

INTERNATIONAL WELDING INSPECTION PERSONNEL

The Indian Institute Of Welding has been accredited by IIW as its only 'Authorised National Body' (ANB) in India (To be referred to as ANB-India) to operate its above international scheme and award various International Welding Diplomas including the International Welding Inspector Diplomas to welding personnel at Basic (IWI-B), Standard (IWI-S) and Comprehensive (IWE-C) level respectively of increasing knowledge, skill & responsibility as per guideline IAB-041r3-08 July 2008 for the education of International Welding Inspection Personnel

1. Role of the Welding Inspector

The Inspector's role begins well before welding starts, continues during welding operation, involves action after welding is completed, and is finished only when the results are properly reported.

As a part of quality system, inspection activities are defined in an inspection and test plan, which clearly describes what, is required. The inspector is frequently responsible for producing documents that ensure traceability of the components and related fabricating action.

Prior to welding, the inspector must be assured that the base materials and consumables are correct and the shop has approved welding procedures and appropriately qualified welders. Written procedures and competent operators are important to the production of a quality welded product, but the actual execution of the weld is also critical point for the inspector. Once the inspector is satisfied that all is in order for welding to proceed, the task becomes one of witnessing and monitoring. There are two basic interests at this point, ensuring that written procedures are followed and of course, watching for any physical sign of non-conformance of the final product.

The inspector must verify that the base material and consumables are correct and observe the fit-up and preparation for weld. Once the welding is completed a new series of inspection tasks begin according to an approved procedure, keeping track of the status of examination and testing and selecting specific welds for further NDT or ,mechanical testing.

Heat treatment (such as preheating, post heating and post weld heat treatment) can be a critical parameter in a welding operation and the inspector is often required to ensure that it has been done properly. Heat treatment must be carried out according to an approved written procedure. The inspector must know enough about the technique, the equipment and the reports to have confidence in the result.

2. Benefit

2.1 Industry: The IWIP qualification system, administered by ANB India will provide a pool of welding inspectors at all levels, trained to international standard for industry. This will also enable industry to fulfil the overall future requirements of **ISO 3834** (Quality Requirement for Welding) as well as **ISO 14731** (Welding Co-ordination Task and Responsibilities) and NDT inspectors requirement as per **ISO-9712** and which will be particularly relevant for export-oriented industries.

2.2 Career for Inspector: Qualified personnel with knowledge of both welding technology and Welding Inspection are not readily available so far in India in the absence of any proper curriculum and recognised certification system satisfying the essence of both Welding Co-ordination under ISO-14371 & NDT under ISO-9712 respectively for following **ISO 17635→40, ISO-13916 etc.** The demand for such qualified persons will be felt increasingly with globalisation and scope to obtain overseas appointment at all levels. The **IWIP** qualification at various levels more than fulfils the requirements of all above & also **SNT-TC-1A & IS:13805** - for welding Inspection personnel.

2. International Welding Inspector (Curriculum)

For the International Welding Inspection course: International Welding Inspector Diplomas are at three levels i.e. **Basic (IWI-B)**, **Standard (IWI-S)** and **Comprehensive (IWE-C)** respectively of increasing knowledge, skill & responsibility. The guideline divides the syllabus in two main modules as below with 3 levels of depth.

- ◆ **Welding Technology (WT) in three levels of I, II & III**
- ◆ **Welding Inspection (WI) in three levels of I, II & III**

(Figures against the subject heads are minimum lesson hours)

2.1 Welding Technology Module				
	Subject Heading	WT - III	WT - II	WT - I
1	Welding Process & Equipment	25	13	11
2	Materials & their behaviour during Welding	52	41	25
3	Construction & design	21	17	12
4	Fabrication, Application Engineering	24	23	17
Total Recommended Hours for Technology Module		122	94	65
2.2 Welding Inspection Module				
	Subject Heading	WI - III	WI - II	WI - I
1	General Introduction to Welding Inspection	3	3	2
2	Testing	1	1	1
3	Weld Imperfections	7	5	3
4	Testing Method	31	25	18
5	Quality Assurance	3	3	1
6	Management of Inspection Function	3	3	0
7	Practical Work	49	23	15
Total Recommended Hours for Inspection Module		97	63	40

Exemptions allowed from attending some modules for 'prior learning' after ATB/ANB Check.

2.3 Theoretical education: Basic Technology "Module 0" (40 hrs) may apply to certain candidates without requisite education & industry metal working background who want to engage in Standard level. The course comprises Introduction, Measurement Units, Technical Calculation, Technical Drawing, Basics of Electro-technology, Basic Chemistry, Basics of Materials, Metal Products, Machining of Materials, Technical Mechanics & Calculation of Strength.

3. International Welding Inspection Personnel (Access/Eligibility)

The entry to the International Welding Inspectors course at various levels could be **by Standard Route or by Transition Route**. Access condition/Eligibility for entry for each method is specified against each level by ANB with the authorisation of IAB

3.1 Access by Standard Route is as per IAB Guideline IAB-041r3-08 July 2008

3.2 Alternative routes for IWIP-B, IWIP-S & IWIP-C are for qualified experienced persons already engaged in responsible position and having relevant experience having IWP, IWS or IWT Diplomas respectively or qualification satisfying condition for access to same. On production of **evidence** and **ANB Check & professional + technical Interview by ANB** may be entered at appropriate level.

4.0 International Welding Inspector's Examination

The intermediate examinations are mandatory unless exempted and is the **responsibility of the ATB to ensure that those entering the next stage have acquired required level of knowledge.**

The final examination to assess student performance, in accordance with the relevant IIW guideline and those rules is conducted by the Board of Examiners appointed by ANB-India. This examination is mandatory and is independent of any assessment procedure conducted by ATB.

5.0 International Welding Inspection Personnel : Diploma

Examination procedures are designed to simulate the different situations of a welding inspector active in industry. The examination will be in three parts,

Part 1: Professional interview to test the ability to understand standards, codes and quality documentation. This is conducted individually.

Part 2: Theoretical Written Examination covering both Welding technology and Inspection.

Part 3: Practical Examination is to test competence in undertaking a range of inspection tasks and will include both oral examination to assess comprehension and written reporting of test result.

The appropriate Diploma as Basic (IWI-B), Standard (IWI-S) and Comprehensive (IWE-C) respectively is awarded after successful finish of all the required modules.

The Certification does not form part of the Guideline and is normally the subject of an independent Certification Scheme.

6.0 Procedure for Enrolment, Registration & Training

The candidate may go through this website to get details of the course. In case the candidate is interested further, he/she may collect the course details & relevant application available at cost from the **IIW-ANB** office or from a conveniently located ATB in the process of being appointed. The duly filled in "Application Form" along with all enclosures etc. have to be submitted along with application fees as per chart below to ANB-India or through the Approved Training Body (ATB) for final approval by ANB-India.

ANB India controls admission to all IIW courses as per eligibility requirements of the "Access Conditions" and subsequent registration process, examination, testing and final award of International Welder Diploma and Certification on practical welding skill. After successful theoretical and practical examination, the Authorized National Body awards an 'International Inspector' Diploma to the candidate of the appropriate level.

7.0 Transition Route

Transition Route is open to suitably qualified and experienced candidates only as per "**Transition Criteria**", during initial window of 3 years..

and are required to apply through an "**Application Form for Transition**" subject to their passing a professional interview, without having to go through a formal training or examination. **This golden opportunity is open to existing professionals for a period of three years up-to December 2012.**

8. Fees & Charges Payable by the Candidates to ANB (In Rupees)

Sl. No.	Description	IWIP - C	IWIP - S	IWIP - B
1.	Information brochure	Free	Free	Free
2.	Course details & Application Form	250	250	250
3.	Application Fee	1,000.00	1,000.00	1,000.00
4.	Registration Fee (For All Routes)	1,000.00	1,000.00	1,000.00
5.	Assessment Professional Interview	6,000.00	6,000.00	6,000.00
6	Fees for Certification	12,000.00	10,000.00	7,000.00
7	Total	20,000.00	18,000.00	15,000.00

- The above Fees are payable by DD to 'The Indian Institute of Welding-ANB' for transition only and **subject to revision from time to time.**
- The candidates may contact ANB - India for the list of Approved Training Bodies (ATBs) in the process of being appointed
- Prospective candidates following Standard route are required to refer to ATB (When available) for details of course fees and other charges payable to ANB. Standard Route through lessons at ATB is yet to start.