

BIT Inspection Technology



(NDT Training & Examination Center - BINDT authorized training (ATO) and qualification body (AQB) for PCN scheme)

**BIT Inspection Technology proudly announces that, scheduling to conduct
PCN / ISO 9712 NDT program at BIT - Chennai, India.**

With 15 years of experience with all your support BIT Inspection Technology successfully completed many NDT and welding inspector training program.

BIT Inspection Technology is authorized to impart **BINDT training & PCN NDT Examination for NDT personnel** which complies with **ISO 9712** requirements and **PCN Welding Inspector** which complies with **ISO 17637**

There is **huge demand for skilled PCN NDT certified personnel** required for industries. **BIT is providing extensive training** for the personnel to meet the industrial demand.

NDT Training provided:

1. PAUT (weld) - Level 1, 2 and 3
2. TOFD (weld) - Level 1, 2 and 3
3. Magnetic Particle Testing (Multi Sector) - Level 1, 2 and 3
4. Liquid Penetrant Testing (Multi Sector) - Level 1, 2 and 3
5. Radiographic Interpretation (weld - Light and Dense Material) - Level 2
6. Radiographic Interpretation (casting - Light and Dense Material) - Level 2
7. Basic Radiation Safety - Level 1
8. Radiographic Testing (Weld - Light and Dense Material) - Level 1, 2 and 3
9. Radiographic Testing (Casting - Light and Dense Material) - Level 1, 2 and 3
10. Ultrasonic Testing (Weld) - Level 1, 2 and 3
11. Ultrasonic Testing (Casting) - Level 1, 2 and 3
12. Ultrasonic Testing (Forging) - Level 1, 2 and 3
13. Ultrasonic Testing (Thickness Measurement) - Level 2
14. Visual Testing (Multi Sector) - Level 1, 2 and 3
15. Welding Inspector - Level 1, 2 and 3

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BIT Inspection Technology - Strength and Focus?

PCN Training Facility -1



- BIT is operating with **2 facility** ensuring to provide exceptional **quality in training and practical skills**
- Selecting suitable candidate for PCN NDT qualification and **counselling to individual personnel** in the right direction towards industrial suitability
- **Supporting industries** by providing skilled PCN qualified NDT personnel and Welding Inspectors
- BIT has **own facility** for manufacturing **flaw specimens required** PCN personnel qualification
- **Real flaws** are introduced in the specimen, and hence **flaw characterizations** are as per Industrial standard and hence **training confident optimized**
- BIT is manufacturing own **calibration blocks, reference blocks and validation blocks**
- Practical demonstration of **validation of NDT procedure** for level 3 training with own manufactured Validation Block
- Practical training involved are like **plotting DGS curve** for straight beam with **“Law of Large Reflectors”** and according to the **Back-Wall Echo reference**

PCN Training Facility -2



Student Accommodation



Real Flaw in the flaw specimen



Flaw Specimen Manufacturing



- **Practical demonstration of welding procedure qualification (PQR)**
- **Student Accommodation facility in the same building where training takes place, to maximum utilization of hours in a day**
- **Additional preparatory training for**



Flaw Specimen Manufacturing



- **Fresh Engineers - awareness about NDT and Weld Inspection**
- **Semi-skilled and slow understanding candidates - mathematical calculation for non-science back ground student's and Product Technology for non-mechanical students**
- **BIT is the only training organization approved for**

Flaw Specimen Manufacturing



TKY flaw specimen Manufacturing

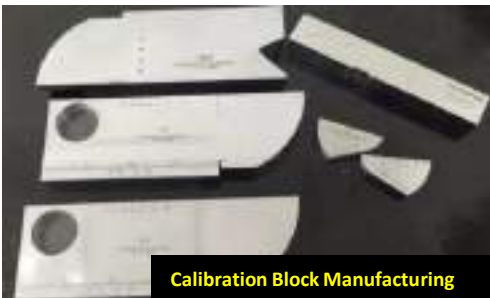


- **PCN UT Casting (Level 1, 2 & 3) training and certification**
- **PCN UT Forging (Level 1, 2 & 3) training and certification**
- **PCN RT Casting (Level 1, 2 & 3) training and certification**
- **PCN Welding Inspector (Level 1, 2 & 3) training and certification**
- **PCN Visual Testing (Multi-Sector) (Level 1, 2 & 3) training and certification**

Validation Block Manufacturing



Calibration Block Manufacturing



PT flaw specimen



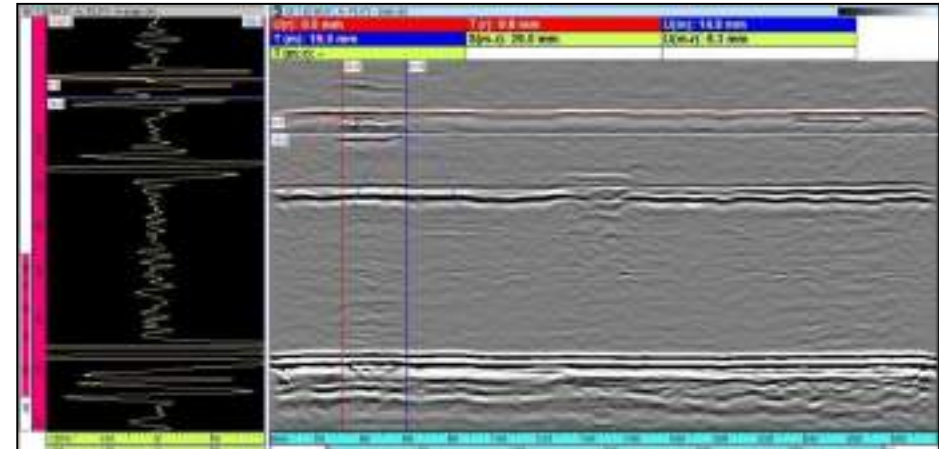
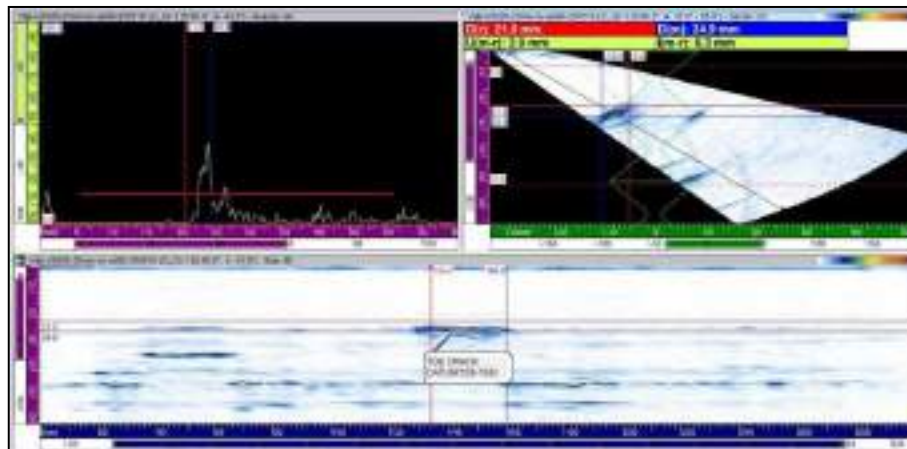
Validation Block Manufacturing



Validation Block Manufacturing



BIT NDT Training in Chennai, India



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PCN PAUT Level 2



PCN PAUT Level 2



PCN UT Level 2 Training



PCN PAUT Level 2



PCN TOFD Level 2 Training



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PCN / ISO 9712 NDT & Welding Inspection Level 1, 2 and 3 Training and Examination Package

Course	PCN / ISO 9712 NDT & Welding Inspection 2023 Schedule													
	Additional batches can be organized, if required. Contact +91 8122770083 / +91 9840800863													
	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	June 2023	July 2023	Aug 2023	Sep 2023	Oct 2023	Nov 2023	Dec 2023	Course & Exam Fee (INR)	Exam fees for Re-certification candidates (INR)
PAUT Level 2 (weld)	16 - 31	16 - 30	14 - 28	17 - 30	16 - 30	15 - 30	17 - 31	16 - 31	15 - 30	16 - 31	15 - 30	15 - 30	167560.00	48000.00
TOFD Level 2 (weld)	2 - 11	1 - 10	1 - 10	3 - 12	1 - 10	1 - 10	3 - 12	1 - 10	1 - 10	2 - 11	1 - 10	1 - 11	147500.00	48000.00
PAUT Level 3 (weld)	16 - 21	16 - 22	14 - 20	17 - 22	16 - 22	15 - 21	17 - 22	16 - 22	15 - 21	16 - 21	15 - 21	15 - 21	139830.00	48000.00
TOFD Level 3 (weld)	2 - 7	1 - 7	1 - 7	3 - 8	1 - 6	1 - 7	1 - 7	1 - 7	1 - 7	2 - 7	1 - 7	1 - 7	139830.00	48000.00
Ultrasonic Testing 3.1/3.2, Weld - Plate / Pipe, Level 1/2	2 - 17	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	2 - 17	1 - 16	1 - 16	81420.00	42480.00
Ultrasonic Testing - Nozzle Weld - 3.8, Level 2	2 - 5	1 - 4	1 - 4	3 - 6	1 - 4	1 - 5	1 - 5	1 - 4	1 - 5	2 - 5	1 - 4	1 - 5	40710.00	29500.00
Ultrasonic Testing - Node Weld - 3.9, Level 2	2 - 5	1 - 4	1 - 4	3 - 6	1 - 4	1 - 5	1 - 5	1 - 4	1 - 5	2 - 5	1 - 4	1 - 5	40710.00	29500.00
Ultrasonic Testing - (Thickness Measurement) Level 2	2 - 17	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	2 - 17	1 - 16	1 - 16	71980.00	25000.00
Ultrasonic Testing - Casting Level 1/2	2 - 17	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	2 - 17	1 - 16	1 - 16	89680.00	42480.00
Ultrasonic Testing - Forging Level 1/2	2 - 17	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	2 - 17	1 - 16	1 - 16	89680.00	42480.00
Basic, Level 3	Based on Enquiry, schedule will be planned.												125080.00	45000.00
Ultrasonic Testing, Weld - Level 3	Based on Enquiry, schedule will be planned.												110920.00	48000.00
Ultrasonic Testing, Casting - Level 3	Based on Enquiry, schedule will be planned.												110920.00	48000.00
Ultrasonic Testing, Forging - Level 3	Based on Enquiry, schedule will be planned.												110920.00	48000.00
Basic Radiation Safety (BRS), Level 1	2 - 3	1 - 2	1 - 2	3 - 4	1 - 2	1 - 2	3 - 4	1 - 2	1 - 2	2 - 3	1 - 2	1 - 2	36580.00	36580.00
Radiographic testing (RT), Weld - Level 1/2	2 - 17	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	2 - 17	1 - 16	1 - 16	101480.00	54280.00
Radiographic testing (RT), Casting - Level 1/2	2 - 17	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	3 - 18	1 - 16	1 - 16	2 - 17	1 - 16	1 - 16	101480.00	54280.00

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Radiographic Interpretation (RI) - Weld / Dense material, Level 2	2 - 10	1 - 9	1 - 9	3 - 11	1 - 9	1 - 9	3 - 11	1 - 9	1 - 9	2 - 10	1 - 9	1 - 9	51920.00	33040.00
Radiographic Interpretation (RI) - Weld / Light & Dense material, Level 2	2 - 10	1 - 9	1 - 9	3 - 11	1 - 9	1 - 9	3 - 11	1 - 9	1 - 9	2 - 10	1 - 9	1 - 9	63130.00	33040.00
Radiographic Interpretation (RI) - Casting / Light & Dense material, Level 2	2 - 10	1 - 9	1 - 9	3 - 11	1 - 9	1 - 9	3 - 11	1 - 9	1 - 9	2 - 10	1 - 9	1 - 9	74340.00	35000.00
Radiographic Testing, Weld - Level 3	Based on Enquiry, schedule will be planned.											101480.00	48000.00	
Radiographic Testing, Casting - Level 3	Based on Enquiry, schedule will be planned.											101480.00	48000.00	
Penetrant Testing (PT), Welds - Level 1/2	18 - 24	17 - 23	17 - 23	19 - 25	17 - 23	17 - 23	19 - 25	17 - 23	18 - 23	18 - 24	17 - 23	18 - 24	46315.00	33040.00
Magnetic Particle Testing (MPT), Welds - Level 1/2	25 - 30	24 - 01	24 - 30	26 - 02	24 - 30	24 - 30	26 - 01	24 - 30	25 - 30	25 - 30	24 - 30	25 - 30	46315.00	33040.00
Penetrant Testing (PT), Multi Sector - Level 1/2	18 - 24	17 - 23	17 - 23	19 - 25	17 - 23	17 - 23	19 - 25	17 - 23	18 - 23	18 - 24	17 - 23	18 - 24	63130.00	33040.00
Penetrant Testing (PT), Multi Sector - Level 3		16 - 19		16 - 19		16 - 19		16 - 19		16 - 19		16 - 19	101480.00	48000.00
Magnetic Particle Testing (MPT), Multi Sector-Level 1/2	25 - 30	24 - 01	24 - 30	26 - 02	24 - 30	24 - 30	26 - 01	24 - 30	25 - 30	25 - 30	24 - 30	25 - 30	63130.00	33040.00
Magnetic Particle Testing (MPT), Multi Sector - Level 3	Based on Enquiry, schedule will be planned.											101480.00	48000.00	
Visual Testing (VT) Multi Sector - Level 1/2	Based on Enquiry, schedule will be planned.											71980.00	33040.00	
Visual Testing (VT) Multi Sector - Level 3	Based on Enquiry, schedule will be planned.											110920.00	48000.00	
Welding Inspection (WI) Welds - Level 1	Based on Enquiry, schedule will be planned.											77880.00	40000.00	
Welding Inspection (WI) Welds - Level 2	Based on Enquiry, schedule will be planned.											94400.00	60000.00	
Welding Inspection (WI) Welds - Level 3	Based on Enquiry, schedule will be planned.											94400.00	70000.00	

Applicable GST -18 % is included

Note: There is no hidden fees.

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BIT Inspection Technology focus with sincerity and authentic approach in giving *new dimension to NDT / Welding Inspection Training*

Our Quality Management System ensures to provide *exceptional quality* in training and *practical skills* through facilitators who are constantly evolving to achieve *Industrial Standards* and *empowering our customers to benefit* from our knowledge

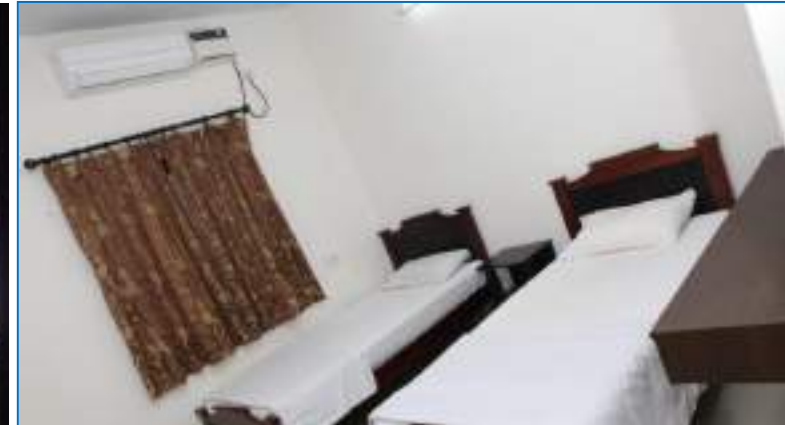


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BIT Accommodation



Room Rent details / day				
Room Type	AC room	Non - AC room		
Double room / head	800 INR	500 INR		
Single room / head	750 INR	400 INR		
Extra Person	100 INR	100 INR		
Room rent details / month				
Room type	AC per month	AC / 15 days	Non - AC/month	Non - AC/15 days
Double room / head	10000 INR	6500 INR	8300 INR	4900 INR
Double room - Single accom	16500 INR	9750 INR	10000 INR	6500 INR
Single room - Single accom	13000 INR	7500 INR		



Method of Payment

Payment by Bank Transfer to the following account:

Account Name: BIT Inspection Technology

Bank Name: Indian Overseas Bank,

Account No: 108502000001512

Account type: Current account

IFSC code: IOBA0001085

Swift Code: IOBAINBB001

Branch Address: Ekkattuthangal branch (1085)

Eligibility:

Candidates shall meet the prerequisite required for qualification. Each candidate shall fulfil the minimum requirements of vision and training prior to the qualification examination and shall fulfil the minimum requirements for Industrial experience prior to certification.

Table 1: Minimum required durations of training

NDT methods	Hours		
	Level I	Level II	Level III
UT	40	80	40
PAUT	40	80	40
TOFD	40	40	40
PT	16	24	24
MT	16	24	32
RI	-	56	-
RT	40	80	40
UT (Nozzle) 3.8	-	40	-
UT (Node) 3.9	-	40	-

BRS	16	-	-
Basic (Level 3)	-	-	80
Ultrasonic Testing - (Thickness Measurement)	-	40	-
Visual Testing	16	24	24
Welding Inspection	20	50	40

Note 1: Direct access to Level 2 requires the total hours shown in Table 1 for Levels I and II.

Note 2: For candidates who have graduated in a relevant subject from technical college or university, or have completed at least two years of relevant engineering or science study at college or university, the total required number of training hours may be reduced by up to 50%

Note 3: The 80 hours training required for Level 3 Basic qualification may be accrued through a combination of classroom training at a BINDT approved training organisation (minimum 50%), self-study and distance learning. However accrued, candidates should record the training undertaken for presentation to PCN if requested. This note relates to the Level 3 Basic Examination (see 3.5), and reductions in training duration up to 72 hours maximum, may be granted based on holding:

a) Product Technology

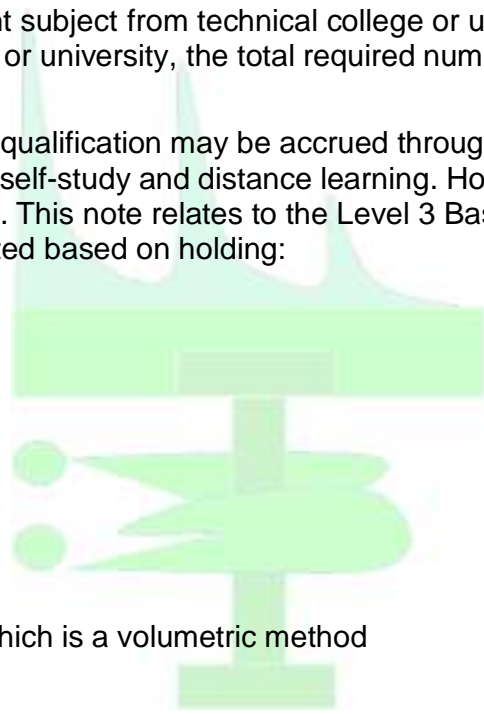
The candidate holds a certificate covering:

- a multi-sector - 12 hours
- castings - 4 hours
- welds - 4 hours
- wrought products - 4 hours

b) Level 2 general theory in four NDT methods, one of which is a volumetric method

The Level 3 candidate holds Level 2 certification in

- Four NDT methods - 60 hours
- Three NDT methods - 45 hours
- Two NDT methods - 30 hours
- One NDT methods - 15 hours



Pre-Certification Experience:

Industrial NDT experience in the applicable method and in the appropriate sector may be acquired either prior to or following success in the qualification examination. In the event that a false statement is made concerning pre-certification experience, any certification awarded as a result will be null and void.

Table 2: Minimum Duration of Experience

NDT methods	Experience (months) *		
	Level I	Level II	Level III
PT	1	4	24
MT	1	4	24
UT	3	9	36
PAUT	1	3	36 (includes 6 months experience using PAUT)
TOFD	3	9	12
RT	3	9	36
RI	-	6	-
UT (Nozzle)	-	-	-
UT (Node)	-	-	-
Ultrasonic Testing - (Thickness Measurement)	-	4	-
Visual Testing	1	3	24
Welding Inspection	1	12	24

* Work experience in months is based on a nominal 40 hours per week, If any individual working in excess of 40 h per week may be credited with experience based on the total hours, but shall be required to produce documentary evidence of this experience.

If the individual is being qualified directly to Level 2, with no time at Level 1, the experience shall consist of the sum of the times required for Level 1 and Level 2. No reduction in the period of experience shall be allowed.

For Level 3 certification, the intent is that work experience consists of time as a Level 2. If the individual is being qualified directly from Level 1 to Level 3, with no time at Level 2, the experience shall consist of the sum of the times required for Level 2 and Level 3. No reduction in the period of experience shall be allowed.

Note 1: This is applicable for candidates who have successfully completed a technical school or at least two years of engineering or science study at an accredited college or university. If this is not the case, the duration has to be multiplied by a factor of 2.

Note 2: Credit for work experience may be gained simultaneously in two or more of the NDT methods covered by this International Standard, with the reduction of total required experience as follows:

- two testing methods - reduction of total required time by 25%
- three testing methods - reduction of total required time by 33%
- four or more testing methods - reduction of total time by 50%

In all cases, the candidates shall be required to show that for each of the testing methods which he seeks certification, he has a minimum of 50% of the time required in the above table.

Eligibility in PCN qualification examinations for holders of other Certification

This document records those NDT certificates of competence accepted by BINDT as conferring eligibility in the PCN qualification examinations for Time of Flight Diffraction and ultrasonic testing using Phased Array transducers. The table below relates only to acceptable certification. All other pre-requisites specified in the referenced documents will apply.

References:

PCN/GEN Appendix C4 (Certification of personnel for ultrasonic Time of Flight Diffraction testing of linear butt welds in ferritic steel) clause 1.2 states: Certification described in this document is available only to holders of current, valid UT Welds certification issued by a certification body recognised by the British Institute of NDT (BINDT).

PCN/GEN Appendix E9 (PCN certification of personnel engaged in ultrasonic testing using Phased Array transducers) clause 2.1 states: Eligibility for PCN Certification covering Ultrasonic Testing using Phased Array (UTPA) transducers is conditional upon the possession of relevant certification as described below:

- Level 1 UTPA (welds) data collection: candidates will hold Level 1 or Level 2 certification for manual UT of welds issued by a certification body recognised by BINDT
- Level 2 UTPA (multi sector): candidates will hold valid certificates issued for any industry sector (aerospace, railway or In-Service Inspection) by a certification body recognised by the British Institute of NDT.
- Level 2 UTPA (single sector): candidates will hold a valid UT certificate issued for the sector(s) in which certification is sought by a certification body recognised by the British Institute of NDT.
- Level 2 UTPA interpreter candidates will hold or have held within the past two years a Level 2 UT certificate issued for any product or industry sector (aerospace, railway, castings, welds or wrought products) covering the scope of UTPA interpretation certification sought by a certification body recognised by the British Institute of NDT.
- Level 3 UTPA (multi sector) candidates will hold current valid Level 3 certification in Ultrasonic Testing issued by a certification body recognised by BINDT. Level 3 candidates who do not hold PCN Level 2 UTPA (multi sector) will be required to successfully complete the examination described in Clause 3.2.1.
- Level 3 UTPA (single sector): candidates will hold a valid UT certificate issued for the sector(s) in which certification is sought by a certification body recognised by the British Institute of NDT.

ULTRASONIC TESTING – SPECIAL TECHNIQUES

Certificates issued by	Acceptable scope of certification	TOFD UT	UT PA
Any certification body registered under the EFNDT MLA - see MRA Schedule 2	current, valid Level 2 or Level 3 Ultrasonic Testing certification issued for any product or industry sector (aerospace, railway, castings, welds or wrought products)	x	✓
Any certification body registered under the EFNDT MLA - see MRA Schedule 2	current, valid Ultrasonic Testing certification issued for the welds product sector (appropriate in level to the level of PCN certification sought)	✓	✓
Natural Resources Canada (NRCan) – see http://ndt.mcan.gc.ca/home_e.htm	current, valid CAN/CGSB 48.9712 Ultrasonic Testing certification issued for the Engineering, Materials and Components Sector (appropriate in level to the level of PCN certification sought)	✓	✓
South African Qualification and Certification Council (SAQCC) – see http://www.saiw.co.za/WUTPA	current, valid Level 2 or Level 3 SAQCC Ultrasonic Testing certification issued for castings or wrought products sectors	x	✓
South African Qualification and Certification Council (SAQCC) – see http://www.saiw.co.za/WUTPA and http://www.saiw.co.za/WTOFD	current, valid Level 2 or Level 3 SAQCC Ultrasonic Testing certification issued for the welds sector	✓	✓
TWI Certification Limited (TWI CL) – see CSWIP website	current, valid Level 2 or Level 3 CSWIP Ultrasonic Testing certification issued for the welds sector	✓	✓
American Society for NDT (ASNT) see www.asnt.org	Current valid ACCP Level 2 certification issued for the castings or forgings sectors	x	✓
American Society for NDT (ASNT) See http://www.asnt.org/certification/levelii/accpexaminations.htm	Current valid ACCP Level 2 certification issued for the welds sector	✓	✓
Certification Board for Inspection Personnel (New Zealand's CBIP Scheme)	Current valid CBIP Level 2 UT certification in the welds sector	✓	✓
Nordtest (Force Technology) http://nordtest.info/certifyingbodies and http://nordtest.info/images/documents/DOC_GEN_010.pdf	Current valid Level 2 or Level 3 UT of Welds or PE, and castings/forgings	✓	✓

Vision Requirements

The PCN requirements for colour perception and acuity of vision, together with the qualifications of those administering the vision tests, are fully defined in PCN document PSL/44, which includes a form for recording the results of vision tests. The requirements are reproduced below for ease of information:

Candidates for PCN examinations will be required, on the day of the examination, to provide proof of a satisfactory vision test conducted within the 12 months preceding the examination.

Near vision acuity shall permit reading a minimum of Jaeger number 1 or Times Roman N 4.5 or equivalent letters (having a height of 1,6 mm) at not less than 30 cm with one or both eyes, either corrected or uncorrected.

Colour vision shall be sufficient that the candidate can distinguish and differentiate contrast between the colours or shades of grey used in the NDT method concerned as specified by the employer.

***Note:** Subsequent to certification, the documented tests of visual acuity shall be carried out at least every twelve months and verified by the employer.*

General:

1. All sessions will be conducted in fully air-conditioned and well equipped class rooms.
2. Practical training will be conducted in well ventilated and proper class room rooms.
3. Refreshment Tea Breaks will be provided for the training candidates
4. Candidates will be supplied with a set of course notes and a set of working reference standards /documents for their guidance in preparation for the Examination.
5. For ultrasonic testing practical training students are encouraged to bring their own Ultrasonic Flaw Detectors / PAUT / TOFD machine and probes / cables. We will provide the required calibration blocks

Exchange experience through **Case Studies**

Case study



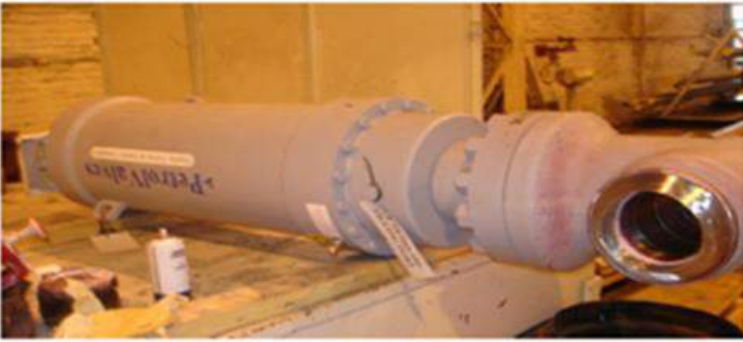
"Stress Corrosion Cracks" in the "Super Duplex Stainless Steel"

Programme Sponsored by
 Shri. M.V.Rajamani
 Chairman(Elect) - ISNT
 Electro - Magfield Controls & Services


Presented by
 R.Baskar A.M.I.E (Mech)
 ASNT level III RT,UT,PT
 CSWIP 3.2
 AWS-CWI
Vetco - Norway



PETROLVALVE CLADDING ISSUE



Presented by
 R.Baskar, AMIE (Mech)
 ASNT NDT Level III RT,UT,PT & MT
 CSWIP 3.2
 AWS - SCWI



UT on small bore (6" & 8") cladded piping weld



Presented by
 R.Baskar, AMIE (Mech)
 ASNT NDT Level III RT,UT,PT & MT
 CSWIP 3.2
 AWS - SCWI



Ultrasonic Testing on Duplex Stainless Steel



Reference Block

Calibration Block

Presented by
 R.Baskar, AMIE (Mech)
 ASNT NDT Level III RT,UT,PT & MT
 CSWIP 3.2
 AWS - SCWI



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