



Ultrasonic Phased Array Training

Introduction to Phased Array

Duration: 5 Days

Purpose: The Introduction to Phased Array is an informal course, teaching the basics of Phased Array equipment and basic techniques.

The majority of this course is practical and will focus on calibration procedures and the inspection of welded components.

Pre-requisites: UT2 Welds

Exams: There are no formal exams.

Equipment: It is preferable that students supply their own equipment as different manufacturers use different operating procedures.

However we have a limited number of OmniScan units generously supplied by Olympus NDT available.

These will be allocated based on enrolment order.

(Enough for approximately 4 students, at this stage).



Ultrasonics Phased Array Level 2 Welds (Includes AINDT Approved Examinations for Phased Array Certification)

Duration: 10 Days

Purpose: To train personnel in detection, measurement and recording of discontinuities in Welds using Ultrasonic Phased Arrays. (Based on the method code AS2207)

Due to the variances in equipment available, two competencies are available:

- 1) Manual Phased Array Inspection
Real time inspection and interpretation (for systems not containing data collection or encoded scans).
- 2) Encoded Phased Array Inspection
Encoded data collection and interpretation.

Note: Satisfactory completion of Encoded Phased Array encompasses Manual Phased Array Inspection.

Pre-requisites: UT2 Welds & Introduction to Phased Array or equivalent training.
Note: As a minimum students attending Level 2 will be expected to have the following competencies prior to attending course.

- Calibration & Setup for basic Weld Inspection.
- Basic Data Collection
- Interpretation
- Production of Reports

Exams:

Specific Exam (Welds)

Minimum of 20 Multiple Choice & 10 Short Answer Questions

Practical Exam (Welds)

The minimum pass mark for the practical part is 70% overall, and 70% for each sample tested.

Failure to detect and report a reportable discontinuity in any one sample will result in failure of this examination part.

**Manual Phased Array Inspection**

- (i) Assembly, setup and calibration of Ultrasonic Phased Array equipment.
(2 hours)

NOTE. The student will be required to carry out a full calibration without the use of previously saved setup files. If this part of the examination is satisfactory the candidate may proceed to the remainder, if not the examination will be discontinued.

- (ii) Inspection of two off samples as selected by the examiner, comprising a combination of Plate, Pipe or Tee.

The student will analyse the data on the instrument, and provide a report displaying the results in an indicated format, and showing the location and size of discontinuities present in the sample. The report shall contain information such as defect no, characterization, size and position from known datum's. (2 hours each specimen.)

Encoded Phased Array Collection

- (i) Assembly, setup and calibration of Ultrasonic Phased Array equipment.
(4 hours)

NOTE. The student will be required to carry out a full calibration without the use of previously saved setup files. If this part of the examination is satisfactory the candidate may proceed to the remainder, if not the examination will be discontinued.

- (ii) Inspection of two off samples as selected by the examiner, comprising a combination of Plate, Pipe or Tee.

The student will analyse the data on the instrument or on external device (laptop), and provide a report displaying the results in an indicated format, and showing the location and size of discontinuities present in the sample. The report shall contain information such as defect no, characterization, size and position from known datum's.

The report shall also contain, phased array images of all data collected and each discontinuity (3 hours each specimen.)

Samples to Be Tested:

All exam samples to be inspected will be full penetration butt welds in mild steel.

Thickness ranges 12mm - 25mm in thickness.

Pipe diameters from 200mm – 300mm.

Note: Those students planning to use multi probe scanner systems, please contact me to confirm scanner dimensions will suit all specimens.

**Equipment:**

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Should you have any questions do not hesitate to contact me.

Paul Grosser
Director - NDT | **ATTAR**