

# INTERNATIONAL WELDING CO-ORDINATION PERSONNEL

The diplomas for coordination personnel with increasing responsibility levels (**IAB-252-07**) are, International Welding Practitioner (IWP), International Welding Specialist (IWS), International Welding Technologist (IWT) and International Welding Engineer (IWE).

## 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 "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** (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:** All Personnel who have responsibilities in the manufacturing operation for welding and welding related activities and whose competence and knowledge has been demonstrated by training, education and relevant manufacturing experience are covered by **ISO14731**. *Welding coordination is considered as the responsibility of all manufacturing organisations using welding as a process and mandatory for those having ISO 3834 certification.*

In this context, the International Welding Diplomas of IWE, IWT, IWS & IWP are the preferred & recommended route for personnel responsible for welding supervision activities and to demonstrate their competence to be Welding Co-ordination personnel.

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

## 2. Guideline

The **guideline IAB-252-07** for the International education, training, examination and qualification of Personnel with responsibilities for Welding Co-Ordination 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 require obtaining additional knowledge & skill specific to the industry and his/her job function for attaining competence.*

### 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 scope to obtain overseas appointment at all levels for IIW Diploma holders starting from the ground level welder to highest engineer.

- **(IWP): International Welding Practitioner** is an experienced highly skilled welder in at least one process with approval qualification as per ISO 9606. He is able to read technical drawings and is well informed about production methods concerning welded products, including some training on visual and liquid penetration examination. He can supervise & instruct industrial workers and assist the responsible Welding Co-ordinator. He is suitable to hold the position of supervisor in a manufacturing industry or as an Instructor for welders in a training institute.
- **(IWS): International Welding Specialist** is required to have much greater in depth knowledge on various aspects of welding covering processes, material, weld failures & inspection, joint design & fabrication of welded structures and quality control apart from necessary welding skill, suitable for job function as shop floor inspector, senior supervisor, instructor, and Welding Co-ordination in a shop with limited variation in parameters on process, material, joint design etc.
- **(IWT): International Welding Technologist** are expected to have greater in depth technical knowledge and expertise to undertake work of the responsibility of weld design, selection of process & procedure for fabrication with safety and can take responsibility as Welding Co-ordinator in a manufacturing industry.
- **(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, quality control with inputs of "state of the art". He is able to take the position of Welding Co-ordinator with full responsibility in most industries with diverse requirements for welding and fabrication with assured safety.

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

The guideline 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 IAB Gr A 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 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)*

Modules of Theoretical Education and Fundamental practical skills		Teaching Hours			
		IWE	IWT	IWS	IWP
1	Welding Process and Equipment	93	76	45	22
2	Materials and their behaviour during welding	111	82	47	22
3	Construction and Design	64	40	22	8
4	Fabrication, application engineering	110	80	53	28
<b>Theoretical Sub total (Part 1)</b>		<b>378</b>	<b>278</b>	<b>167</b>	<b>80</b>
<b>Fundamental Practical skills (Part 2)</b>		<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>
<b>Total</b>		<b>438</b>	<b>338</b>	<b>227</b>	<b>140</b>

## 5. International Welding Co-Ordination Personnel (Access/Eligibility)

**Standard Route:** The entry to the International Welding Inspectors course at various levels could be by Standard Route. This requires attendance at IAB approved Training Courses designed to meet all the requirements of IAB guideline. This is the route offering the most comprehensive manner in which the syllabus could be covered. All theoretical learning inputs and practical training are imparted at **ANB-India approved "Approved Training Bodies" (ATB)** having all the required facilities for the courses being offered. These could be a University, Technical College or part of a corporate body with separate training setup suitably isolated from its business operation.

The route also allows limited amount of prior learning to be taken into account, for example during University, College courses or by approved distance learning.

The Alternative Route is open for highly qualified Candidates meeting the laid down criteria for qualifying through professional interview etc without attending ATB conducted courses.

## 6. International Welding Coordinator Examination

Candidates going through the Standard Route are required to pass Examinations conducted by ATB at various stages of the course. 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 examination to assess student performance, in accordance with the relevant IIW guideline and 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

## 7. Transition Route: IWE, IWT, IWS, IWP

Existing professionals in a country doing similar nature of work with requisite knowledge and experience have an attractive option of acquiring the International Diploma of choice by the Transition Route during a 3 year window which closes in December 2010. To avail of this eligible candidates have to register and undergo a 5 day refresher course conducted by ANB-India followed by an objective test and interview.

### 7.1 Transition Route Eligibility Qualification / Conditions

This is an opportunity for candidates, who are appropriately qualified and experienced, to obtain an IIW diploma without going through any training or detailed examinations conducted by ANB, as required by the normal 'Standard Route'. Based on their qualification, specific training in welding and courses undergone and work experience, candidates' who have acquired the knowledge level as per the relevant course syllabus and curriculum, may be able to obtain any one of the qualifications of the International Institute of Welding as per **Transition Criteria**.

## 8. Procedure for Enrolment, Registration for Transition Route

- It is recommended that all the candidates verify his/her eligibility for obtaining the diploma with his own qualification and experience against the minimum requirement for consideration by Transition arrangement as per **Transition Criteria**
- The applicant has to submit "**Application Form**" (may be downloaded from this site) with CV's for courses desired with all the documents and application fees.
- The Applications will be scrutinised by the Assessment Committee of ANB-India as to whether the application conforms to the transition criteria required for the relevant diplomas and option applied for.
- Once the application is accepted the candidate is informed and is then required to register using "**Registration Form**" with requisite registration fees. Candidates are allotted a registration number and.
- Candidates are informed of refresher course time and location and full schedule. They are required to remit the refresher course fees.
- The candidates will have to undergo a 5 day refresher course followed by test and interview to be conducted by ANB-India at various centres
- Successful Candidates will be awarded the International Diploma in respect of the course completed by them after payment of the required Diploma Fees.

### **8.1 Fees & Charges Payable by the Transition Candidates to ANB**

Sl. No.	Description	Fees for Transition Route (In Rupees)			
		IWE	IWT	IWS	IWP
1	Application Fee	1,000	1,000	1,000	1,000
2	Registration Fee	1,000	1,000	1,000	1,000
3	Fees for 5 day refresher course	10,000	10,000	10,000	10,000
4	Fees for Certification	16,000	15,000	9,000	9000
5	TOTAL FEES PAYABLE	28,000	27,000	21,000	21,000

- ✓ Early Bird Discount & Group Discount may be applicable. Please refer to '**Transition Fees**' in our website.
- ✓ All payments are to be made by Bankers Cheque/Draft in favour of to 'Indian Institute of Welding -ANB and payable at Kolkata
- ✓ All fees are subject to revision from time to time and the candidates are advised to verify this at the time of applying.
- ✓ 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.