

EFW Special Course Risk Management in Welding Fabrication



Minimum Requirements for the Education,
Examination and Qualification



EFW-640-07-SV01

MINIMUM REQUIREMENTS FOR THE EDUCATION, TRAINING,
EXAMINATION, AND QUALIFICATION OF PERSONNEL

SPECIAL COURSE FOR TRAINING AND QUALIFICATION
IN “RISK MANAGEMENT IN WEDLING FABRICATION”
(at Specialist level)

This is a reduced version; it is not the full Guideline

For more information regarding the EWF Qualification System,
the EWF-IAB/IIW Combined Secretariat or the National ANB
should be contacted
(see in the EWF and/or IIW sites the ANB contacts)

**GUIDELINE OF THE EUROPEAN FEDERATION FOR WELDING,
CUTTING AND JOINING - EWF**

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The use of this guideline is restricted to organisations approved by the Authorised National Body (ANB)

1. Introduction

This guideline for the European education and training on Risk Management in Welding Fabrication has been prepared, evaluated and formulated by the Working Group "Quality, Environment, Health and Safety" of the Technical Committee of EWF. It is designed to provide the education and training in Risk Management in the field of welding fabrication activities.

Section 1 of the guideline covers the minimum requirements for education and training, agreed upon by all national welding societies within the EWF in terms of objectives, keywords, expected results and recommended times devoted to them. It will be revised periodically by the Technical Committee to take into account any changes which may affect the "state of the art". Students having successfully completed this course of education will be expected to be capable of considering the risk related to welding fabrication activities and to consider appropriate investments in education, qualification and equipment in order to manage the relevant risk.

A subsequent section covers the examination and qualification.

The contents are given in the following structure:

Education	Teaching Hours
1. Fundamentals of welding technology and fabrication	121
2. Risk management in welding fabrication	132
Total	253

A teaching hour will contain at least 50 minutes of direct teaching time. It is not obligatory to follow exactly the order of the topics given in this guideline and choice in the arrangements of the syllabus is permitted. The depth to which each topic is dealt with is indicated by the recommended number of hours allocated to it in the guideline. This will be reflected in the scope and depth of the examination.

It is also allowed for students having already participated to IIW/EFW training courses in the field of welding co-ordination activities and/or welding Inspection activities and/or other training courses in the field of quality management to waive a corresponding part of the courses. This waiving shall be based on the guidance provided by part 3 of this document and on the approval of the ANB.

2. Access to the education

Participants should have a primary degree in an engineering discipline or its equivalent recognised by the national government and assessed by the ANB. In a separate document (Directory of Access Conditions) the definitions for every country are given in detail. The ones for the Engineer level apply to this guideline.

Applicants not fulfilling the access conditions may follow the course as guests, but entry to the EWF examination is not permitted.

3. Structure of the special course

The course is based on 2 Modules, each one covering differing aspects of risk management in welding fabrication.

The chart of diagram 1 shows the education routes.

Waiving of module 1 is possible if an “intermediate examination” is performed and passed (in order to access module 2) covering all the relevant items of module 1.

Waiving modules or sub-modules is also possible, subject to ANB evaluations, provided the following conditions are satisfied (see Table1).

- Participants having already achieved the International/European Welding Engineer and or Technologist Diploma can waive modules 1¹ and 2.1;
- Participants having already achieved the International/European Welding Inspector at the Comprehensive Level Diploma can waive module 1
- Participants having already followed a training course in the field of quality management according to ISO 9001), can waive the relevant part of module 2 (item 1.1);
- Participants having already followed a training course in the field of quality management in welding fabrication according to ISO 3834, can waive the relevant part of module 2 (item 1.2);
- Participants having already followed a training course in the field of environmental management in welding fabrication according to EWF EMS, can waive the relevant part of module 2 (item 1.3);
- Participants having already followed a training course in the field of health and safety management in welding fabrication according to EWF SMS, can waive the relevant part of module 2 (item 1.4).

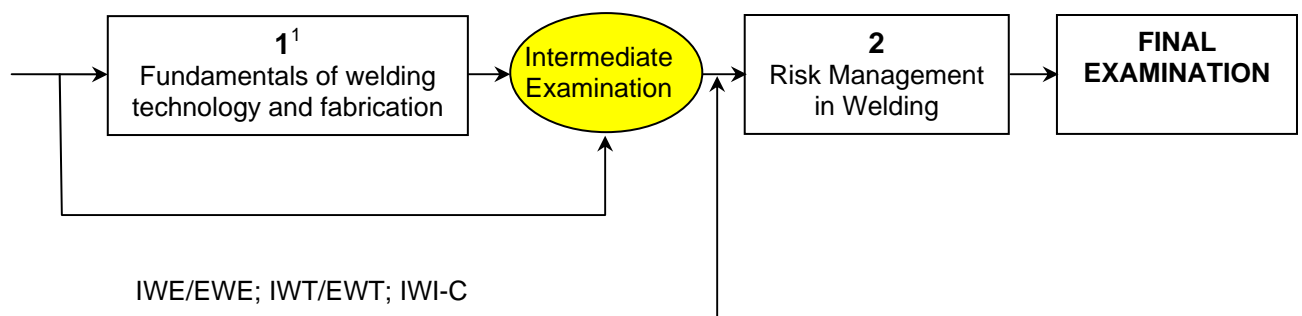


Diagram 1: Routes to access the final examination

¹ Module 1 is equivalent to the guideline for the education and training of International Welding Inspectors, Comprehensive level.

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Education or Qualification	Waiving		
	Hours of teaching	Module	Sub-Module
IWE/EWE and IWT/EWT Diploma	129	1	Complete
		2	2.1
IWI-C Diploma	121	1	Complete
Quality Management (ISO 9001) *	16	2	1.1
Quality Management in welding fabrication (ISO 3834) *	16	2	1.2
Environmental Management in welding fabrication (EFW EMS) *	8	2	1.3
Health and Safety Management in welding fabrication (EFW SMS) *	8	2	1.4

* to be approved by the ANB

Table 1 – Waiving of modules

Maximum possible waiving is 177 hours of teaching.

Section I: Minimum Requirements for the Education

Module 1²: Fundamentals of welding technology and fabrication **121h**

The minimum requirements for the education for these modules are those reported in the Guideline IAB-041 / EWF 450 “Minimum Requirements for the Education and Training of International Welding Inspection Personnel” as relates to the Theoretical Education, Welding Technology Module, for Comprehensive Level (IWI-C).

Module 2: Risk management in welding fabrication **132h**

2.1 Management of welding fabrication **48**

2.1.1 Quality management system according to ISO 9001 16

2.1.2 Welding fabrication management according to ISO 3834 16

2.1.3 The environmental management of welding fabrication activities 8

2.1.4 The health and safety management of welding fabrication activities 8

2.2 Risk management **84**

2.2.1 Technological innovation and perspectives 8

2.2.2 Economics 8

2.2.3 Legislative and normative context 8

2.2.4 Application of European directives in welded product fabrication: 8

2.2.5 Legal and insurance aspects 16

2.2.6 Company organisation 8

2.2.7 Management Control 4

2.2.8 Fundamentals of risk management 4

2.2.9 Risk management with reference to contractual requirements 8

2.2.10 Risk management with reference to technical statutory regulations 8

2.2.11 Insurance covering 2

2.2.12 Case studies 2

² The total amount of hours is indicative; refer to doc. IAB-041 / EWF 450 – Comprehensive Level - WT III

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