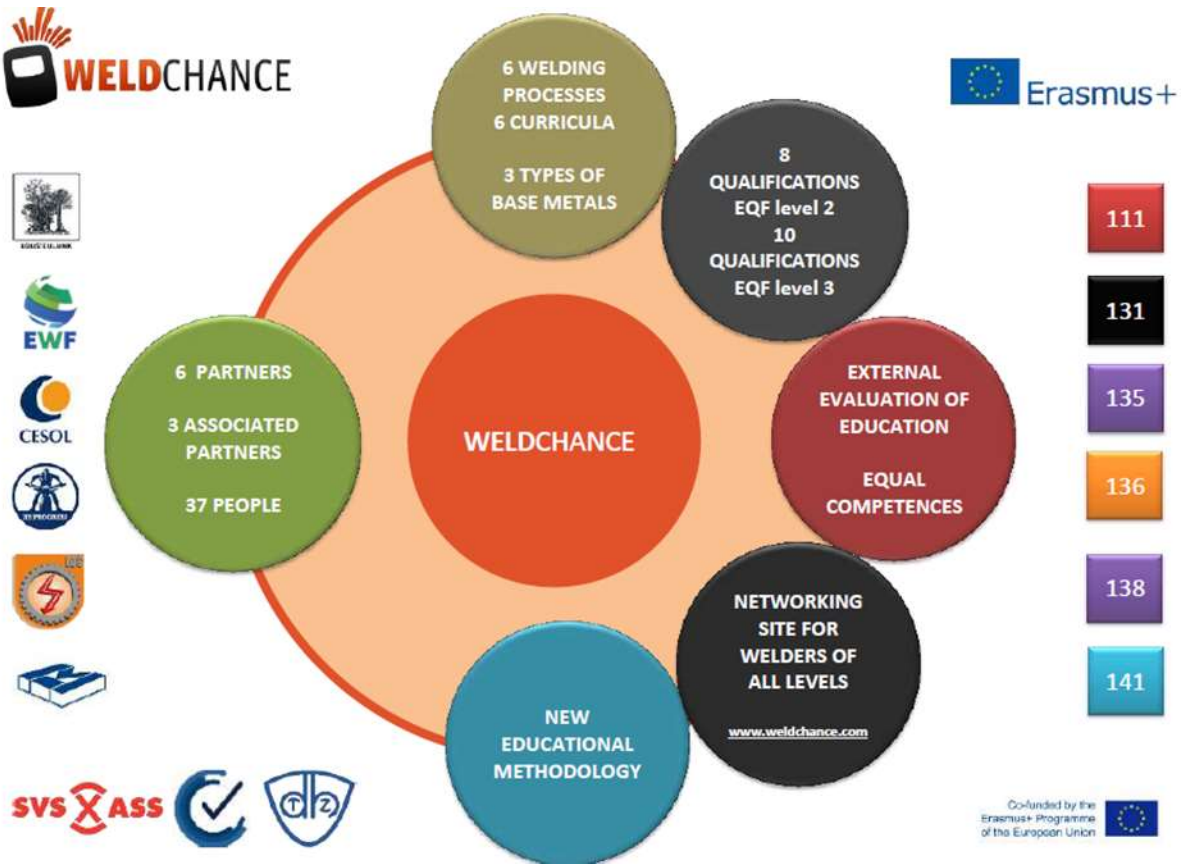
7

External evaluation of learning outcomes for Arc Welder 2 & 3

FRAMEWORK for external evaluation of learning outcomes acquired through formal, non-formal and informal education of welders In accordance with European framework curricula for Arc Welder 2 & 3



Pula – Brussels / Porto Salvo – Madrid – Basel - Genova – Zagreb – Slavonski Brod

2018.

External evaluation of learning outcomes for Arc Welder 2 & 3
FRAMEWORK for external evaluation of learning outcomes acquired through formal, non-formal and informal education of welders In accordance with European framework curricula for Arc Welder 2 & 3

For Učilište ULJANIK Ustanova za obrazovanje odraslih:
Director: Goran Pikot
Project Manager: Željko Habek

Development Team:
Natalija Gjeri Robić, Željko Habek, Franjo Javor, Maja Jukić, Edita Margeta, Mirta Szügyi, Robert Vidas, Zlatko Zadelj

Publisher:
Učilište ULJANIK Ustanova za obrazovanje odraslih
HR-52100 PULA, Flaciusova 1
Erasmus + KA2 – Partnership Project 2016-1-HR01-KA202-022187

Graphic design:
Željko Habek

Printing:
ULJANIK PIS, d.o.o.

Edition:
100 pieces

Pula. Brussels / Porto Salvo, Madrid, Basel, Genova, Zagreb, Slavonski Brod, August 2018.

Co-funded by the Erasmus+ Programme of the European Union

Content

1. Introduction: External evaluation of welders' knowledge and skills

The international qualification system based on the guidelines of the International Institute of Welding (IIW), that rests on the European qualifications developed by the European Federation for Welding, Joining and Cutting (EWF), have been accepted for years now in the welding sector. International and European qualifications are harmonized and implemented by ANBs (Authorized and Nominated Body) that have been authorized by IAB (International Authorization Board) and are out of jurisdiction of national public authorities. It is important to stress out that such qualifications have credibility and value at the international labor market. However, teaching curricula developed by national bodies do not have the same sensitivity and qualifications gained through such channels are mostly not recognized at the labor market, especially the international one. For this reason, it was necessary to create European curricula as a link between the national and international qualifications and for the purpose of directing the national programs towards international and general acceptance of welder qualifications at international labor market. The European curricula are going to pose as guidelines for public authorities to create curricula at national levels that will harmonize welder competences at European labor market.

In order for such qualifications to have credibility, it is necessary that they be independently evaluated at national levels, i.e. they need to be verified by an external independent institution. This is the only way to achieve credibility at international labor market.

It is important to stress out that external evaluation confirms competences gained through formal education and training, as well as non-formal and informal education and that this procedure completely differs from welder certification that is carried out throughout their professional life and work for the employers.

One of the goals in the scope of the Erasmus+ KA2 project WeldChance No. 2016-1-HR01-KA202-022187 is creation of innovative European curricula for arc welding processes. We are talking about curricula for occupations Arc Welder 2 and Arc Welder 3, which corresponds to the levels 2 and 3 of European Qualification Framework (EQF).

Several significant considerations for such goals are: harmonizing national and international curricula for welders and alignment of achieved competences in welder education at European level. Alignment of competences is a process where a whole range of demands need to be considered and satisfactory results found, taking into account that the model be applicable in different educational systems at the European level and for different types of education: formal, non-formal and informal education.

Application of innovative European curricula for arc welding processes includes:

- Harmonization of national curricula with European ones according to WeldChance model.
- Preparation of modular curricula structure according to WeldChance curricula architecture.
- Execution of curricula according to national criteria.
- Application of teaching methods according to Integrated interactive system for lifelong education of welders S-K-S (InteractivWeld) and adopted methodology: "Methodology of VWTS application in welder training, Training Manual“ (WeldChance).
- Monitoring and evaluation of participants during education using harmonized procedures taking into account national criteria harmonized with European/International demands based on the labor market (internal evaluation).
- Final external evaluation of knowledge and skills, as well as learning outcomes anticipated in curricula carried out by an external institution that had no part in immediate welder education.

Final evaluation (grade) needs to determine whether the welder possesses competences for the necessary level of Arc Welder that can be confirmed through external evaluation. Introduction of external evaluation of knowledge and skills, as well as learning outcomes anticipated in curricula is of extreme importance for assurance of objective, valid and reliable information on the level of participant's knowledge and skills. Standardization of welder competences, alignment of qualification framework and occupation title, both at European level and wider, is very important for their credibility and value at the labor market, for both employees and employers. Experience has shown that very often people with the same diploma/certificate of a completed program do not exhibit the same level of knowledge and skills anticipated for such level in international qualifications and are unable to find a position outside their environment. Assurance of a valid and reliable evaluation according to learning outcomes was highlighted as one of the principles for qualifications quality assurance that are an integral part of national qualification frameworks or systems that refer to the European Qualification Framework.[1] External evaluation as a standardized procedure of preparation and implementation of testing and grading, as well as exam analysis would be carried out for students/participants in formal education system, but also for those candidates who have not acquired a certain qualification/competences through formal education, but rather through informal/non-formal learning/education and/or work. According to European Qualification Framework, an individual can be acknowledged with recognition of learning outcomes in non-formal and informal environment according to relevant standards, and

[1] https://ec.europa.eu/ploteus/sites/eac-eqf/files/en.pdf, str. 25.

the process of knowledge and skills recognition among other includes formal evaluation of their experiences and certification of evaluation results for acquisition of partial or complete qualification.[2] What can be observed here is that a lot of workers, due to the nature of jobs that they perform, are trained for welding jobs at a corresponding level in a non-formal way (internal courses) or informal way while working. This primarily pertains to occupations complementary with welding such as: metalworkers, fitters and assemblers (heating, air-conditioning, plumbing and gas) as well as pipe-fitters.

This Framework describes procedures/guidelines for external evaluation of welder knowledge, skills and competences prescribed in European curricula. External evaluation includes testing using different evaluation methods such as a written test and testing of practical welding skills, integral part of which is an interview with the candidate. External evaluation at national level should be conducted by a corresponding national agency, best be it an institution already in charge of external evaluation of education or a similar one with such experience. The authorized agency carries out the external evaluation in cooperation with all relevant stakeholders involved in welder education or employment. The Framework specifies the levels of qualification externally evaluated according to European Qualification Framework and which candidates are eligible for application and testing. Knowledge and skills that are evaluated, as well as how they are evaluated are described under elements and methods of evaluation. Making of testing materials, scoring and grading are explained as well. The Framework also clarifies key institutions/stakeholders involved in external evaluation of welder knowledge and skills, as well as conditions for application depending on the type of education (formal, non-formal/informal), cost of evaluation and the process of acquisition of a diploma/certificate upon successful completion of exam.

[2] https://ec.europa.eu/ploteus/sites/eac-eqf/files/en.pdf, str. 20.

2. Levels of qualifications being externally evaluated

This Framework refers to external evaluation of knowledge, skills and competences of arc welders at levels 2 and 3 according to European Qualification Framework.

Level 2 pertains to vocational training within adult education system or two-year formal vocational education.

Level 3 pertains to vocational upskilling within adult education system or three-year formal vocational education.

Applicants eligible for external evaluation of knowledge, skills and competences for levels 2 and 3 according to EQF are also those who have acquired said knowledge, skills and competences in a non-formal and informal way. In other words, all those who possess knowledge, skills and competences necessary to work as a welder can join the accreditation process of previous learning.

In line with everything stated, eligible applicants are:

- Candidates who have completed training programs or vocational education for occupation welder
- Candidates who have acquired their welder competences through informal/non-formal learning/education and/or work, rather than formal education.

3. Evaluation elements and methods: what is being evaluated and how

The exams are created based on **curricula architecture** depending on the welding process, level of qualification, type of material and welding position. Knowledge, skills and competences as well as behavior/responsibility are tested.

Regardless of level of qualification, the exam consists of two parts:

- Theoretical and
- Practical part.

The theoretical part of the exam pertains to a written exam with multiple choice questions. These questions consist of the question basis (question/problem) and four stated answers, only one of these being correct. The questions can contain textual, pictorial or some other starting content if it is relevant for testing of a specific learning outcome. The achieved level of knowledge is tested in the testing areas / Modules for each Qualification. The exam can be taken through a network application or in a classical way (pen and paper).

Content and learning outcomes that will be tested in exam for **Arc Welder 2** are specified in subjects in Modules:

- M1 - Arc welding process
- M2 - Weldability of Ferritic Steels
- M3 - Weldability of Austenitic Stainless Steels
- M4 - Weldability of Aluminum and its alloys
- M5 - Welding application and quality
- M6 - Health and Safety
- M7 - Preparation for welding

Content and learning outcomes that will be tested in exam for **Arc Welder 3** for those candidates that have a certificate for Arc Welder 2 are specified in subjects in Modules:

- M7 - Preparation for welding
- M19 - Weldability: Cr-Mo steel, nickel steel, other stainless steels, cast irons (according to ISO/TR 15608 – Groups 5, 6, 7, 9, 10)
- M20 - Fabrication of welded structures (welding sequence)
- M21 - Flame and mechanical straightening
- M22 - Repairing of welds
- M23 – Introduction to mechanized, automatic and robotic welding

Content and learning outcomes that will be tested in exam for **Arc Welder 3** for those candidates that don’t have a certificate for Arc Welder 2 are specified in subjects in Modules for Arc Welder 2 (M1-7) and in Modules for Arc Welder 3 (M19-23).

The **practical part** of the exam consists of two parts:

- Welding of a test object according to the specific section of ISO 9606, defined in the curriculum.
- Interview with the candidate relating to the applied technology and welding technique (WPS, etc.) as well as behavior and responsibility in execution of assignment.

The exam methodology remains the same for each qualification level and chosen modules within. However, the technology and welding techniques change and with them the content of the exam itself.

Modules for practical training for steel and stainless steel (M8, M9, M10, M10+M11, M13, M14, M15 I M16) for **Arc Welder level 2** consists of two types of welded joints: fillet and plate. Practical training module for aluminum (M12) also consists of two types of welded joints: fillet and plate.

Modules for practical part (skills) for **Arc Welder level 2:**

- M8 - MMA Welding for Ferritic steels: Carbon and Low Alloy steel
- M9 - MMA Welding for Stainless steels
- M10 - MAG Welding for Ferritic steels: Carbon and Low Alloy steel
- M10+M11 - MAG Welding for Stainless steels
- M13 - FCAW Welding for Ferritic steels: Carbon and Low Alloy steel
- M13 + M14 - FCAW Welding for Stainless steels
- M15 - TIG Welding for Ferritic steels: Carbon and Low Alloy steel
- M15 + M16 - TIG Welding for Stainless steels

Evaluation criteria for practical part of examination for Arc Welder 2 are explained in each Module of the Skills part of the curriculum.

Practical training modules for steel and stainless steel (M8, M9, M10, M10+M11, M13, M14, M15 I M16) for **Arc Welder level 3** consists of fillet, plate and tube welds. Practical training module for aluminum (M17) also consists of fillet, plate and tube welds.

Modules for practical part (skills) for **Arc Welder level 3:**

- M8 - MMA Welding for Ferritic steels: Carbon and Low Alloy steel
- M9 - MMA Welding for Stainless steels
- M10 - MAG Welding for Ferritic steels: Carbon and Low Alloy steel
- M10+ M11 - MAG Welding for Stainless steels
- M12 - MIG Welding for Aluminium
- M13 - FCAW Welding for Ferritic steels: Carbon and Low Alloy steel
- M13 + M14 - FCAW Welding for Stainless steels
- M15 - TIG Welding for Ferritic steels: Carbon and Low Alloy steel
- M15 + M16 - TIG Welding for Stainless steels
- M17 - TIG Welding for Aluminum

Evaluation criteria for practical part of examination for **Arc Welder 3** for candidates that have a certificate for Arc Welder 2 are explained in each Module of the Skills part of the curriculum.

Evaluation criteria for practical part of examination for **Arc Welder 3** for candidates that <u>don't have</u> a certificate for Arc Welder 2 are explained in the table 1.

Table 1: Evaluation criteria for practical part of examination for **Arc Welder 3** for candidates that don't have a certificate for Arc Welder 2

Module	Joint	Filler Material or Base material	Description	Test reports	
				Methods	Evaluation criteria
M8	**FW**	FM1	**PD** t=8 – 12mm, 3 passes	Test coupon according to ISO 9606-1	ISO 9606-1
	TW		**PH**, BW, D=80 – 120mm, t=8 – 12mm, ss mb or without root examination		
M8+M9	**FW**	FM5	**PD** t=8 – 12mm, 3 passes	Test coupon according to ISO 9606-1	ISO 9606-1
	TW		**PH**, BW, D=80 – 120mm, t=8 – 12mm, ss mb or without root examination		
M10	**FW**	FM1	**PD** t=8 – 12mm, 3 pass	Test coupon according to ISO 9606-1	ISO 9606-1
	PW		**PA**, t=8 – 12mm, ss nb		
	TW		**PH**, BW, D=80 – 120mm, t=8 – 12mm, ss mb or without evaluating the root		
M10+M11	**FW**	FM5	**PD** t=8 – 12mm, 3 pass	Test coupon according to ISO 9606-1	ISO 9606-1
	PW		**PA**, t=8 – 12mm, ss nb		
	TW		**PH**, BW, D=80 – 120mm, t=8 – 12mm, ss mb or without evaluating the root		
M13	**FW**	FM1	**PD** t=8 – 12mm, 3 passes	Test coupon according to ISO 9606-1	ISO 9606-1
	TW		**PH**, BW, D=100 – 150mm, t=12– 15mm, mb or without root evaluation		
M13+M14	**FW**	FM5	**PD** t=8 – 12mm, 3 passes	Test coupon according to ISO 9606-1	ISO 9606-1
	TW		**PH**, BW, D=100 – 150mm, t=12– 15mm, mb or without root evaluation		
M15	**FW**	FM1	**PD** t=3– 5mm, sl	Test coupon according to ISO 9606-1	ISO 9606-1
	TW		**PH**, BW, D=80 – 120mm, t=3 – 5mm, ss nb		
M15+M16	**FW**	FM5	**PD** t=3– 5mm, sl	Test coupon according to ISO 9606-1	ISO 9606-1
	TW		**PH**, BW, D=80 – 120mm, t=3 – 5mm, ss nb		
M10+M11+M12	**FW**	FM1	**PD** t=8 – 12mm, 3 pass	Test coupon according to	ISO 9606-1
	PW		**PA**, t=8 – 12mm, ss nb		

Module	Joint	Filler Material or Base material	Description	Test reports	
				Methods	Evaluation criteria
	TW		**PH**, BW, D=80 – 120mm, t=8 – 12mm, ss mb or without evaluating the root	ISO 9606-1	
	FW	Al-Mg alloy	**PD**, t=8– 10mm, sl *	Test coupon according to ISO 9606 - 2	ISO 9606 - 2
	PW		**PF,** t=8 – 10mm, ss mb*, ceramic backing or other		
M15+M16+M19	**FW**	FM5	**PD** t=3– 5mm, sl	Test coupon according to ISO 9606-1	ISO 9606-1
	TW		**PH**, BW, D=80 – 120mm, t=3 – 5mm, ss nb		
	FW	Al-Mg alloy	**PD** t=4– 8mm, sl	Test coupon according to ISO 9606 - 2	ISO 9606 - 2
	TW		**PH**, BW, D=40 – 80mm, t=4 – 8mm*, ss nb		

If not achieved through previous education, the anticipated levels of mother tongue, foreign language, mathematics and IT are established in the scope of a written and oral part of the exam.

4. Implementation of external evaluation

4.1. Institutions and stakeholders responsible for external evaluation

The institution for external evaluation of education at national level is responsible for organizing and implementing external evaluation[3].

Evaluation is carried out in examination centers authorized by the national institution for external evaluation of education. Examination centers can be in institutions that carry out vocational education and training, at employers' and similar. Examination centers should be equipped according to material conditions for acquisition and evaluation of educational outcomes prescribed in qualification standards and curricula.

Examination board appointed by the national institution for external evaluation of education is in charge of preparation and implementation of exams in examination centers. It consists of:

1. Independent authorized examiner - chairperson (from examination center)
2. Independent authorized examiner - member (from examination center)
3. Labor market representative (welding company) – recommendation: minimum international qualification EWS/ IWS.

[3] For example, in Croatia, according to Croatian law for primary and secondary education, Nacional center for external evaluation of education is an institution responsible for external evaluation of learning outcomes gained through education.

4.2. Application conditions and evaluation of application for candidates who have acquired their competences through informal/non-formal learning/education and/or work

4.2.1. Application conditions

Qualification Arc Welder 2

Application conditions for candidates who completed training programs for occupation welder:

- Application form
- Carbon copy of an ID card or a passport
- Proof of achieved qualification at EQF Level 1
- Certificate of completed training program for occupation welder

Application conditions for candidates who have acquired their competences through informal/non-formal learning/education and/or work, rather than formal education:

- Application form
- Carbon copy of an ID card or a passport
- Proof of achieved qualification at EQF Level 1
- Portfolio/map/references
- Minimum 18 years of age
- Medical documentation to prove fitness to work in special conditions

Qualification Arc Welder 3

Application conditions for students in formal welder education:

- Application form
- Carbon copy of an ID card or a passport
- Proof of achieved qualification at Arc Welder 2

Application conditions for candidates who have acquired their competences through informal/non-formal learning/education and/or work, rather than formal education:

- Application form
- Carbon copy of an ID card or a passport
- Portfolio/map/references
- Minimum 18 years of age
- Medical documentation to prove fitness to work in special conditions

4.2.2. Evaluation of application for candidates who have acquired their competences through informal/non-formal learning/education and/or work[4]

A candidate shall submit his/her application form. The form shall include the candidates' self-assessment on knowledge, skills and competences obtained throughout his/her professional career. The candidate has to include all types of support documentation giving evidence to previous work. The completed form with the attachments is to be called the Candidate's Portfolio, which he/she will submit for assessment to the Examination board.

The Examination board shall assess the candidate's portfolio based on the developed Assessment Form. The Committee will also use the Check-list thereby ensuring the validity, authenticity and suitability of the documentation provided by the candidate, as well as an additional record of all documentation provided by each candidate[5].

Based on the above, the Board will prepare its evaluation of the candidate's portfolio, leading to the following:

- Propose examination of the skills, knowledge and competences
- Propose additional training for the candidate.

[4] This part is adapted from B Prof Guideline for recognition and validation of informal/non-formal learning for welders.
[5] According to B Prof Forms/Check-lists.

4.3. Cost of external evaluation

Cost of external evaluation is determined by each state, according to state regulations.

For example, it could be determined that cost of external evaluations is met by:

- for students in formal education system the vocational institution or its founder,
- for adults the adult education institution where candidates have acquired qualification,
- for candidates looking for certification of non-formal/informal education/learning the candidate themselves or the employer.

5. Creation of examination material

The institution for external evaluation of education is responsible for methodology and coordination in creation of examination materials.

The institution forms an expert work group in charge of preparation of examination material for each qualification level and welding process for theoretical and practical part of the exam. The professional work group consists of experts coming from the area of welding: ANB (Authorized and Nominated Body), vocational schools, adult education institutions and the economy (at least three sectors that involve welding).

Theoretical part of the exam encompasses:

- creation of exam specification that states content areas and outcomes to be tested as well as how they are tested (representation of content areas/outcomes, exam duration in relation to the number of questions, difficulty level and cognitive levels)
- creation of assignments/questions according to exam specification
- making of different exam versions, equable according to content, difficulty, cognitive demands and duration
- supplying the answer key
- creation of questions specification
- modification of specification/assignments/exam after content and methodological review and language editing
- creation of sample questions and other additional materials/guidelines in relation to the exam preparation
- creation of evaluation sheet
- creation of instructions for preparation, implementation and course of examination

Practical part of exam entails:

- preparation of practical part of the exam according to the standard ISO 9606.
- specification of exam duration
- preparation of questions for oral part of the exam
- preparation of sheets/lists/tables for evaluation of welding process and interview
- creation of instructions for preparation, implementation and course of examination according to testing curricula.

Practical part of the exam is the most important part of the exam as a whole. Namely, when employing a welder, the labor market almost exclusively tests the welder's skills.

6. Scoring/grading of exams

Theoretical part of the exam implies a written test with multiple-choice questions. Each correctly answered question brings one point, and incorrectly answered ones zero points. The total number of points that can be achieved equal the total number of questions in the test.

Practical part of the exam entails making test objects for a specific module according to ISO 9606 that are examined / inspected by the independent authorized examiner according to the stated standard.

Oral part of the exam consists of questions relating to the technology of making of test objects, the applied welding technique, visual inspection of the welded joint and application of industrial safety and protective equipment, as well as responsibility in application of applied welding technology.

The main part of the exam is welding of test objects during the practical part of the exam. This part of the exam the examiner evaluates with either pass or fail/did not pass, and the share in total grade is 50% (50 points). Evaluation criteria for practical part of examination are explained in each Module of the Skills part of the curriculum.

In the total share of the exam the theoretical part and oral part of the practical exam are each worth 25% (25 points). For these two parts the threshold is 60%.

Table 2: share in total grade and threshold for each part of the exam

	Theoretical part	Practical part of exam	
		Welding of test object	**Oral exam**
Share in total grade	25%	50%	25%
Threshold	60%	pass	60%

In case the participant fails the theoretical part, welding of test object or the oral part of the practical exam, the participant is awarded two more tries at the part they failed. If he fails, he can do a new attempt no sooner than 15 days, and if he fails again, no sooner than one month from the date of the second attempt. He has to complete the entire exam in the maximum of six months. If the participant fails three times one of the parts of exam, he/she has to go through additional training and retake a test no sooner than 12 months, depending on the type of education (formal, non formal, informal).

7. Issuing of diploma/certificate

The institution for external evaluation of education is authorized to issue a diploma/certificate on successfully completed exam. The diploma/certificate should contain following information:

1. Level of Qualification
2. Welding position
3. Welding process
4. Material
5. Type of weld.

8. Document references

8.1. Reference numbers

2016-1-HR01-KA202-022187 – EXEVAW2-3

8.2. Contact persons:

natalija.gjeri@ncvvo.hr
zeljko.habek@uciliste-uljanik.hr
franjo.javor@zg.htnet.hr
emargeta@yahoo.com
mirta.szugyi@gmail.com
Robert.Vidas@koncar-mk.hr
zlatko.zadelj@ncvvo.hr

9. Bibliography

1. Apprenticeship Standard for Welding Level 2 (2015). https://www.instituteforapprenticeships.org/apprenticeship-standards/welding-level-2/
2. Apprenticeship Standard for Welding Level 3 (2015). https://www.instituteforapprenticeships.org/apprenticeship-standards/welding-level-3/
3. Assessment Plan Apprenticeship Standard General Welder (Arc Processes) Level 2 (2016). http://dera.ioe.ac.uk/24068/7/Assessment_Plan_Welder_Level_2.pdf
4. Assessment Plan Apprenticeship Standard Multi-Positional Welder (Arc Processes) Level 3 (2016). https://www.instituteforapprenticeships.org/media/1142/welding_-_level_3.pdf
5. B-Prof Informal Training Recognition in Welding (2012). Guideline for recognition and validation of informal/non-formal learning for welders.
6. Council recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning https://ec.europa.eu/ploteus/sites/eac-eqf/files/en.pdf
7. Education, Audiovisual and Culture Executive Agency. (2009). *National Testing of Pupils in Europe: Objectives, Organisation and Use of Results*. Brussels: Education, Audiovisual and Culture Executive Agency. http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/109en.pdf
8. EWF-IAB/IIW Secretariat (2014). IAB-089r5-14 – part I: EWF/IIW Guideline – European/International Welder. Minimum Requirements for the Education, Examination and Qualification. https://www.ewf.be/exemplos2/listagem/guideline_welders.aspx
9. Gronlund, N. E. (2003). Assessment of Student Achievement (7th ed.). Boston: Allyn & Bacon.
10. IAB-001r8-16: Rules for the implementation of IIW Guidelines for the education, examination and qualification of welding personnel
11. International Test Commission. (2001). International Guidelines for Test Use, *International Journal of Testing, 1*(2), 93-114. https://www.intestcom.org/files/guideline_test_use.pdf.
12. International Test Commission. (2012). *International Guidelines on Quality Control in Scoring, Test Analysis, and Reporting of Test Scores*. https://www.intestcom.org/files/guideline_quality_control.pdf.
13. ISO 9606-1. Qualification testing of welders. Fusion welding. Steels
14. ISO 9606-2. Qualification test of welders. Fusion welding. Aluminium and aluminium alloys

15. ISO/IEC 17024 - Conformity assessment - General requirements for bodies operating certification of persons.