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Relating International qualifications to the EQF – the Welding case
RAINBOW November 2018

CRITERIA TO RELATE INTERNATIONAL SECTORAL QUALIFICATIONS TO THE EQF

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INDEX

1. FOREWORD	3
2. REASONS FOR LINKING EWF QUALIFICATION SYSTEM TO THE EQF	4
3. POSSIBLE ACTIONS FOR DEVELOPING LINKAGES TO THE EQF	5
A HOW EWF COMPLY WITH PRE-CONDITIONS TO BE ELIGIBLE AS INTERNATIONAL QUALIFICATION	7
B HOW EWF COMPLY WITH INTERNATIONAL CRITERIA AND PROCEDURES FOR REFERENCING TO THE EQF	9
C HOW EWF COMPLY WITH THE CRITERIA FOR QUALITY ASSURANCE OF QUALIFICATIONS REFERENCED TO NQF'S AND EQF	10
5. EWF RECOMMENDATIONS FOR IMPLEMENTATION	15
6. FINAL CONSIDERATIONS	16
8. REFERENCES	18
9. ANNEX	19



1. FOREWORD

The present document intends to contribute for the better understanding about International Sectoral Qualifications (ISQ) and its alignment with the National (NQF) and European Qualifications Framework (EQF).

The EWF (European Welding Federation) harmonised Training and Qualifications System, including its Quality Assurance System is presented as an example for the above-mentioned exercise.

The relational supporting the development of this document focus on three main aspects:

- Pre-conditions for Qualifications to be eligible as International Qualifications
- International criteria and procedures for referencing and levelling to the EQF
- Criteria for quality assurance of qualifications referenced to NQFs and EQF

The establishment of criteria for the referencing process of International Qualifications to the EQF is a very complex task, and the latest recommendations deriving from the Council Recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning clearly states that all references to EQF should be settled through a direct link with NQFs, meaning that the referencing process to EQF shall be done indirectly.

Based on a wide discussion and validation with all relevant stakeholders and decision makers from the industry and education and training fields at national and European levels, this document presents the results achieved during RAINBOW project.



2. REASONS FOR LINKING EWF QUALIFICATION SYSTEM TO THE EQF

The EWF Training, Qualification and Certification System is a harmonised scheme for the education, training and examination of personnel involved in welding, joining and related technologies, used in 30 European countries and recognised worldwide as international qualification system.

The need from industry to have international qualifications, was the starting point for the development of Guidelines for the higher level (International Welding Engineer Qualification) in 1992. Since then, more guidelines have been developed to encompass all professional levels of welding.

The EWF System assures harmonised knowledge, skills and competence for any holder of a diploma in any region of the world, and comprises Education, Examination and Qualification Guidelines for different professional levels.

EWF qualifications are fully accepted by employers and are much in demand and used in the labour market in all industrialised countries. Hence, the EWF system created a basis for trust in the levels and content of its qualifications, having more than 250 000 qualification diplomas awarded and being the basis for the free circulation of holders in and outside Europe.

The EWF Training and Qualification system success is supported by a robust and transparent quality system, which is developed, implemented and recognised by the complete chain of individuals and organizations involved, from training institutions, national certification bodies, companies, trainers and trainees.

The major reasons for applying into the EWF system European Policies and Tools, including the EQF, is aligned with the strategy of continuous improvement and adjustment of the guidelines to new learning methods, in order to guarantee the relevance and competitiveness of the system.

For a well-established international qualification, such as EWF Qualification System, it would be important to have a common understanding and agreement between National Qualification Agencies regarding the integration procedures when referencing international qualifications at national level. Since, this agreement on the criteria for the referencing process would facilitate the uptake and recognition of the technical qualifications to build up a combined “puzzle model” of technical and national requirements.

EWF EXPERIENCE IN REFERENCING TO THE EQF

The linkage of the EWF qualifications to the EQF started in 2013 with the mapping of the IIW*/EWF Harmonised Training and Qualification System and its comparison to the EQF levels. This first attempts were a self-declared referencing process to the EQF, since no common criteria neither validation process were in place to guarantee a transparent or correct alignment.

Currently, the link with the EQF is being undertaken using learning outcomes principles together with the establishment of a validation process in which EWF working groups, external experts and National Authorities are being involved in. In addition, the EWF quality assurance system, is being fully described in order to support the definition of possible quality criteria and procedures for the design and awarding of international Qualifications.

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3. POSSIBLE ACTIONS FOR DEVELOPING LINKAGES TO THE EQF

The European Commission “Study on International Sectoral Qualifications, Frameworks and Systems” (2016) is a key document for the clarification of the nature of international sectoral qualifications and for the understanding of the existing possibilities for establishing linkages with the EQF. In this context, two possible actions for a direct linkage are given, namely:

- To set pre-conditions for qualifications to be eligible as international qualifications
- To set International criteria and procedures for referencing and levelling to the EQF

However, the latest Council Recommendation on the EQF for lifelong learning (2017), gives a step back on this direction, by introducing the need to make a direct linkage to NQFs, being the link to EQF made indirectly and through NQFs levels assignment.

Nevertheless, Annex IV of the Recommendation presents the revision on principles for quality assurance to be applied to qualifications wishing to link to the EQF, namely Vocational education and training, higher education, non-formal and informal learning in the private sector or international qualifications. The proposed criteria are compatible with the European Standards and Guidelines (ESG) for Quality Assurance in the Higher Education Area and with European Quality Assurance in VET (EQAVET).

Figure 1. enables an overview about the possible actions needed for developing linkages of international Qualifications to both NQFs and EQF and the quality Assurance Criteria for Qualifications referenced to the EQF. This overview demonstrates how the EWF Qualification system relates and complies with the identified aspects.



INDIRECT LINK						
DIRECT LINK						
ISQ		NQF				
EQF		EQF				
A – Pre-conditions for Qualifications to be eligible as IQ	B – International Criteria and Procedures for Referencing	C1 – Criteria for Quality Assurance of Qualifications referenced to NQFs	C2 – Criteria for Quality Assurance of Qualifications referenced to EQF			
<p><i>Source: Study on International Sectoral Qualifications and Frameworks and systems (2016), European Commission</i></p>		<p><i>Source: Council Recommendation of the European Qualifications Framework for Lifelong Learning (2017), European Commission</i></p>				
<p>1. Approval of Training Guideline by EWF Working Group and EWF National Members (EWF has 30 member countries)</p> <p>2. Authorised Nominated Body (ANB) is responsible for awarding the EWF Qualification at national level</p> <p>3. Quality assurance requirements for implementation and awarding of EWF Qualification are defined by Rules and Operational procedures</p> <p>4. Criteria to become a ANB</p> <p>5. Create an external quality assurance body to verify the compliance with the above mentioned conditions</p>	<p>1. Approval of Training Guideline by EWF Working Group and EWF National Members (EWF has 30 member countries)</p> <p>2. Authorised Nominated Body (ANB) is responsible for awarding the EWF Qualification at national level</p> <p>3. Quality assurance requirements for implementation and awarding of EWF Qualification are defined by Rules and Operational procedures</p> <p>4. Criteria to become a ANB: 4a. To be appointed by EWF national member 4b. Compliance with the EWF quality assurance system, to be authorised to issue the EWF qualification diplomas 4c. EWF qualification system is developed, implemented by 30 EWF national members (3 for each country) 4d. EWF qualification system is recognised by the Industrial manufactures and service companies in Europe and internationally in the field of welding technology</p> <p>5. Independent assessors verify the compliance with EWF operational system, rules and operational procedures (audit)</p>	<p>1. Design criteria to guarantee a clear link between the qualifications and the EQF levels;</p> <p>2. Common European format for the description of LOS</p> <p>3. Quality assurance procedures from the design to the awarding of a qualification</p> <p>4. Create a EU portal as a database for recognised international awarding bodies and qualifications officially assigned to the EQF</p>	<p>1. EWF working groups methodology for writing technical LOs is defined in terms of knowledge, skills, autonomy and responsibility for each EQF level 1a. Technical LOs are used to define Qualification Profile and Training Program 1b. LOs reviewed and validated by EWF and European Experts, External organisations (industry and national qualification authorities)</p> <p>2. EWF LOs methodology has been developed in accordance with Cedefop guidelines and now after a first trial is going to be repeated in all EWF training guidelines</p> <p>3. Quality assurance procedures for the design and awarding of EWF Qualifications: 3a. Harmonised methodology for the development of Guidelines and its approval 3b. Methods and rules for the approval of ANBs (responsible for: approval and supervision of training centers, qualification evaluation, development and implementation and awarding of diplomas) 3c. Harmonised EWF Qualification Guidelines: 3c1. Access conditions requirements harmonised among the EWF national members 3c2. Requirements for training attendance 3c3. Requirements for trainers 3c4. Rules for evaluation 3c5. Part/full evaluation according to EWF harmonised evaluation system 4. EWF public website has a database for ANBs and qualifications assigned, including information on quality assurance system</p>	<p>A. Qualifications described through learning outcomes - focus on competence</p> <p>B. Being an INTERNATIONAL QUALIFICATION embedding modular approaches and alternative pathways</p> <p>C. Engagement of all stakeholders in all stages (VET, NQA, Sectorial councils)</p> <p>D. Quality assurance procedures from the Qualifications design to diploma awarding</p> <p>E. Procedures for continuous improvement/update of Qualifications</p> <p>F. Quality of examinations</p> <p>G. Quality of training</p> <p>H. Quality control for the organization conducting the examination</p> <p>I. Ownership of the Qualification</p> <p>J. Quality of the organization that provides examination</p> <p>K. Relevance for the labour market</p>	<p>A. Harmonised methodology for the development of EWF Guidelines, having included LOs (Topic 1, 1b, 3a, 3c of international criteria and procedures for referencing)</p> <p>B. Harmonised methodology for the development of EWF Guidelines, having included LOs (Topic 1, 1b, 3a, 3c4, 3c5 of international criteria and procedures for referencing)</p> <p>C. Stakeholders, namely industries and training providers are represented by EWF members in all stages of the process</p> <p>D. Internal (self-assessment) and external audits to the Training Centres and ANBs, according to the EWF quality assurance system</p> <p>E. Procedures for continuous improvement include: the revision of Guideline validity every 3 years, revision of the question performance used on the harmonised evaluation is done every year and auditing activities. All training program have a student survey inquiry and this information is also reviewed.</p> <p>F. EWF has a harmonized examination and specific procedures to guarantee the depth and scope of examination is adequate to the defined Learning Outcomes</p> <p>H to K. Quality assurance procedures for the design and awarding of EWF Qualifications: 3a. Harmonised methodology for the development of Guidelines and its approval 3b. Methods and rules for the approval of ANBs (responsible for: approval and supervision of training centres, qualification evaluation, development and implementation and awarding of diplomas) 3c. Harmonised EWF Qualification Guidelines: 3c1. Access conditions requirements harmonised among the EWF national members 3c2. Requirements for training attendance 3c3. Requirements for trainers 3c4. Rules for evaluation 3c5. Part/full evaluation according to EWF harmonised evaluation system</p> <p>L. EWF conducts annual consultations/surveys directly addressing the labour market to assure that its qualifications are in line with the current skills needs and anticipate future needs.</p>	<p>1. Harmonised methodology for the development of EWF Guidelines, having included LOs (Topic 1, 1b, 3a, 3c of international criteria and procedures for referencing)</p> <p>2. Harmonised methodology for the development of EWF Guidelines, having included LOs (Topic 1, 1b, 3a, 3c4, 3c5 of international criteria and procedures for referencing)</p> <p>3. Procedures for continuous improvement include: the revision of Guideline validity every 3 years, revision of the question performance used on the harmonised evaluation is done every year and auditing activities. All training program have a student survey inquiry and this information is also reviewed.</p> <p>4. Stakeholders, namely industries and training providers are represented by EWF members in all stages of the process</p> <p>5. Internal (self-assessment) and external audits to the Training Centres and ANBs, according to the EWF quality assurance system</p> <p>6. Quality Assurance is an integral part of the ANB internal management. Sub-contracting of the principal tasks 3b is prohibited</p> <p>7. EWF Qualifications are based on training Guidelines setting the minimum requirements for training, including clear standards for training attendance, trainers and examination (Topic 3 of international criteria and procedures for referencing)</p> <p>8. Appropriate resources administrating the system, including Technical Committees, Working groups, Assessors team; ANB and Training Center</p> <p>9. Multilevel, systematic and cyclical evaluation</p> <p>10. Topic 4 of criteria and procedures for referencing</p>

Figure 1 - Overview on actions needed for linkage of ISQ to NQF and EQF



DETAILED DESCRIPTION OF THE TABLE

A) HOW EWF COMPLY WITH PRE-CONDITIONS TO BE ELIGIBLE AS INTERNATIONAL QUALIFICATION

1. Approval of Training Guideline by EWF Working Group and EWF National Members

In the EWF Qualification system, agreement on the definition of International Qualifications is set through the approval of training Guidelines. The EWF qualifications are developed by Working Groups that have representatives from the 30 EWF national members, and the members are the National Welding Associations/Societies/Institutes in each country, mostly industries memberships organisations, with a great link to the National industry and services. When a training guideline is finished by the Working Group the approval is made by the EWF national members.

2. Authorised Nominated Body is responsible for awarding the EWF Qualification at national level

According to the EWF rules and requirements, EWF authorises one national organisation for awarding a given specific EWF qualifications, which is the Authorised Nominated Body (ANB). The ANB in each country is responsible for issuing the EWF qualification diploma's, to perform the applicant's evaluation/examination and to approve and supervise the activities of the Authorised Training Bodies (ATBs).

3. Quality assurance procedures for implementation and awarding of EWF Qualifications

According to the EWF operational system, that has been approved by all EWF national members, it was defined and approved by the EWF members a set of documents that comprise rules and operational procedures defining the quality assurance requirements for the implementation of the EWF Qualification system, that ANBs and ATBs must comply to become authorised by EWF.

These **rules and operational procedures** have as a base the ISO 17024 (*Conformity assessment -- General requirements for bodies operating certification of persons*) and at the present it is under study also the link to the ISO/DIS 21001 (*Educational organizations -- Management systems for educational organizations -- Requirements with guidance for use*).

Although the EWF **rules doc EWF-416** and the **EWP procedure EWF-OP-00** are available as an annex for EC consultation (the documents should be kept as confidential), here is a short summary of these documents:

- **EWF Rules Documents (EWF- 416)**

The "Rules for the implementation of European Federation for Welding, Joining and Cutting (EWF) Guidelines for the education, examination, qualification and certification of welding personnel", establish the mechanism by which the EWF Education, Training and Certification Guidelines are implemented, such that the requirements are applied uniformly in every EWF member country, and in particular in every European Union member country, with no geographic restriction. The rules are updated and reissued every three years and there is an obligation of all ANBs to implement the changes within one year of the date of issue.

- **Operational Procedures (EWP – OP - 00)**

EWF has in the total 22 procedures. The President of EWF is responsible for the implementation of all requirements identified in the Operating Procedure, while the EWF Secretariat is responsible for controlling the Operating Procedures in accordance with this



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procedure. All ANBs, Officers, Delegates, Observers, Lead and Peer Assessors of EWF have to comply with the Operating Procedures.

Figure 2 show the most used OP:

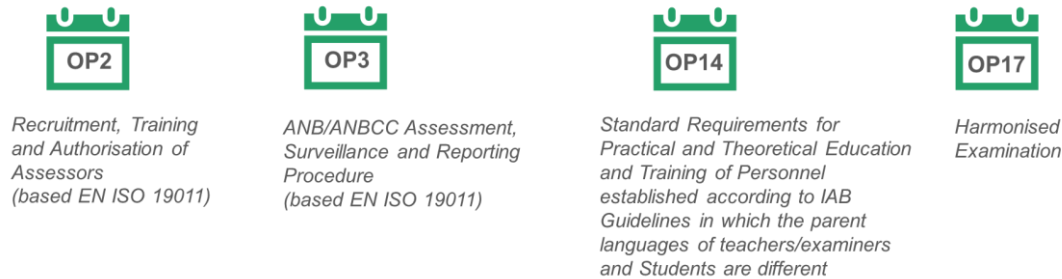


Figure 2 - Example of EWF Operational Procedures

4. In the EWF system the criteria to be considered as international awarding bodies (ANB) are the following:

The EWF authorises one national organisation for a given scope, that has been appointed by the EWF member in the country. This national organisation has to comply with the EWF quality assurance system, namely giving by the EWF operational system, rules and operational procedures, see answer above.

The EWF System and the EWF qualification diploma's are at the present recognised among European and International companies as a way to obtain a formal qualification recognition in the field of welding technology.

5. Independent assessors verify the compliance with EWF operational system, rules and operational procedure

According to the EWF operational system, rules and operational procedures the authorisation for an ANB (the organisation responsible to issue the EWF qualification Diploma's, and approval of the ATBs), can only be done by Assessors that are independent of the assessed organisations.

The assessors' recommendations after a certain audit must be approved by the EWF national members.

EWF quality assurance system, has specific tools for monitoring the Assessors activities and also it is always evaluated the impartiality and conflict of interests when the assessors team are appointed for a certain audit.



B| HOW EWF COMPLY WITH INTERNATIONAL CRITERIA AND PROCEDURES FOR REFERENCING TO THE EQF

1. The criteria to guarantee a clear link between the EWF qualifications and the EQF levels;

The EWF qualifications include an item for each training topic, listing the “Expected Results”. This list is used by the 30 countries in the system as a basis for the training sessions and for the assessments. The EWF members have agreed to revise these “Expected Results” in the context of the EU tools being proposed for harmonisation of qualifications in Europe.

As such, EWF working groups have developed a methodology to update all guidelines with the aim of ensuring that EWF qualifications are according and complying with EQF. The full methodology is addressed in the Result 2 (Guideline with EWF methodology for writing the learning outcomes) and can be summarised in the following steps:

1. EWF working groups have defined technical LOs in terms of knowledge, skills, autonomy and responsibility for each proficiency level;
 - 1a. Technical LOs are used to define Qualification Profile and Training Program
 - 1b. LOs were reviewed and validated by EWF and European Experts, External organisations (industry and national qualification authorities)

2. Common European format for the description of LOs;

EWF working groups have agreed on a methodology for the LOs development, that at the present has been applied to the guidelines EWF-IAB-252 and EWF-IAB-089 (refer to Guideline with EWF methodology for writing the learning outcomes) and other guidelines are now under revision with the same goal. The methodology has followed the CEDEFOP guidance documents regarding the development of LOs.

3. EWF quality assurance procedures from the design to the awarding of the qualification;

As mentioned previously, for the development of qualifications and certification system, EWF has:

- One technical committee dealing with development of training guidelines and the quality assurance rules among other matters. This is implemented through regional meetings that take place with the members from the different regions;
- Several working groups: some are dedicated to the development and updating of qualifications guidelines and other dedicated to the development and updating of guidelines’ rules and operational procedures;
- The involvement of external experts, as each member has its own network and external consultation and feedback is granted; as some working groups are led by external persons acknowledged in a given scope.
- Surveys are developed in order to consult membership and industry’s needs;

The EWF quality assurance procedures from the design to the awarding is composed by the following steps:



- Harmonised methodology for the development of qualification guidelines and approval
- Methods and rules for approval of the national organisations responsible for issuing the EWF diplomas and approval requirements of the ATBs (training schools)
- EWF has harmonised Guidelines for any qualification, containing:
 - Access conditions requirements harmonized among the EWF national members
 - Specific requirements for training attendance
 - Specific requirements for trainers
 - Set of rules for the evaluation (defining type of evaluation, duration of evaluation, content of the evaluation)
- Part/Full evaluation is performed according to the harmonized EWF evaluation system

4. EWF portal as database for recognised international awarding bodies and qualifications.

EWF has a website where the information about the EWF qualifications it is referred and presented to the public, including information about the quality assurance system.

C| HOW EWF COMPLY WITH THE CRITERIA FOR QUALITY ASSURANCE OF QUALIFICATIONS REFERENCED TO NQF'S AND EQF

Topic C has been split into C1 (purple table) and C2 (green table), corresponding respectively to the criteria for quality assurance when referencing to the NQF which was validated by EWF members and National Authorities during the European Conference on Sectoral Qualifications, and to the criteria for quality assurance when referencing to the EQF presented in the annex IV the Council Recommendation for the EQF.

Some of the identified criteria are common for both referencing to NQFs and EQF. In those cases, the rationale regarding EWF's Quality criteria assurance principles is applicable in both cases.

A. & 1. The EWF qualifications have a harmonised methodology for the development of the Training Guidelines, thus involving Technical Committees, Working groups and stakeholders (industrial companies).

The EWF Qualifications and training guidelines focus on technical LOs, defined in terms of knowledge, skills and autonomy and responsibility in accordance to the EQF, thus enabling the direct linkage to NQFs and are adjusted to the industry needs and requirements.

The LOs are reviewed and validated by EWF and European Experts, External organisations (industry and national qualification authorities).

B. & 2. Assessment in the EWF Qualification and certification system relies on transparent LOs (according to the developed methodology previously mentioned in the above topic) and is supported by a harmonised evaluation system with consistent examination rules.

Some of the standards for examinations are the following:



- The ANB is responsible by the full evaluation process;
- The examination board (composed by a chairman (ANB member and independent from the ATB(s)). The other members should be representatives from the industry, ATBs and from the Vocational and educational and training;
- The team of Examiners is appointed by the ANB and is composed by the minimum two persons;
- Examiners responsibilities are to: a) Organise the examination (written and practical); b) Set the examination questions (written and oral as applicable); c) Conduct and mark the written, practical and oral examinations; d) Decide on borderline results; e) Decide the result of the examination.
- Requirements to be examiners are: a) Be familiar with the EWF qualification scheme; b) Have a thorough knowledge of the relevant examination methods and examination documents; c) Have appropriate knowledge and competence in the field to be examined; d) Be fluent, both in writing and orally, in the language of examination; e) Be free from any interest so that they can make impartial and non-discriminatory judgements; f) Report to the Examination Board
- Location of examination is designated in advance by the ANB;
- Comfortable and quiet facilities are requirements for written and oral examinations;
- Admission to examinations leading to the award of an EWF Diploma are given in the appropriate EWF Guidelines; and are checked and validated by the ANB;
- Written examination is invigilated in an appropriate manner, in accordance with the EWF rules and operational procedures;
- Examination questions are: a) provided by trainers and other competent persons; b) come from a database/collection selected by the team of examiners; c) when harmonised examination questions are provided by EWF their use is mandatory;
- There is a specific time for examinations
- The ANB is responsible for issuing the evaluation results and communicate them to candidates no later than eight weeks after the examination.
- Failure in any individual subject of the examination shall require re-examination, a maximum of two re-examinations are allowed.

C. & 4. The EWF system has the involvement of relevant stakeholder in some of the stages of the processes.

Each EWF member has its own network and external consultation/experts providing support and feedback to the implemented of activities. Some working groups are led by external persons acknowledged in a given scope. For the development of new training courses /guidelines membership (Welding Institutes in 30 Countries) are consulted and surveys are developed in order to identify the industry's needs; Some industry representatives are actively involved in the examination board.

Continuous improvement: more stakeholders could be covered in all stages of the process, namely representatives from trainers, students, trainers centre, trade unions, professional associations or national authorities). For instance, an EWF Advisory group could be created with regular meeting to discuss all phases of the quality assurance system, including the referencing process to the EQF.



- Currently, EWF doesn't have contacts with official education accreditation bodies (but the ANBs keep a close contact with each national education body) due to the fact of education being a matter of each national context. Although EWF system is updated according to some European priorities and guidelines, such as, the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET). Considering that only one qualification is jointly delivered in Higher Education, the European Welding Engineer (EWE), any arrangements with European Association for Quality Assurance in Higher Education (ENQA) aren't mandatory since these are assured by the Universities using the EWE guideline.

D. & 5. The EWF system consistent evaluation methods combine Internal (self-assessment) and external audits to the Training Centres and ANBs, according to the EWF quality assurance system.

- ANB undertake periodic internal audits, at least annually, conducted by persons with no executive responsibility within the ANB. Such audits are designed to check if the Quality Management System continues to fulfil the requirements of the EWF and are properly implemented. The checklist given in EWF-OP-03 may be used as a guide during internal audits.
- Record of management reviews and internal audits are presented to the ANB Governing Board and maintained for a minimum of five years.
- External Audits to the ANBs are conducted by the EWF team of assessors and by National Accreditation Bodies. The external audits to the ATBs are performed by the ANBs.

E. & 3. Procedures for continuous improvement include: auditing activities to the ANBs and ATBs, the revision of Guideline content every 3 years, the revision of the questions used for performance assessment based on the harmonised evaluation procedure is done every year. All training programs have a student survey inquiry and this information is also reviewed.

ANBs are subjected to assessments, surveillance and reporting procedure (auditing), in order to ensure that it has in place the features, procedures, documentation and staff which allow its function in accordance with the Rules, the EWF Operating Procedures and the relevant EWF Guidelines.

ATB are approved for a specific scope of activities with respect to the qualification level, the team of lecturers; course materials, facilities and equipment, language, location, etc. Any significant change in one of those aspects implies re-assessment (EWF-OP 11). ATB must ensure the conformity with EWF syllabus and the adequate facilities have to be provided for practical work. The lectures must be supported by good quality visual aids, for example: slides, overheads, transparencies and/or videos. Each Guideline gives specific requirements for equipment and specimens with respect to specific courses. ATBs are assessed periodically by the responsible ANB, who has approved the ATB.

Regarding the requirements for teaching staff:

- Teaching ability - evidence of training in lecturing, public speaking or verbal communication.
- Competence in the subjects being taught.
- Knowledge and experience of current industrial practice in the subjects being taught.



- Practical skills in the demonstration of welding practice

The ATB maintains a reference library of key material available to students for background study. A full set of updated course notes are maintained in order to ensure consistency between courses.

The ANB approval for the ATB is valid for a maximum period of 5 years maintaining periodic surveillance at least every 2,5 years to ensure that the course standard is being maintained.

When a revised Guideline is formally approved by the EWF General Assembly, there is an obligation on all ANBs to implement the changes, within their scope of authorisation, 18 months of the date of adoption. However, when a course has been announced, the Guideline current at the time of the announcement is valid for a period of not exceeding two years from the date of the announcement.

Amendments to the Guidelines formally approved by the EWF General Assembly, and then are communicated to Approved Training Bodies (ATBs) by ANBs and implemented as soon as possible.

The formal approval of a new Guideline by the EWF General Assembly places an obligation on all ANBs to withdraw their own competing schemes within the scope of its authorisation, three years from the date of the approval.

F. to K. Quality assurance procedures for the design and awarding of EWF Qualifications:

- Harmonised methodology for the development of Guidelines and its approval
- Methods and rules for the approval of ANBs (responsible for: approval and supervision of training centres, qualification evaluation, development and implementation and awarding of diplomas)
- Harmonised EWF Qualification Guidelines:
 - Access conditions requirements harmonised among the EWF national members
 - Requirements for training attendance
 - Requirements for trainers
 - Rules for evaluation
 - Part/full evaluation according to EWF harmonised evaluation system

L. Relevance for the labour market

EWF conducts annual consultations/surveys directly addressing the labour market to assure that its qualifications are in line with the current skills needs and anticipate future needs. EWF's Technical Working groups are composed by relevant representatives of Companies and/or sectorial councils, therefore are also engaged on the development of EWFs Qualifications.

6. In the EWF system sub-contracted activities of the ANBs for the principal tasks is prohibited.

These principal tasks refer to: the approval and supervision of training centres, qualification evaluation, development and implementation and awarding of diplomas.

The ANB may, where appropriate, subcontract other minor parts of its EWF work, and the organisations to which this work is delegated is also subject to audit. All sub-contracting are fully detailed in the ANB's Quality Manual.



7. EWF Qualifications are based on training Guidelines setting the minimum requirements for training (e.g. number of theoretical lectures, practical exercises, laboratory training, etc), including clear standards for training attendance, trainers and examination.

EWF offers Special courses which have no access requirements and may be followed by any interested person- These does not lead to a qualification, but a record of achievement is issued.

The harmonised EWF training Guidelines include the following topics:

- Access conditions requirements harmonised among the EWF national members
- Requirements for training attendance
- Requirements for trainers
- Rules for evaluation
- Part/full evaluation according to EWF harmonised evaluation system

8. The EWF Quality assurance system is supported by appropriate resources administrating the system, including:

- Technical Committee (responsible for development of training guidelines and the quality assurance rules.);
- Working groups (some WG are responsible for the development and updating of qualifications guidelines and other WG are dedicated to the development and updating of guidelines' rule);
- Assessors team (responsible for conducting the auditing activities to the ANBs, ATB and peers);
- ANB (responsible for ensuring that the standards of implementation of the EWF education, examination and qualification systems are maintained);
- ATB responsible for delivering training in accordance with one or more EWF guidelines.
- EWF System Management is responsible for assuring the constant updating of the guidelines and rules and for controlling the Operating Procedures in accordance with this procedure. It also supplies all templates for diplomas, certificate and record of achievement

9. As mentioned in the previous mentioned item 3, the evaluation of the EWF system includes a systematic and cyclical evaluation by external monitoring bodies. At national level, ATB are audited by their ANB, and some ANBs are assessed by national accreditation bodies.

10. The EWF website includes he publication about ANBs and scope of qualifications assigned, including information on quality assurance system.

Continuous improvement: some improvements can by introduced in the EQF Quality Assurance system_by including the evaluation results from ANBs, as well as the list of ATB in each country. In the future, further details about the EQF level of each qualification could be provided, and whenever the case of reference to the National Qualifications Framework, the NQF level could be mentioned as well. The EWF qualification could also be registered in some European portal for ISQ linked to the EQF, using for this purpose a common format of electronic publication (Annex VI of the Council Recommendation on the European Qualifications Framework for lifelong learning, 2017).



5. EWF RECOMMENDATIONS FOR IMPLEMENTATION

EFW recommends two different approach for referencing International Sectoral Qualifications to the EQF through integration and or direct linkage with NQFs according to the level of maturity of the Qualifications:

- 1) For existing and mature Qualifications: the approach should be done by involving National authorities and improving the existing quality assurance mechanisms, in order to comply with a set of common criteria. The openness of Member States' in integrating Technical international sectoral qualifications in their national framework, could be done by one National Qualification Agency (NQA) to accept the ISQ and refer it to National level, and another NQA could be consulted to gain more consistency.
- 2) For new qualifications: quality assurance criteria could be used to establish a direct link between International Sectoral Qualifications to the NQFs, meaning an indirect link to EQF, which would be the same in all countries. National and European Authorities are also requested to validate this process, namely, to agree on common criteria and procedures for a direct link.

In both cases, the international qualifications should target technical qualifications and LOs, since it corresponds to the market needs for industrial mobility by presenting and validating a **combined “puzzle” model (fig.2)** for the integration of lower and higher levels of technical requirements, which are addressed in the EWF Qualifications, within national vocational education and training and higher education institutions qualifications, thus considering the different national requirements.

Another recommendation is that when it comes to designing Technical Qualifications/ Competence Units/modules, the inputs from industrial stakeholders from the different countries is required. This should be considered as **mandatory** when it comes to International Qualifications, since these industrial stakeholders are the ones with expertise in the process/technology, which will guarantee the alignment with industrial standards.

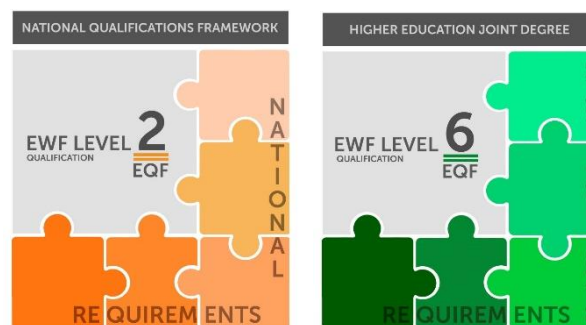


Figure 2 – Integration of Technical qualifications into National VET and HE Systems

Since EWF International Qualification system and Quality assurance system complies with the criteria to guarantee a clear link between the international qualifications and the EQF levels, it might be used to set the organisation pre-conditions and eligibility for the implementation process.



Practical recommendations about the possibility of transferring the results achieved with RAINBOW Project for other sectors are also provided in the “Guidance Document defining the methodology based on the EWF quality standards/rules”.

6. FINAL CONSIDERATIONS

From what has been exposed in the previous pages, it became clear that the EQF should not be considered as a merely “package” of levels to which Qualifications can compare to, instead other core aspects must be taken into account, namely the **learning outcomes and the quality assurance**.

The establishment of criteria for the referencing process of International Qualifications to the EQF is a very complex task, involving a set of pre-conditions, quality criteria and procedures, as well as the active participation of representatives from education and training and from the labour market, adding a consistent support from National and European authorities and decisions makers.

The engagement of National Authorities and establishing direct linkages to NQFs offers additional challenges due the National specifications in terms of implementation of National qualifications Frameworks and their reference to EQF.

An important conclusion deriving from Rainbow Project was that for well establish international qualifications, such as EWF Qualification System, with recognised training and Quality Assurance Systems in technical areas, a strategic approach is required when referencing their qualifications at national level.

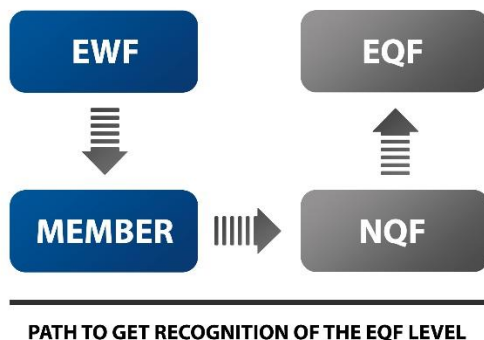


Figure 3 – Path to get Recognition of the EQF level for the EWF System

This strategic approach for EWF Qualifications involves the next steps:

- 1^o LOs completed and renewed for the EWF Qualifications /Guidelines
- 2^o EWF members to get in contact with NQA in their own countries
- 3^oNQAs agreeing in the same integration process procedures / to define procedures and get agreement about EWF Qualifications
- 4^o Ensuring commitment

Despite the long road ahead and the setback deriving from the Council Recommendation on the EQF for lifelong learning (2017), the direct linkage of International Sectoral Qualifications to the EQF is something worth trying for the benefits that it may entail for the recognition of professions in Europe and outside Europe, for the mobility of workers, for the greater transparency regarding the use of international qualifications and also for enhancing the credibility of EQF.



These activities are also foreseen and can be further encouraged through the EQF AG Peer Learning Activities (PLA) on the methodologies used for levelling international qualifications foreseen for 2018/19 by the EQF AG sub-group on International Sectoral Qualifications.

The mapping of existing procedures of (all) countries participating in the EQF that have national procedures for including international qualifications in their NQF and agreement on which (learning outcomes based) categories of international qualifications should be addressed for the purpose of inclusion in National Qualifications could lead to a possible outcome concerning the definition of minimum common quality requirements for international qualifications to be included in the NQFs providing further clarification regarding the risk of inconsistency deriving from referencing of the same international qualification by different countries assigning different corresponding levels to EQF.



8. REFERENCES

European Commission, (2016), ***Study on International Sectoral Qualifications and Frameworks and systems,***

<http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7937&furtherPubs=yes>

EFW (2016) ***Rules for the Implementation of EWF Guidelines for the Education, Examination, Qualification and Certification of Welding Personnel.*** Approved: November 2016

EFW (2017) Operational Procedures, EWF-OP – 00. Approved by EWF TC, Revision 2

Council Recommendation of the European Qualifications Framework for Lifelong learning (2017), European Commission

<https://publications.europa.eu/en/publication-detail/-/publication/cee970-518f-11e7-a5ca-01aa75ed71a1/language-en>

Activity Report - 43th European Framework Advisory Group, 11-12 December 2017, Brussels | International qualifications (fiche F – EQF)

<http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=37504&no=4>

EQF Advisory Group, 12-13 December 2017, Brussels | Note AG 43-5 - Note on International qualifications in the context of the EQF AG Work programme 2018-19

<http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=37506&no=6>



9. ANNEX

9.1 – EWF OP-00 List of Operational Procedures, 2017

9.2 - EWF Rules document, 416

9.3 - Glossary of EWF terms



9.3 - GLOSSARY OF EWF TERMS

DEFINITIONS

ANB: “Authorised Nominated Body” is an organisation that has been assessed and authorised by EWF in accordance with EWF rules and is responsible for ensuring that the standards of implementation of the EWF education, examination and qualification systems are maintained.

Appeal: A formal objection, by a person or organisation, to a decision made by the ANB or EWF such that the decision in question undergoes a formal review by the appropriate body.

ATB: “Approved Training Body” is an organisation that has been assessed and approved by an ANB in accordance with EWF rules for training organisations. By awarding ATB status, the ANB confirms that the ATB fulfils the requirements for delivering training in accordance with one or more EWF guidelines. It shall be an organisation independent from the ANB or clearly separated from it.

ATB Lead Assessor: A person elected by the ANB Governing Board, on the Chief Executive recommendation, who is responsible for leading an ATB audit team.

Certification: The procedure leading to a written testimony of an individual's competence demonstrated by examination and assessment of experience and subsequent surveillance to confirm that the competence has been retained.

Complaint: An expression of dissatisfaction, by a person or organisation, with some element of the ANB's or EWF performance. If the complaint is in relation to a decision made by the ANB or EWF, it would normally be treated as an appeal, see below.

Competence Unit: Same as training module, training unit, unit of learning outcomes, consisting of a coherent set of knowledge and skills, organized in learning outcomes, that can be assessed and validated. It can be part of a qualification or implemented individually.

Source: adapted based on CEDEFOP, Terminology of European education and training policy, 2nd Edition, 2014

Contact Hours: Measured in hours, are the minimum teaching hours for the Standard Route of EWF Qualifications. A contact hour shall contain at least 50 minutes of direct teaching time.

Council of the ANB: The body, which is legally responsible for ANB affairs. It could be, the 'General Director', the 'Board of Directors' or the 'General Assembly' of the organisation.

Cross-cutting Competence Unit: A competence unit whose learning outcomes are not directly linked with one job function since the knowledge and skills achieved will be mobilized in several job functions and activities.

Source: EWF Methodology for Design of Qualifications

Executive Committee: A body appointed by the Governing Board to manage the ANB activities on its behalf.

Governing Board: The body which is responsible for conducting the activities of the ANB as listed in 1.2 below.

EWF Lead Assessor: A person elected by the EWF Technical Committee, who is responsible for leading an ANB audit team.



EFW Lead Assessor Convener: A Lead Assessor approved by the EWF Technical Committee to coordinate the audit programs and appointments of assessment teams.

EFW DL Assessor: A person with experience in use of the Instructional System Design approach to curriculum development, Distance Learning and Quality Assurance, having the Peer Assessor status and appointed by the Chairman of the EWF Technical Committee.

EFW Peer Assessor: A person approved by the EWF Technical Committee to assist the Lead Assessor with a site visit.

EFW – European Welding Federation EWF-416r6-16

Rules for the Implementation of EWF Guidelines for the Education, Examination, Qualification and Certification of Welding Personnel Approved: November 2016 11 of 71

EFW Framework: Reference tool for describing EWF qualifications proficiency levels and alignment with National, European and International qualifications systems
Source: EWF Methodology for Design of Qualifications

EFW Qualification Systems: Harmonised scheme for education, training and examination in Metal Additive Manufacturing and Welding and related technologies. These systems include the definition of qualification policy, training design and implementation, institutional arrangements, funding, quality assurance and assessment and certification of learning outcomes.

Invigilator: A competent person who supervises examination candidates during written and practical examinations in accordance with rules for examinations. Invigilators must be independent from the persons being examined.

Functional Competence Unit: A competence unit whose learning outcomes are directly linked with at least one job function and in which the knowledge and skills achieved will be mobilized in specific job functions and related activities. **Source:** EWF Methodology for Design of Qualifications

Job Activity: A sub-function/ activity that is mandatory to undertake a job function. It has a regular occurrence within the professional activity.
Source: EWF Methodology for Design of Qualifications

Job Function: A main function inherent to the exercise of the professional activity
Source: EWF Methodology for Design of Qualifications

Qualification: Qualification covers different aspects:

- formal qualification: the formal outcome (certificate, diploma or title) of an assessment process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards and/or possesses the necessary competence to do a job in a specific area of work.

A qualification confers official recognition of the value of learning outcomes in the labour market and in education and training. a qualification can be a legal entitlement to practise a trade (oecd);

- Job requirements: knowledge, aptitudes and skills required to perform specific tasks attached to a particular work position (ILO).

Source: CEDEFOP, Terminology of European education and training policy, 2nd Edition, 2014

MS: The EWF Member Society according to the constitution of EWF.

Scope of Activities: Scope is a defined set of permissible activities for ATBs that are verified and authorised by an ANB (see EWF-OP 11).



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Scope of Operation: Scope is a defined set of permissible operations for ANBs that are verified and authorised by EWF Technical Committee (see EWF-OP 11).

Task: Simplest action undertaken within a job function or sub function/activity.
Source: indicates the origin of the information.

Workload: Calculated in hours, corresponds to an estimation of the time students typically need to complete all learning activities required to achieve the defined learning outcomes in formal learning environments. Includes the required contact hours of each Competence Unit, other seminars, assigned projects, practical/laboratory work, work placements (internships and on job training), plus all the individual study.
Source: adapted from ECTS Users' Guide, 2015.