



ULTRASONIC TESTING (UT)

This method employs high frequency sound pulses that are emitted from a transducer; this sound wave is induced in to the material through a probe which is usually in contact with the material. These sound waves propagate through the material, and are reflected back to the probe when they reach an interface. The reflected waves are transmitted back through the probe and connecting leads to a detector which can be either analogue or digital. The sounds waves are then displayed as a series of signals on a monitor and the qualified inspector can measure, and interpret these signals to allow accurate evaluation of the internal structure of the material.

Ultrasonic testing can not only be used to indicate a surface or subsurface flaw it can also be used to determine the depth, size and type of flaw. Another advantage

of using UT is the accurate measurement of the thickness of the material. The method can be applied to most materials providing the material can transmit sound waves. UT is considered to be a fast and effective way of inspection providing high sensitive results.

PCN MINIMUM WORK EXPERIENCE AND TRAINING HOUR'S REQUIREMENTS FOR UT EXAMINATIONS

LEVEL 1

- 40 hours Training
- 3 months Work Experience

LEVEL 2

- 80 hours Training (additional to the 40 hours for Level 1)
- 3 months Work Experience (additional to the 3 month for Level 1)

If a candidate wishes to go direct to Level 2 without first taking the Level 1 route, the minimum requirements are the total accumulative requirements of both Level 1 and 2.

We can provide Ultrasonic training courses and examinations suitable for any of the following certification schemes

- PCN / EN 473 / ISO 9712 Levels 1, 2, and 3
- SNT-TC-1A in accordance with your company written practice

We can also provide

- Preparation training for ASNT Level 3

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An example of the syllabus that is used for ultrasonic examination training courses is shown below for level 1 and 2. SGS can tailor make the syllabus to satisfy the requirements of an individuals company specific written practice if requested.

In the PCN certification scheme Ultrasonic Testing is separated into three specific product sectors for certification purposes, these are

- Welds
- Wrought Products (Forgings)
- Castings

The welds sector is further sub divided into groups, these are

- Plate Butt Welds
- Pipe Butt Welds
- Constructional "T" Joint
- Nozzles
- Nodes

LEVEL 1

GENERAL THEORY

- Principles of Ultrasonic Testing
- Equipment
- Testing Techniques
- Calibration of Testing Systems

SECTOR SPECIFIC THEORY

- Detectability of Defects
- Factors Affecting the Performance of the Ultrasonic Test
- Codes of Practice and Standards
- Conducting and Recording the Test

PRACTICAL EXAMINATION

Follow written instructions and process the inspection test pieces, record and report defects from know datum markers, carry out pre test calibration checks, post test procedures.

LEVEL 2

GENERAL THEORY

- (in addition to the Level 1 Syllabus above)
- Principles of Ultrasonic Testing
 - Equipment
 - Testing Techniques
 - Calibration of Testing Systems

SECTOR SPECIFIC THEORY

- Detectability of Defects
- Factors Affecting the Performance of the Ultrasonic Test
- Codes of Practice and Standards
- Conducting and Recording the Test
- Interpretation of Test Results
- Product Technology Theory

PRACTICAL EXAMINATION

Production of written instruction, determine the best inspection techniques for the individual parts, process the inspection test pieces, record and report defects from know datum markers, carry out pre test calibration checks, post test procedures.

CONTACT US

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