



# IIW- India ANB Announces STANDARD AND ALTERNATIVE ROUTES



## To Qualify as International WELDING COORDINATION PERSONNEL

### IWE / IWT / IWS / IWP

The Indian Institute of Welding is a Member Society of the International Institute of Welding (IIW) which was created in 1948 and now has 59 members. IIW have developed and administers through its International Authorisation Board (IAB) a Unified International System for Education, Examination and Qualification of Welding Personnel, which is globally recognised and internationally accepted.

A Division of The Indian Institute of Welding has been accredited by IIW as its only 'Authorised Nominated Body' (ANB) in India (to be referred to as ANB-India) to operate its above international schemes and award International Diplomas to welding personnel at various levels.

#### 1 International Welding Co Ordination Personnel: Why required ?

**Quality Assurance System:** The reliability of quality standard in general in an organisation is guided by the provisions of ISO 9000 series of standards. *Within the ISO 9000 series of standards for quality systems, welding is to be treated as a "special process" since welds cannot be fully verified by subsequent inspection and testing of the product to ensure that the required quality standards have been met.* **Quality cannot be inspected into a product; it has to be built into it.** Even the most extensive and sophisticated non-destructive testing does not improve the quality of welds. For welded construction to be effective and free from serious problem during in production and in service, it is necessary to provide controls from the design phase, through material selection, into process used for fabrication and subsequent inspection. Supervision at various levels needs to be implemented to ensure that the specified quality is maintained. **The manufacturing sectors using welding have to critically address three distinct areas with specific requirements;**

**1.1 Manufacturing Organisation:** covers all Welding Workshops or sites under same technical and quality management. With introduction of strict quality reliability standard, the wider introduction of **ISO 3834** - "Quality Requirement for Welding-Fusion" welding of metallic materials (Equivalent to EN729) will become mandatory due to demand of quality sensitive customers especially from 42 IIW member countries who have already accepted recommendation of International Institute of Welding to implement ISO 3834 in stages over a period of time.

- Welded products are differently treated according to the specific needs of the welding manufacturing process.
- Manufacturers are guided to satisfy regional and international product standards requirements through implementation of ISO 3834.
- The specific areas of competence (for personnel & companies) are explicitly encompassed and registered in the schedule.
- Manufacturers get visibility through the Register ([www.iiw-iis.org](http://www.iiw-iis.org)) of certified companies.

**1.2 Welding coordination personnel:** The Standard 'ISO: 3834-Fusion Welding of metallic material for Welding' is applicable in any manufacturing unit using welding and allied processes in a workshop as a quality assurance system. The quality system certification as per ISO 3834-2 & 3 clause no 7.3 require involvement of International Welding Coordination Personnel as also specifically mentioned in ISO 3834-5 (Annexure A) and with the competency complying to ISO: 14731 standard.

Annexure A of the above standards clearly mentions IWE, IWT and IWS of International Institute of Welding as the preferred qualification to comply with the requirement for the standard and to demonstrate their competence to be Welding Co-ordination personnel.

**1.3 Welding Inspection:** Examining, Testing and measuring of welding related matters form part of the whole system and is covered by **ISO 9712 / SNT – TC – 1A / IS: 13805** and **EN 12062**.

The activity is essential part of welding coordination as per ISO 14731 and IWIP qualification offered by IIW-India ANB fulfils this requirement

## 2. Guideline

**Latest version of the Guideline IAB-252 for Personnel with Qualification for Welding Coordination** for the International education, training, examination and qualification has been prepared by the International Authorisation Board (IAB) of the International Institute of Welding (IIW). The guideline covers the minimum requirements for education and training in terms of objectives, expected results and the teaching hours to be devoted to achieving them.

Students after qualifying may need to obtain additional knowledge & skill specific to the industry and his/her job function for attaining required competency.

## 3. Benefits

### 3.1 Industry Advantage:

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

### 3.2 Career for Welding Professionals:

Welding is a key technology and competency required for the fabrication and construction industries and requires qualified persons at various levels of skill and knowledge. The international Diplomas for welding coordination within the scope of ANB-India start from International Welding Practitioner and up-to International Welding Engineer as outlined below and offer opportunity for upward career progression. There is enormous job opportunity scope to obtain appointment at all levels for IIW Diploma holders starting from the ground level welder to highest engineer.

- **(IWE): International Welding Engineer** is the most knowledgeable in the profession to guide and advise for resolution of technical issues relating to actual welding, process & procedure, inspection, design of welding and fabrication technique demonstrating innovation that is required to solve complex and unpredictable problems under Welding Technology taking responsibility for decision making for managing a project. IWE will be able to manage professional development of individuals and groups.
- **(IWT): International Welding Technologist** should have an overall knowledge on the field of welding and shall have competence/skills at a level that is required to solve application problems & manage in detail the welding applications and related professional activities in a shop or Projects, taking responsibility for decision making and define the tasks of welding personnel and their development.
- **(IWS): International Welding Specialist** shall possess a specialised and factual knowledge on the field of welding engineering and competence and skill that is required to develop solutions to regular problems in welding. The IWS qualified person should be able to manage/supervise all welding applications taking responsibility for decision making for all common and standard work and related professional activities.
- **(IWP): International Welding Practitioner** should have basic knowledge on the field of welding engineering & also shall have matching competence/skill at a level required to solve basic and specific welding problems and supervise welding applications with responsibility of decision making in basic specific problems in a shop floor, guiding and supervising the welding personnel.

## 4 International Welding Coordinator: IWE, IWT, IWS, IWP (Curriculum)

The guideline IAB 252 (Latest version) covers the minimum requirement for education and training in terms of objectives, scope, expected results and the teaching hours to be devoted to achieving them. It is reviewed periodically by IIW-IAB to take into account changes to reflect "state of the art". Students having successfully completed this course of education and appropriate examinations will be expected to be capable of applying technology required in welding engineering as covered by the guideline.

It is to be noted that the overall structure of the syllabus for all levels is similar, but some topics are not covered in full depth or considered in all levels of qualification.

The depth to which a topic is dealt is indicated by the number of hours allocated to it in the guideline. This will be reflected in the scope and depth of the examination

(Figures against the subject heads are minimum lesson hours as per Guideline IAB-252r3-16)

| Modules of Theoretical Education and Fundamental practical skills |  | Teaching Hours |            |            |            |
|---|--|----------------|------------|------------|------------|
|   |  | IWE            | IWT        | IWS        | IWP        |
| 1   | Welding Process and Equipment - Mod 1                | 95             | 86         | 53         | 32         |
| 2   | Materials and their behaviour during welding – Mod 2 | 115            | 96         | 56         | 23         |
| 3   | Construction and Design – Mod 3                      | 62             | 44         | 24         | 6          |
| 4   | Fabrication, application engineering – Mod 4         | 116            | 83         | 56         | 29         |
| 5   | Theoretical Subtotal (Part 1)                        | 388            | 309        | 189        | 90         |
| 6   | Fundamental Practical skills (Part 2)                | 60             | 60         | 60         | 60         |
| <b>Recommended Minimum Total Lesson Hours</b>                     |  | <b>448</b>     | <b>369</b> | <b>249</b> | <b>150</b> |

## 5. International Welding Co-Ordination Personnel (Routes to Qualification)

- I. **Standard Route:** Involves study at an Approved Training Body (ATB) as per full syllabus and followed by ANB conducted examination as per IAB Guideline. This is the route offering the most comprehensive manner in which the syllabus could be covered to meet all the requirements of IAB guideline. These could be a University, Technical College or part of a corporate body with separate training setup suitably isolated from its business operation.
  - II. **Alternative Route:** Does not involve study at an ATB as per prior proved compliance to eligibility requirement for Alternative Route. However the candidates are to go through a rigorous check before being allowed to appear in the full examinations as above. This option is available for candidates fulfilling the Access qualification for the required level and having minimum 4 years relevant experience (less than required for Transition).
  - III. **Transition Route:** Existing professionals in a country doing similar nature of work having requisite qualification, knowledge and experience based on IAB approved qualification & experience criteria for an ANB, have an attractive option of acquiring the International Diploma of choice by the Transition Route.
- ✓ **Presently the options I & II are available to IWE & IWT candidates who fulfilled the eligibility criteria for IWCP on or before 3<sup>rd</sup> January 2011.** For details please enquire with ANB at [anb@iiwindia.com](mailto:anb@iiwindia.com)

## 6. Standard Route: Access Condition for Admission to ATB

**Standard Route:** Involves study at an Approved Training Body (ATB) as per full syllabus for IWE/IWT/IWS/IWP as applicable and followed by ANB conducted examination as per IAB Guideline. This is the route offering the most comprehensive manner in which the syllabus could be covered to meet all the requirements of IAB guideline. These could be a University, Technical College or part of a corporate body with separate training setup suitably isolated from its business operation.

For the current list of ATB the candidates are advised to refer to our Website <http://www.iiwindia.com> (Refer to ANB Contacts under 'International Qualifications' in the website.) or contact us directly.

|   | Diploma            | Access Condition for Admission to ATB   |
|---|--------------------|---|
| 1 | Engineer (IWE)     | <b>Option 1:</b> Degree in Engineering/AMIIW or equivalent professional qualification   |
| 2 | Technologist (IWT) | <b>Option 1:</b> Diploma in Engineering with minimum 3 years study after Secondary Education  |
| 3 | Specialist (IWS)   | <b>Option 1:</b> Professional Technician Certificate with minimum 2 years study after Secondary Education with 2 years' experience in welding or an IWP Diploma<br><b>Option 2:</b> Degree in physical Science (B Sc.)+ 5 Years' experience in welding. |
| 4 | Practitioner (IWP) | <b>Option 1:</b> Class X pass+ recognised welder training+ Valid welder approval as per ISO 9606/EN 287 for plate or ASME Sec IX G / International Plate Welder in any process + 2 Years' Experience as a Welder.                                       |

**For Fees & Charges Payable by the Candidates for Standard Route (IWE & IWT only) please directly contact the ATB**

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## 7. Alternative Route: IWE/ IWT / IWS / IWP

**Alternative Route:** The candidate must have educational qualification conforming to the Access Condition as required for the 'Standard Route' as described in 6 above for the appropriate level along with relevant knowledge, training and experience. They must have minimum 4 years' experience in Industry at the Welding Engineer/Welding Technologist/Welding Specialist/Welding Practitioner level. The Route involves no regular study of the full curriculum at an ATB.

- ✓ The intending Candidate is required to apply in a **Prescribed Application Form** which is a detailed evaluation checklist along with copies of his qualification and experience proofs to evaluate his knowledge and experience already acquired covering the various aspects of welding technology
- ✓ The Application is evaluated by independent Assessors to determine level of pre-existing knowledge as claimed (**Self-Assessment**) to exempt the candidate for attending lesson in an ATB and approves the Alternative Route.
- ✓ The candidate is now required to prepare and **submit a short project Report** in the Form of a Case study based on Fabrication, application engineering – (Module 4) on a topic in which he has been personally involved and has gained enough understanding of the subject.
- ✓ The Report is first subjected to **preliminary paper check** by an independent expert assessor.
- ✓ Once cleared by above he is required to make a **successful presentation the Project** to a team of Examiners. Along with verification of claimed pre-existing knowledge in the four Modules. When these conditions are fulfilled, the candidate will be allowed to appear for the final examination covering Module 1, 2, 3, 4 & Oral Examination to be conducted by ANB India based on the full IAB curriculum.
- Candidates are requested to visit our website [www.iiwindia.com](http://www.iiwindia.com) or write to us at [anb@iiwindia.com](mailto:anb@iiwindia.com) for details of Fees payable and applicable service tax etc. for qualifying through the Alternative Route and the award of Diploma to the successful candidates
- All Fees are to be paid by DD/At par cheque at Kolkata in favour of 'The Indian Institute of Welding-ANB'

## 8. International Welding Coordinator Examination

Candidates going through the Standard Route after attending prescribed lessons in an ATB are required to pass Examinations conducted by ATB at various stages of the course after attending the recommended lesson hours. The intermediate examinations are mandatory and are the responsibility of the ATB/Educational Institutions/University to ensure that those entering the next stage have acquired required level of knowledge.

**The final written and oral examination to assess student performance in all Modules, based on the approved curriculum and in accordance with the relevant IIW examination guideline and IAB rules is conducted by ANB-India.** This examination is mandatory for award of Diploma and is independent of any assessment procedure conducted by ATB. The Alternative Route Candidates are also required to appear in the same examination after being approved by the Assessment Board after acceptance of the Application and followed by the Project Report presentation/interview being approved.



### Registered Office

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