Who we are?

TIW is an NDT training & service provider organization located in Chennai, India providing complete solution for NDT training & inspection.

We conduct training for PCN Level 1, 2 & 3 in the following methods

- PCN - Phased Array Ultrasonic Testing (PAUT)
- PCN - Time of Flight Diffraction (ToFD)
- PCN - Ultrasonic Testing 3.1 & 3.2
- PCN UT - 3.8 & 3.9 (Nozzles & Node)
- PCN - Magnetic Particle Testing (only Level 1 & 2)
- PCN - Liquid/Dye Penetrant Testing (only Level 1 & 2)
- PCN - Radiographic Film Interpretation (only Level 2)

How to Book Your Training Course

To book a training course, simply call +91 9043322221 and we will be happy to discuss your requirements with you. If necessary, we can provide advice on which type of training and certification is appropriate for you or your company. Enquiries may also be made via email to admin@tiw.co.in or by visiting us on the web at www.tiw.co.in

On confirmation of the booking, we will send to you an application form which must be completed and returned to us in order to confirm the booking process. Training courses will be conducted on a schedule basis at our Chennai Training and Examination Centre.

Contact Us

TRICHY INSTITUTE FOR WELDING

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TRICHY INSTITUTE FOR WELDING

A BINDT AUTHORIZED ATO & AQB

Ultrasonic Testing Course Curriculum

What is Ultrasonic Testing?

Ultrasonic testing (UT) is a family of non-destructive testing techniques based on the propagation of ultrasonic waves in the object or material tested. In most common UT applications, very short ultrasonic pulse-waves with center frequencies ranging from 0.1-15 MHz, and occasionally up to 50 MHz, are transmitted into materials to detect internal flaws or to characterize materials. Ultrasonic testing is often performed on steel and other metals and alloys, though it can also be used on concrete, wood and composites, albeit with less resolution. It is used in many industries including steel and aluminium construction, metallurgy, manufacturing, aerospace, automotive and other transportation sectors.

About the course

PCN Level 1 & 2

This course is designed to provide the participants, a better understanding about theory and application of ultrasonic testing in welds, to train them and qualify them as PCN Level 1 or 2 in ultrasonic testing.

PCN Level 2 UT 3.8 & 3.9

This course extends your practical Ultrasonic Testing knowledge in the Welds category to include Nozzles (3.8) & Nodes (3.9). In gaining Nozzle (3.8) certification you are also then certified to test "T" Welds (3.7). We recommend 3 days of training for both Nozzle & Node. However, these can be done individually. This is applicable for UT level 2 certified personnel.

PCN Level 3

This guidance course is aimed at the PCN Level 3 requirements for Ultrasonic Testing practitioners. The main objective of the course is to make candidates fully aware of the scope of the examination and level of knowledge required. It will also enable candidates to identify their weak subject areas. Advice will be given on any further tuition required.

Qualification Requirements as per PCN24/GEN Requirements

Training Days

Level 1	Level 2	Level 3
8 Days	10 Days *	5 Days
Direct access to Level 2 or 3 requires the total days shown in table for Levels 1 and 2 or Levels 1, 2 and 3. * For direct Level 2 training, total 18 days is equivalent to 126 hours that can be achieved in 14 days (8 hours class room training + 2 hours homework/online assessments per day).		

Experience

Level 1	Level 2	Level 3
45 Days	135 Days	450 Days
Note-1: For Level 2 certification, the intent is that work experience consists of period as a Level 1. If the individual is being qualified directly to Level 2, with no period at Level 1, the experience shall consist of the sum of the periods required for Level 1 and Level 2. No reduction in the period of experience shall be allowed. Note-2: Industrial NDT experience in the appropriate sector may be acquired either prior to or following success in the qualification examination. (see other essential information in the page 6)		

Pre-Training Requirement

PCN candidate who do not currently hold, or who have never held PCN, or other BS EN ISO 9712 compliant NDT certification that they shall be required to demonstrate knowledge of materials and processes/product technology.
New PCN applicants (those without PCN certification or certified under ISO 9712) shall complete the Product Technology Learning Program prior to attending any training course.

Link to attend the online product technology learning programme: Home | BINDT (Press control and click the link)

Course Content

PCN Level 1

- Properties of Sound Waves
- Generation of Ultrasonic waves
- Interaction of ultrasound with matter and boundaries
- Types of Probes
- Test Methods & Test Equipment
- Instrumentation & Test Variables
- Inspection procedures
- Types of Discontinuities

❖ PCN Level 2 - UT 3.1 & 3.2

- History and Physics of UT
- Parameters - Types of Ultrasounds
- Behavior of sound at interface and in material
- Generation of Ultrasound and Probe - its properties
- Equipment, controls - DATA display
- Techniques, Blocks, Calibrations, Inspection, Interpretation and Evaluation
- Welding technology- major weld process SMAW, SAW, TIG, MIG, FCAW, etc.

❖ PCN Level 2 - UT 3.8 & 3.9

- Node Welds
- Set on preparations - Full penetration
- Set through preparations (Both Part & Full penetration welds)

Learning Outcomes

PCN Level 1

Successful candidate will be able to

- Set up equipment- Perform the Ultrasonic Inspection tests;
- Record and classify the results of the tests according to written criteria and report the results

PCN Level 2

Successful candidate will be able to

- Select the Ultrasonic Testing technique for the test method to be used
- Define the limitations of application of the testing method
- Translate Ultrasonic Testing codes, standards, specifications and procedures into Ultrasonic Testing instructions adapted to the actual working conditions
- Set up and verify Ultrasonic Testing equipment settings
- Perform and supervise Ultrasonic tests
- Interpret and evaluate results according to applicable standards, codes, specifications or procedures
- Prepare written Ultrasonic Testing instructions
- Carry out and supervise all tasks at or below Level 2
- Provide guidance for personnel at or below Level 2
- Report the results of Ultrasonic tests.

❖ PCN Level 3

Successful candidate will be able to

- Establish, review for editorial and technical correctness and validate NDT instructions and procedures
- Designate the particular test methods, techniques and procedures to be used;
- Within the scope and limitations of any certification held, carry out all tasks at all levels

What to bring?

- Scientific calculator
- Coveralls/Lab coat if possible
- Safety boots are mandatory in practical areas
- PCN Candidates: PCN wallet card or other form of photographic identification
- Pin Profile Gauge (Where possible)

Special Note

- TIW reserves the right to disqualify the participants from certification program when the personnel is found that they he/she shall not meet the PCN requirements.
- Participants are not allowed to use their own equipment / laptop during the training and examination. TIW provides candidate with required equipment and other accessories needed for practical inspection.
- Follow professional dress code during the entire training and examination.
- Once when enrolled for course, TIW customer care people will send joining instructions through mail and enough information shall be communicated through telephonic call.

Documents to be submitted for Examination

- PSL 57A - Examination application
- PSL 30 - Log of Experience
- PSL 44 - Vision Requirements (which has to be certified by a registered medical practitioner)
- CP-27- Code of ethics
- PCN E-certificate/ wallet card copy (If available)
- PCN UT level 1 Certificate copy (If applicable)
- One govt approved identity card (example: Passport/voter ID /Aadhaar Card) & Two Photographs

Other information about Training & Examination

Training program comprises of daily assessment after completion of each chapter and the participants are required to get above 70% marks. Based on daily assessment exams, candidate is awarded with successful completion of training.

Then the participants are required to undergo examination which consists of specific and practical examination. Candidate has to obtain a minimum of 70% in each examination to get certified as level 1/2/3.

This certificate is valid for 5 years from the date of certification. The certificate has to be renewed as per PCN requirements.

Experience may be acquired either prior to (for Level 1 and 2 entry only) or following success in the qualification examination. However, the chances of success in a PCN examination may be significantly reduced if candidates have little or no current experience in the application of the NDT method in the sector concerned.

In the event that the PCN examination has been passed by a candidate lacking the experience required for certification, BINDT will issue a letter of attestation to the successful candidate indicating that they have passed the qualification examination and needs only to meet the experience requirement in order to be certificated.

Records of experience obtained post examination shall be presented on PCN form PCN24/PSL30 or PCN24/PSL57C as appropriate within the 2 years from the date of examination passed.