

# Phased Array (PA) - The Efficient Way to Detect Flaws

With phased array (PA) technology, TÜV Rheinland provides clients with a service that can determine component quality and detect flaws using the latest ultrasonic techniques. It represents both a time and cost effective method thanks to the use of a combination of many different angles and focus depths through to one phased array probe. Consequently, it is possible to perform a number of inspections without the need to change the transducer assembly.

The advantages of phased array inspection – speed and flexibility – can only be realized when qualified and experienced technicians operate the equipment. This is crucial in order to achieve a high probability of detection,

especially because codes and standards are not yet available those uniformly describe how to set up the test equipment.

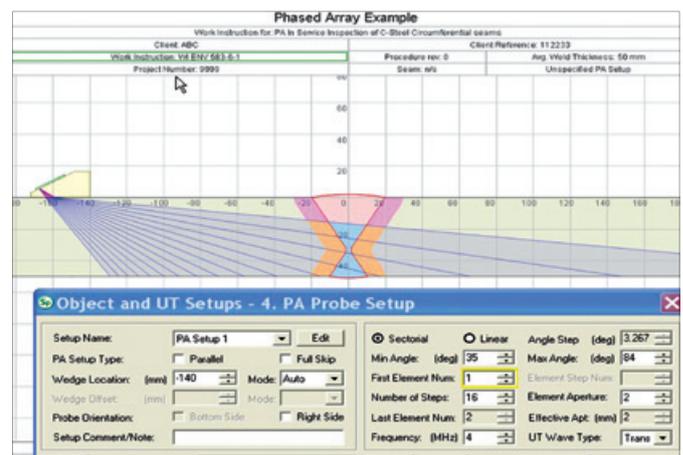
Personnel at TÜV Rheinland are not only able to carry out PA inspection but are also able to transfer know-how in the form of phased array training courses conducted through its accredited training school for non-destructive testing.

TÜV Rheinland has many years of experience in applying phased array technology in several different sectors, from power generation to construction industries. Our aim is to achieve customer satisfaction by offering a quality service.

## ScanPlan®

With our own in-house developed software called ScanPlan® we can produce easily understood examination plans to enhance phased array inspection performance. ScanPlan® records all the inspection parameters and results; making them available for subsequent revision and analysis.

ScanPlan® is augmented by a database holding a number of basic geometries and weld preparations that can be adjusted to suit the actual component. An instant visualization of any changes in the setup enables maximum inspection quality. Reports are presented in a comprehensible format and can be exported for analysis.



## Inspection approach

- Extensive consultancy services prior to inspection on application suitability.
- Inspection set up.
- Beam creation using multiple ultrasonic elements and time delays.
- Computerized angle and focus control.
- Information set together to form a visual image.
- Data collected and stored using in-house software.
- Creation of inspection reports, interpretation of data output.
- Special precautions such as probe cooling.

## Areas for application

Phased array technology can be used everywhere where conventional ultrasonic testing has been used.

- Weld inspection.
- Crack and flaw detection.
- Corrosion inspections.

## Benefits at a glance

- Simplified inspection of components that have complex geometry.
- Inspection possible for many different materials.
- High temperature inspections possible up to over 400°C.
- Speedy inspection compared to conventional ultrasonic testing (UT).
- Higher probability of problem detection.
- All inspection data presented in an understandable graphic format.
- Qualified technicians.

## About TÜV Rheinland:

Founded 140 years ago, TÜV Rheinland is a global leader in independent inspection services, ensuring quality and safety for people, the environment, and technology in nearly all aspects of life.

### Our expertise – your benefit:

TÜV Rheinland Sonovation has many years of experience of using the TOFD technique in every industrial segment from power generation to projects in the defense, manufacturing, chemical and petrochemical industries. Our aim is to achieve customer satisfaction by offering the latest and best technologies available.

### TUVdotCOM. The noticeable difference.



The Internet platform TUVdotCOM makes the difference visible: with all the products, services, companies, systems and personnel that are tested by TÜV Rheinland; optimally documented and accessible from all over the world.

## Your contact:

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