet. Many of courses prepare candidates for a wide variety of examinations. However, all the additional information, either relating to courses or he examination routes, can be obtained by contacting Ruane-Tati Sdn. Bhd. PT 4847, Jalan Panchor, Telok Kalong, 24000 Kemaman, Terengganu, Malaysia. Telephone | 609 863 1033 Fax | 609 863 1034

A seperate booklet is available as a guide to PCN and ICORR

The training centre can provide dandidates with comprehensive accomodation list upon request. The accomodation is local to each course venue and covers a wide range of price levels. Arrangement for hostels at also availabel upon request at minimun charge. Contact administration personnel 609 863 1033 for further information.

Any examination information, general i.e request for documentation, general inquiries etc. can be obtained by writing to the invigilator/Examiner, Ruane-Tati Sdn. Bhd. PT 4847, Jalan Panchor, Telok Kalong, 24000 Kemaman, Terengganu, Malaysia. Telephone | 609 863 1033 Fax | 609 863 1034



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Training & Examinations In Inspection
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RTO/NDT 4

Non-Destructive, Testing AN Appreciation

Description

An introduction to the concepts of NDT. This course is intended for those interested to achieve a basic understanding of the methods, technique and role of NDT in the engineering, fabrication and construction industries. Extensive hands-on experience is available allowing basic tests to be performed. This course is ideal for beginners and can be oriented towards senior managers, consulting engineers, chief inspectors and surveyors, as well as those directly involved in starting a career in NDT activities that require an initial general approach.

Course Content

- The main methods of NDT with demonstrations (including Magnetic Particle Testing, Ultrasonic Testing and Radiographic Testing)
- The limitation of each method of testing
- Certification schemes
- Relevant British and EN standards / reference source
- Reporting criteria

Duration : 2 Days

Pre-requisites for attending this course NONE

If attempting a PCN examination the requirements of PCN/GEN must be met. If attempting an ASNT examination the requirement of your company's Written Practice must be met.

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RTO/UT1

Ultrasonic Testing,

An Introduction

Description

The course offers a high practical and relevant theoretical background enable student to achieve a basic understanding of ultrasonic inspection. Candidates on completion of the course will be to calibrate a flaw detector with both compression and shear wave probes, record accurate thickness measurement, locate and size lamination in steel plate. In addition student will be able to select the correct compression / shear wave probes for the examination of welded butt joints, locate and size defects and finally product acceptable reports.

Course Content

- Basic concept
- Nature of sound
- Relevant formulae
- Wave propagation
- Type of display
- Operation of flaw detectors
- Probes
- Couplants
- Welding, casting & forging methods (background knowledge)
- Reporting methods
- Use of plotting system
- Relevant BS and EN standards
- Defect location and sizing methods
- Defects associated with the above processes

Duration : 5 Days

Pre-requisites for attending this course NONE

If attempting a PCN examination the requirements of PCN/GEN must be met. If attempting an ASNT examination the requirement of your company's Written Practice must be met.

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RTO/UT2

Ultrasonic Testing,

Practical (Revision/Upgrade)

Description

A course for those who already have basic understanding of the technique of ultrasonic inspection and needs intensive instruction to improve their knowledge and increase their experience. The course is suitable for candidates who are wishing to progress towards any of the examination qualification. The course has a high practical content, all equipment is provided.

Course Content

- Revision of basic technique
- Probe identification
- Test sensitivity
- Equipment checks
- Geometry / ultrasonic technique selection
- Defect sizing methods
- Practical exercise on a wide variety of weldments
- Defect response

Duration : Any number of days as required

Pre-requisites for attending this course

At least basic understanding of ultrasonic technique and knowledge of the controls on an ultrasonic test unit. If attempting a PCN examination the requirements of PCN/GEN must be met. If attempting an ASNT examination the requirement of your company's written practice must be met.

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RTO/ST1

Magnetic Particle/ Penetrant Testing

Description

The course provides a full appreciation in the technique and methods of magnetic particle and Penetrant Testing. A high theory and related practical contact is offered and suits a variety of NDT personnel including QC inspector and technician. The course related to the inspection of forging, casting, and welded structures. This is a PCN recognized course and provides excellent preparation for the Level 1 and Level 2 examinations.

Course Content

Magnetic Particle Testing
- Principle of magnetism
- Background requirements for test procedure
- MPI equipment
- Technique used
- Safety
- Reporting procedure

Duration : 5 Days

Penetrant Testing
- Penetrant testing system
- Guidelines of selecting system for use
- Safety
- Reporting procedure

General
- Examination requirement
- Relevant BS and EN standards coverage
- PT/MPI compared to other forms of NDT

Pre-requisites for attending this course NONE

If attempting a PCN examination the requirements of PCN/GEN must be met. If attempting an ASNT examination the requirement of your company's Written Practice must be met.

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Notes
Student attending this course who wishes to attempt a direct approach to PCN Level 2 in Magnetic Particle or Penetrant Testing must provide PCN Test Centre conducting the examination with proof of a minimum additional 14 hours formal structured on job raining per subject in line with PCN syllabus requirements. If this requirement cannot be met, course RTO/ST5 and or RTO/ST6 will be conducted in full

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RTO/MP1

Magnetic Particle/ Penetrant Testing

Incorporating Pre Approval RTO/ST1 With 3 Days Revision Period

Description

The course provides a full appreciation in the technique and methods of magnetic particle and Penetrant Testing. A high theory and related practical content is offered and suits a variety of NDT personnel including QC inspector and technician. The course related to the inspection of forging, casting and weld structure. This is a PCN recognized course and provides excellent preparation for the Level 1 and Level 2 examinations.

Course Content

Magnetic Particle Testing
- Principle of magnetism
- Background requirements for test procedure
- MPI equipment
- Technique used
- Safety
- Reporting procedure

Penetrant Testing
- Penetrant testing system
- Guidelines of selecting system for use
- Safety
- Reporting procedure

General
- Examination requirement
- Relevant BS and EN standards coverage
- PT/MPI compared to other forms of NDT

Duration : 8 Days

Pre-requisites for attending this course
NONE

If attempting a PCN examination the requirements of PCN/GEN must be met. If attempting an ASNT examination the requirement of your company's Written Practice must be met.

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RTO/ST6

Penetrant Testing

Pre-Approval

Description

The course provides a full appreciation in the techniques and method of Liquid Penetrant Inspection. A high theory and practical content is offered by the course. The course will suit a wide variety of NDT personnel including QC inspectors and technicians. Candidates will use various techniques on forging, casting and welded structures. This course is PCN recognized and provides excellent preparation for the Level 1 and Level 2 examinations. It meets, in full the training hour requirements as specified by the relevant PCN Documentation.

Course Content

- Introduction of Penetrant method
- Principle of Penetrant inspection
- Penetrant inspection equipment
- Performance check
- Defect detection and evaluation

Duration : 4 Days

- Penetrant techniques
- Relevant standards
- PCN documentation
- Extensive hands-on practical elements

Pre-requisites for attending this course NONE

If attempting a PCN examination the requirements of PCN/GEN must be met. If attempting an ASNT examination the requirement of your company's Written Practice must be met.

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RTO/ST5

Magnetic Particle Testing

Pre-Approval

Description

The course provides a full appreciation in the techniques and method of Magnetic Particle Inspection. A high theory and practical content is offered by the course. The course will suit a wide variety of NDT personnel including QC inspectors and technicians. Candidates will use a variety of equipments on forging, casting and welded structures. This course is PCN recognized and provides excellent preparation for the Level 1 and Level 2 examinations. It meets, in full the training hour requirements as specified by the relevant PCN Documentation.

Course Content

- Properties of Magnetic fields
- Properties of magnetic particle inspection
- Magnetic particle inspection equipment
- Equipment calibration
- Defect detection and evaluation

Duration : 4 Days

- Magnetic Particle technique
- Relevant standards
- PCN documentation
- Extensive hands-on practical elements

Pre-requisites for attending this course NONE

If attempting a PCN examination the requirements of PCN/GEN must be met. If attempting an ASNT examination the requirement of your company's Written Practice must be met.

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RTO/QA7

PCN Weld Inspector

PCN Level 2 (General)

Description

This course is intended for personnel with experience in welding inspection, welder training or welding supervision , who are wishing to consider a formal inspection certification route. The course content highlights the key theory areas to be covered and also provides a practical element.

Course Content

- Welding processes
- Consumables
- Procedures
- Welding defects
- Specifications
- Specification analysis
- Mechanical testing of welds
- Cutting and joint preparation
- Basic steel metallurgy
- Heat affected zone
- Pre-heat and post heat
- Weld repairs
- Weld symbols
- Practical exercises
- Examination Syllabuses

Duration : 10 Days

Special Notes

The 10 days course programme enables not only teaching input but also structured revision time prior to attempting the available PCN Weld inspector Level 2 examination (This course is also excellent as revision course for candidates entering the CSWIP Welding Inspector via the mature candidate route or as a repeat course following a CSWIP approved course of training).

Whilst all candidates can attend the course, it is important that candidates fully understand the examination entry criteria i.e PCN Weld Inspector Level 2 (12 months plus attendance of BINDT approved course for PCN Weld Inspector).

Pre-requisites for attending this course

Course candidates require knowledge of welding or welding inspection to make full benefit of this course. The course is however open to anyone who feels the course content will be of benefit.

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Course Recognition

This course holds BINDT Validated Status for pre-entry training criteria into PCN Weld Inspector Level 2 (The PCN Weld Inspector Level 2 is fast gaining recognition from companies throughout the world and is part of the wide range of PCN certification services to individuals, companies and countries throughout the world)

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RTO/ST2

Magnetic Particle Penetrant Testing

Examination Revision

Description

This is a short term revision course intended to supplement the Magnetic particle testing and penetrant testing pre-approval course. This course was provided due to a demand from candidates wishing to refresh their knowledge of the subject areas immediately prior to examination. This course is suitable for refresher training towards both the PCN and ASNT requirements.

Course Content

- Relevant examination criteria
- Practical exercise on equipment similar to that encountered in examinations
- A theory package oriented towards examination requirements
- Mock examination

Duration : 2 Days

Pre-requisites for attending this course

Previous attendance of a Magnetic Particle / Penetrant Testing pre-approval course is strongly recommended.

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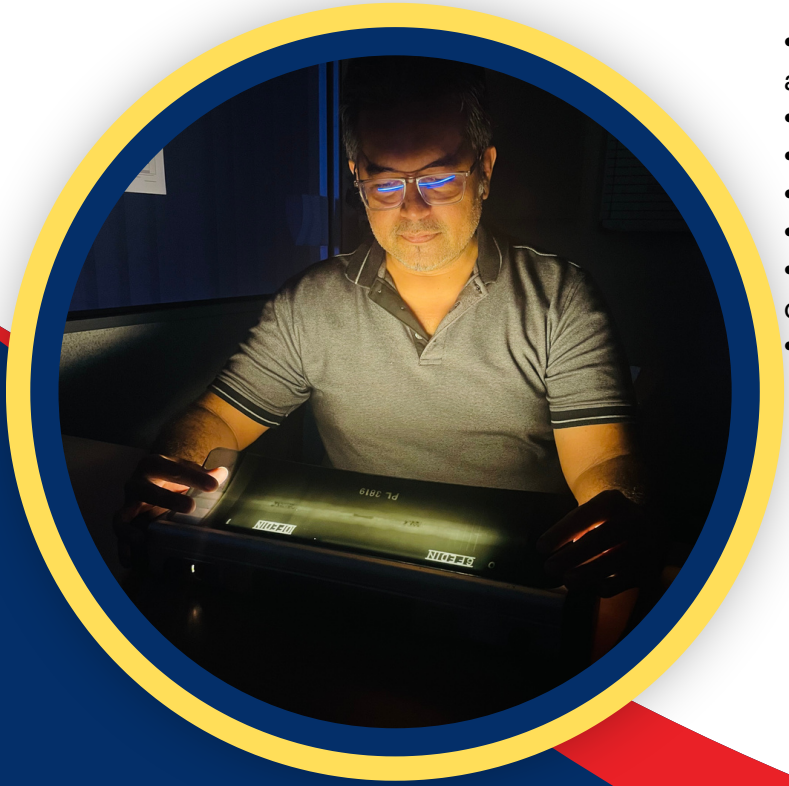
RTO/IR2

PCN Radiographic

Interpretation

Description

This is a course suitable for all who require an in-depth knowledge of the radiographic interpretation of welds. The course concentrates on the identification of weld defects, assessment of radiographic quality and sentencing to example specifications. All information necessary for candidates attempting PCN or ASNT radiographic interpreters examinations is issued.



Course Content

- Properties and production of X and gamma rays
- The formation of a latent image
- Radiographic film
- Development/processing
- Practical Exercise cover:
- Assessment and measurement of radiographic quality
- Image quality
- Radiographic techniques
- Weld technology
- Interpretation of radiographs
- Specifications
- Identification of weld types
- Identification of weld defects
- Sentencing to specifications

Duration : 10 Days

Pre-requisites for attending this course NONE

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RTO/U3

Ultrasonic Testing

Pre-Approval

Description

This course has been designed to assist either the Level 1 or Level 2 candidate in Ultrasonic Testing. The course relates to welds and offers a high theoretical and practical contents. This course is validated by BINDT and recognized by PCN.

Course Content

- The main methods of NDT with demonstrations (including Magnetic Particle Testing, Ultrasonic Testing and Radiography Testing)
- The limitation of each method of testing
- Certification schemes
- Relevant British standards / reference source
- Reporting criteria

Duration : 15 Days

Pre-requisites for attending this course
NONE

If attempting a PCN examination the requirements of PCN/GEN must be met. If attempting an ASNT examination the requirement of your company's Written Practice must be met.

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SKM/RT I

Radiography Testing

Level 1

Description

This course has been designed to assist the level I candidate in RT (Radiography Testing) requirements under Jabatan Pembangunan Kemahiran (JPK) and has been recognized by Atomic Energy Licensing Board (AELB) for the high standard in radiation safety aspects.

Course Content

- Introduction to NDT methods
- Introduction to Radiographic Testing
- Principle of Welding
- Origin and nature of radiation
- The effects of radiation on the organs and tissues of the body
- Basic principle of radiography
- Radiography image quality / image quality indicator
- Radiographic viewing
- Code, standard, specification and procedure
- Laws and regulation

Duration : 10 Days

Pre-requisites for attending this course NONE

If attempting a Sijil Kemahiran Malaysia (SKM) examination, the requirement of Jabatan Pembangunan Kemahiran (JPK) must be met.

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SKM/RT II-D

Radiography Testing

Level 2 (Direct Access)

Description

This course has been designed to meet the National Occupational Skills Standard (NOSS) set by Jabatan Pembangunan Kemahiran (JPK), to provide the participants with the necessary knowledge in both theory and practices of industrial radiography. This course has been recognized by Atomic Energy Licensing Board (AELB) for the high standard in radiation safety aspects.

Course Content

- Introduction to NDT
- Introduction to Radiographic Testing
- General safety observation
- Material process and defects
- Principle of welding
- Origin and nature of radiation
- Radiological monitoring equipment and methods
- Control of external radiation exposure
- Safe handling of radiation exposure
- Laws and regulations
- Basic principle of radiography
- Radiographic equipment
- Film handling, loading and processing
- Exposure determination
- Application technique
- Radiographic viewing
- Specification, code, standard and procedure for radiographic weld inspection
- Quality assurance

Duration : 15 Days

Pre-requisites for attending this course
NONE
If attempting a Sijil Kemahiran Malaysia (SKM) examination, the requirement of Jabatan Pembangunan Kemahiran (JPK) must be met.

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SKM/RT II

Radiography Testing

Level 2 (Normal)

Description

This course has been designed to meet the National Occupational Skills Standard (NOSS) set by Jabatan Pembangunan Kemahiran (JPK), to provide the participants with the necessary knowledge in both theory and practices of industrial radiography. This course has been recognized by Atomic Energy Licensing Board (AELB) for the high standard in radiation safety aspects.

Course Content

- Introduction to NDT
- Introduction to Radiographic Testing
- General safety observation
- Material process and defects
- Principle of welding
- Origin and nature of radiation
- Radiological monitoring equipment and methods
- Control of external radiation exposure
- Safe handling of radiation exposure
- Laws and regulations
- Basic principle of radiography
- Radiographic equipment
- Film handling, loading and processing
- Exposure determination
- Application technique
- Radiographic viewing
- Specification, code, standard and procedure for radiographic weld inspection
- Quality assurance

Duration : 10 Days

Pre-requisites for attending this course
NONE
If attempting a Sijil Kemahiran Malaysia (SKM) examination, the requirement of Jabatan Pembangunan Kemahiran (JPK) must be met.

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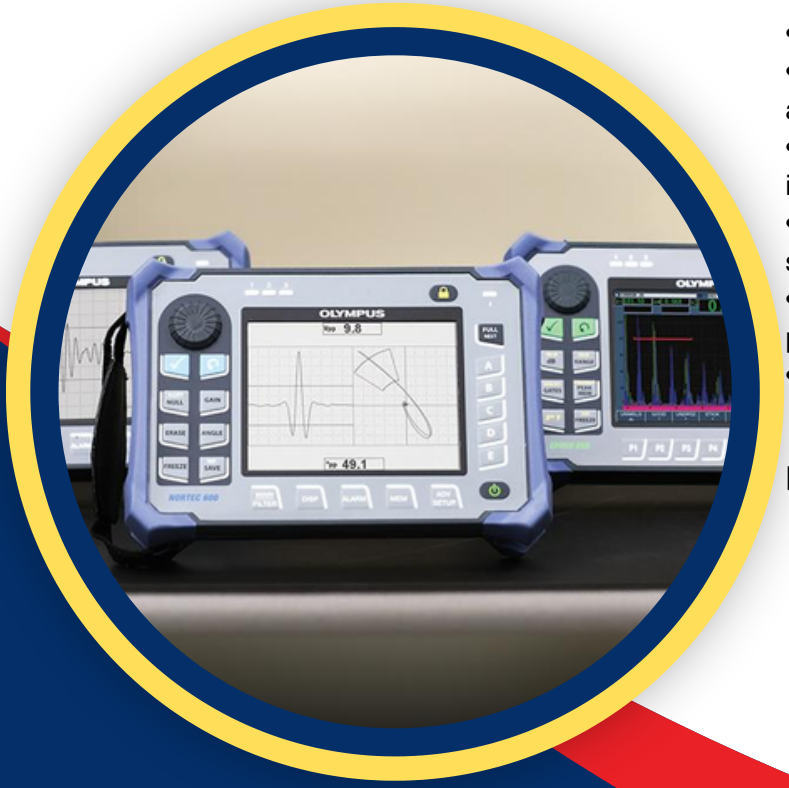
RTO/PRT4

Product Technology

Description

With the ever increasing range of products now requiring inspection, a basic knowledge of processes (welding, casting, forging) and associated metallurgy is an increasing necessity for the inspection for the inspection technician/engineer. The syllabus for this course has been devised to provide detail of all key subject areas which could be included in PCN or ASNT examinations.

Anyone requiring a knowledge of product technology will benefit from this course.



Course Content

- Definition of metals
- Explanation of elements and the periodic table
- Extraction metallurgy - iron making
- Production metallurgy - steel making
- Hot working of metals - primary and secondary
- Forging methods
- Casting methods
- Heat treatment
- Definition of different steel types and associated structures
- Basic welding techniques
- Defects associated with welding, casting and forging
- Mechanical testing

Duration : 2 Days

Pre-requisites for attending this course
NONE

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Special Notes
This course will considerably help personnel wishing to undertake the various PCN and ASNT qualifications where product technology / process is now a key consideration

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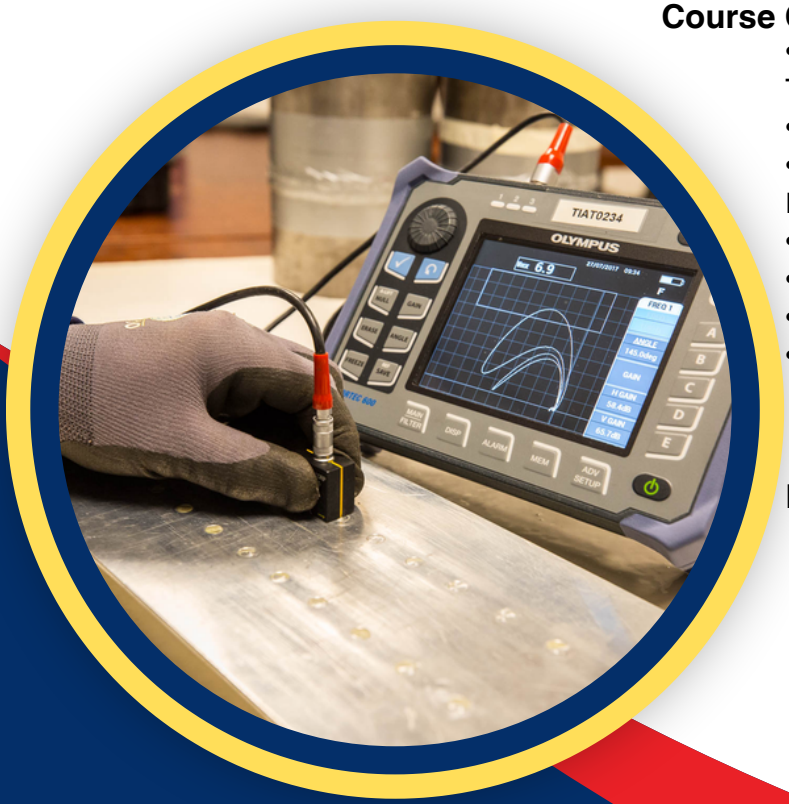
RTO/EC1

EDDY Current Testing

Level 1 (Weld)

Description

The Level 1 course is a basic course in eddy current. This course required personnel to have a mid level understanding of mathematics and physics, as these are the basic of the inspection technology used. Eddy current inspection is one of the several NDT methods that use the principle of "electromagnetism" as the basis for conducting examination. Candidates on completion of the course will able to calibrate eddy current instruments and ability to understand the eddy current impedance plane response, student are trained to perform conductivity, lift off, thickness, flaw detection application and finally produce acceptable reports.



Course Content

- History of Eddy Current Testing
- Electrical Theory
- Current Flow and Ohm's Law
- Electrical Circuits
- Magnetism
- Alternating Current
- Electromagnetism
- Impedance
- Vectors
- Principles of Eddy Current Testing
- Types of Inspection Coils
- Test Coil, Arrangements
- Eddy Current Instrument Circuits
- Indicating Devices
- Properties Affecting Eddy Currents

Duration : 5 Days

Pre-requisites for attending this course
NONE

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Special Notes
This course is intended to provide a basic knowledge of Eddy Current Testing fundamentals sufficient to enable the technician to carry out Eddy Current Testing to established procedures under the supervision of Level 2 or Level 3 personnel.

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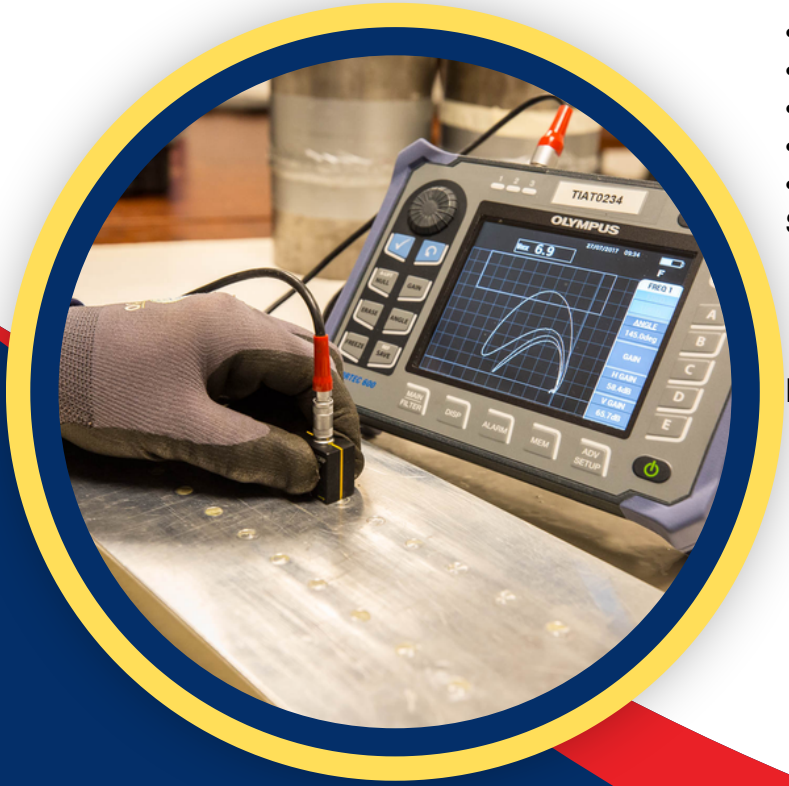
RTO/EC2-D

EDDY Current Testing

Level 2 (Welds)

Description

This course is designed to meet the industrial qualification requirements for Eddy Current examination. The purpose of this module is to provide an understanding of the principles of Eddy Current Testing, to enable students to operate Eddy Current equipment and interpret signals indicated by the equipment, and to use Eddy Current test procedures as per BSEN 1711: 2000 standard in industrial applications.



Course Content

- Cathode Ray Tube
- Resonant Circuits
- Inductive Reactance
- The Systems
- Impedance Testing Systems
- Concept Of The Characteristic or Limit Frequency
- Reference Blocks
- Practical Applications
- Multi-Frequency Eddy Current Testing
- Instruction Writing and Report

Duration : 10 Days

Pre-requisites for attending this course NONE

If attempting a PCN examination the requirements of PCN/GEN must be met. If attempting an ASNT examination the requirements of your company's written practice must be met.

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Course Recognition
This course has been submitted and gained approved course status for PCN certification pre-approval training. This approval is gained via the BINDT Accreditation / Validation course routes.