Improve your skills in the analysis of specific situations and optimise correct judgments while performing ultrasound inspections.
Airborne Ultrasound

Airborne ultrasound is a non-destructive testing method used for locating process leaks, as well as testing rotating mechanical machinery and electrical equipment online.

This Airborne or Structural Borne Ultrasound 5-day Course (also referred to as Ultrasonics or Acoustic Emission) is designed to improve the inspector’s skills in locating leaks and defects. It teaches the basic analysis of sound spectrums enabling the inspector to diagnose correctly while performing ultrasound inspections.

Theoretical learning and practical applications are provided to teach the student proper equipment handling whilst performing airborne ultrasonic inspections. Specifically designed class exercises enhance the student’s ability to relate, record and report test results. By applying this knowledge in the work environment, the student will be able to perform inspections with competence.

From the Experts at UE Systems

For 40 years, UE Systems has produced thousands of ergonomically designed portable, and incredibly accurate airborne/structure borne ultrasonic instruments. Used primarily for leak detection, mechanical analysis and electrical inspection, these instruments have saved tens of thousands of dollars in premature failure detection, elimination of downtime, increased productivity, and overall replacement costs.

UE System’s digital Ultraprobe® instruments have also been used as an energy conservation tool, cutting energy waste and improving a company’s carbon footprint through the integration of UE Systems data management software. This patented software is the first of its kind to report both cost and carbon footprint reduction while enabling users to analyze, repair and report their savings.
Airborne Ultrasound Level 1

Dates:
09 Feb - 13 Feb 2015
25 May - 29 May 2015
02 Nov - 06 Nov 2015

Cost:
R 17,641 - 00

This 5-day training module is a comprehensive classroom course in which the theory, principles and practices of Airborne and Structure Borne Ultrasound Technology are taught. Instructors for this course have been selected for their outstanding comprehension, experience and technical expertise in the field of Airborne/Structure Borne Ultrasound. The course was designed by a committee of experts, some of whom were responsible for pioneering and developing the technology.

Who Should Attend This Course?

- Technicians seeking to advance their knowledge in Airborne/Structure Borne Ultrasound Inspection, Supervisors, Energy Auditors, Service Company personnel who perform PDM, energy audits or leak detection for their clients.
- Service personnel who desire to demonstrate technical and inspection proficiency to their clients.
- Technicians wishing to advance to Ultrasound Level II

Certification Requirements

In order to achieve an official certification, classroom training meeting the requirements of SNT-TC-1A must be completed along with successfully passing the General, Specific and Practical examinations with a score of 80% or better.

Documentation of education or experience must be maintained annually. Hearing acuity must meet the minimum requirement of one ear of less than 25 dBHL (with or without aid.) Hearing acuity examinations must be documented annually. Documented experience signed by a supervisor or superior for 3 months or 210 hours.
Course Outline

Conforming to the classroom requirement of ASNT Recommended Practice, SNT-TC-1A, the course offers 32 hours of instruction with a written examination.

1. Theory and Equipment:
   - Introduction
   - Quality in Airborne Ultrasound Inspections
   - Quality Practice UTSI-Q-1
   - Effectiveness of Airborne Ultrasound
   - Certification of Airborne Ultrasound Personnel
   - Applications
   - Sound Theory
   - Equipment
   - Technologies

2. Leak Inspection:
   - Introduction to Leak Inspection
   - What Affects the Detectability of a Leak
   - Safety
   - Why Do We Check for Leaks
   - Types of Leaks
   - Logistic of Leak Inspection
   - Pressure/Vacuum Tests
   - Tone Test
   - Is Your Airborne Ultrasound Equipment Working?
   - Understanding the Subject Test Equipment
     - Compressed Air Leak Detection
     - Vacuum Leak Method (Structure Borne)
     - Heat Exchangers
     - Condensers
     - Underground Leaks
   - Leak Inspection Reports
   - Case Studies

3. Electrical Inspection:
   - Electrical Ultrasound Emission
   - Physics of Electricity
   - Ionization
   - Safety
   - Corona
   - Tracking
   - Arcing
   - Performing Electrical Inspections
     - Analysing Sounds

4. Structure Borne Inspections
   - Structure Borne Inspection
   - Mode Conversion
   - Valves
   - Case Study
   - Inspecting Compressors
   - Walk Around Method
   - Hydraulic Applications

5. Mechanical Inspection:
   - Ultrasound Inspection of Steam Systems
   - What is Steam
   - Water Hammer
   - Testing Steam Traps
   - Ultrasonic Testing and Infrared
   - Structure Generated Ultrasounds
   - Mechanical Inspection Safety Tips
   - Quality Assurance
   - Contact Module Sensitivity Validation
   - Structure Borne Inspection Techniques
   - Inspecting Bearings
   - Lubrication
   - Vibration Analyser Connection
   - Spectral Analysis
   - Case Studies
Training Opportunities

Yellotec offers a full complement of training courses in Condition Monitoring disciplines as well product and Reliability Engineering specific courses. Courses offered are either presented under license from International Certification Bodies or are in accordance with ISO requirements.

Private Courses

All our public training courses can also be conducted as an in-house private courses. If you have 10 or more people attending, consider the benefits of an in-house session conducted in the privacy and conveniences of your facilities or a meeting site of your choice. Please contact us so that we can understand your requirements, explore the benefits and make it happen.

All Courses Offered By Yellotec

Infrared Thermography (IRT)
IRT Basics, Level 1, Level 2 and Level 3

Vibration Analysis
ISO Level 1, 2 and 3

Field Lubricant Analysis
Noria Level 1, 2 and 3

Machinery Lubrication
Noria Level 1 and 2

Oil Analysis Series
Level 1, 2 and 3

Ultrasound
Level 1 and 2

Gearbox Maintenance
Failure Analysis
Condition Monitoring for Engineers
Plant Management – Dr. Mike Vorster
Registration Form

Please register each delegate by completing the details below and return by fax to 011 656 9112, or e-mail to training@yellotec.com. The company details are intended for accounting purposes and must reflect the details required for the completion and delivery of tax invoice.

Invoice Details

- Company ________________________________
- VAT Number ________________________________
- Postal Address _______________________________________
  _______________________________________
  _______________________________________
  _______________________________________
- Postal Code ________________________________
- Person Responsible for Payment ________________________________
- Contact Number ________________________________
- Fax Number ________________________________
- Payment Method ________________________________
- Purchase Order Number ________________________________
- Cheque Number ________________________________
- Electronic Transfer Ref Number ________________________________

Delegate Details

- Delegate Name ________________________________
- Contact Number ________________________________
- Fax Number ________________________________
- E-mail Address ________________________________
- Do you have Halaal requirements? Yes [ ] No [ ]

Course Details

- Course ________________________________
- Dates ________________________________
- Cost (Excl. VAT) ________________________________

Terms and Conditions

1. All course fees are payable upon confirmation of booking and an invoice will be sent as per the details indicated above. Bookings cannot be secured until payment of invoice or valid purchase order is received.
2. Only cancellations received in writing 10 days before the start of the course will be refunded in full.
3. There will be no charge if a substitute person wishes to replace the original delegate.
4. Yellotec reserves the right to cancel any course at any time without liability. In these circumstances, delegates will be offered an alternative date, or a full refund.
5. All Halaal requirements will be charged at an extra cost.
6. Delegate no shows, partial attendance or late cancellations will be liable for full cost.
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Yellotec is a products, service and training provider in the following specialist fields:

1. Complete solutions for the implementation and management of Condition Based Maintenance.
2. Remote Diagnosis of Vibration Analysis.
3. Full on-site CBM services, ranging from single individuals to complete department.
4. Oil Analysis Laboratory Services.
8. Training in all specialist areas of Condition Based Maintenance.
9. Direct agents for Flir Systems (Sweden) and Prüftechnik(Germany).