

Regionally based qualification standard for Locksmith

The standard was developed within the Enhancements in quality of education and training in SEE – EQET SEE¹ project by the representatives of 6 participating economies: Albania, Bosnia and Herzegovina, Kosovo*², Montenegro, Republic of North Macedonia and Serbia.

Part I – general information

Qualification standard	
1. Qualification title	<p><i>Locksmith</i></p> <p><i>Albania: Konstruksione metalike</i></p> <p><i>BiH: Bravar</i></p> <p><i>Kosovo*: Konstruksione metalike</i></p> <p><i>Montenegro: Bravar</i></p> <p><i>North Macedonia: Бравар</i></p> <p><i>Serbia: Бравар</i></p>
2. Qualification type	<p>Qualification is full or partial, depending on legislation of each economy and type of education.</p> <p>Qualification is obtained through:</p> <ul style="list-style-type: none"> - Formal initial vocational education and training, - formal education and training of adults or - system of quality assured validation of informal and non-formal learning, depending on the legislation of each economy.
3. Qualification description / justification / rationale, need for the qualification	<p>Description of qualification:</p> <p><i>Locksmith develops parts of metal structures, processes sheet metal, metal profiles and pipes and executes various assembly works. Locksmith manufactures fences, gates, windows and doors, furniture, parts of plants and metal objects and objects made of other material.</i></p> <p><i>in the course of work, locksmith performs different activities in socially inclusive and ecologically sustainable manner: outlining and marking, manual and mechanical cutting, straightening, bending, grinding, forging, riveting, drilling, threading, filing, welding (electric arc and gas welding), assembling, sharpening various tools, applying protective primer coat onto various surfaces.</i></p> <p><i>Locksmith uses a variety of tools and machines: hammers, hacksaws for metal/metal cutting saw, sheet metal shears, files, measuring tools (measuring tape, caliper, micrometre, protractor...), manual electric drill and grinder, steel profile cutting machines, sheet metal and profile cutting and bending machines and welding machines.</i></p> <p><i>The locksmith keeps working documentation and performs administrative and commercial tasks within his/her scope of work. He/she communicates with</i></p>

¹ More about the project is available on the project website <https://eqet.erisee.org/>

² * This designation is without prejudice to positions on status and is in line with UNCSC 1244 and the ICJ Opinion on the Kosovo declaration of independence.



	<i>superiors, associates and clients while applying rules of business communication and coordinates the execution of works with other contractors in an ethical and professional manner. He/she implements and ensures quality standards in the course of work, implements procedures and measures of occupational health and safety and environmental protection, as well as fire protection measures.</i>																					
4. Corresponding occupational standards, connection to ISCO or any other evidence about consultation with labour market stakeholders	<p><i>Regionally based occupational standard was used as a basis for development of this regionally based qualification standard.</i></p> <p><i>ISCO 08 Code 721. ISCO level 2</i></p>																					
5. Qualification level (EQF)	<i>Level in the European Qualifications Framework for Lifelong Learning (EQF 1-8): 3</i>																					
6. Qualification credit value or years/hours of duration and share of units of general education in the overall qualification	<p><i>This qualification covers range of 1800-2000 hours required by an individual for attaining the vocational learning outcomes of this qualification. It includes both induction time as well as time spent in learning and training outside the classroom.</i></p> <p><i>The share of vocational components and the share of general education within a qualification as an element of a qualification standard per economy:</i></p> <table border="1"> <thead> <tr> <th>Economy</th> <th>VET ULOs share of the total volume of the qualification</th> <th>General education ULOs share of the total volume of the qualification</th> </tr> </thead> <tbody> <tr> <td><i>Albania:</i></td> <td><i>55%</i></td> <td><i>45%</i></td> </tr> <tr> <td><i>BiH:</i></td> <td><i>63%</i></td> <td><i>37%</i></td> </tr> <tr> <td><i>Kosovo*:</i></td> <td><i>67%</i></td> <td><i>33%</i></td> </tr> <tr> <td><i>Montenegro</i></td> <td><i>62%</i></td> <td><i>38%</i></td> </tr> <tr> <td><i>North Macedonia:</i></td> <td><i>60%</i></td> <td><i>40%</i></td> </tr> <tr> <td><i>Serbia:</i></td> <td><i>60%</i></td> <td><i>40%</i></td> </tr> </tbody> </table>	Economy	VET ULOs share of the total volume of the qualification	General education ULOs share of the total volume of the qualification	<i>Albania:</i>	<i>55%</i>	<i>45%</i>	<i>BiH:</i>	<i>63%</i>	<i>37%</i>	<i>Kosovo*:</i>	<i>67%</i>	<i>33%</i>	<i>Montenegro</i>	<i>62%</i>	<i>38%</i>	<i>North Macedonia:</i>	<i>60%</i>	<i>40%</i>	<i>Serbia:</i>	<i>60%</i>	<i>40%</i>
Economy	VET ULOs share of the total volume of the qualification	General education ULOs share of the total volume of the qualification																				
<i>Albania:</i>	<i>55%</i>	<i>45%</i>																				
<i>BiH:</i>	<i>63%</i>	<i>37%</i>																				
<i>Kosovo*:</i>	<i>67%</i>	<i>33%</i>																				
<i>Montenegro</i>	<i>62%</i>	<i>38%</i>																				
<i>North Macedonia:</i>	<i>60%</i>	<i>40%</i>																				
<i>Serbia:</i>	<i>60%</i>	<i>40%</i>																				
7. Sector / the field of work (according to ISCED)	<p><i>Classification of the qualification according to the ISCED-F (FOET – Fields of Education and Training) classification.</i></p> <p><i>07 – Engineering, manufacturing and construction</i></p> <p><i>071 Engineering and engineering trades</i></p> <p><i>715 mechanics and metal trades</i></p>																					
8. Specific quality assurance requirements related to	<p><i>Qualification standard for Locksmith shall be further nationally developed by economies participated in the process, following the methodology of each economy.</i></p> <p><i>This regionally based qualification standard for Locksmith shall form the core of</i></p>																					



<p>qualification</p>	<p><i>national qualification standards subsequently developed.</i> <i>To assure the quality of national QS, national procedures shall be followed (adoption by relevant bodies, monitoring of implementation by relevant bodies and certification of attendees of education).</i></p>
<p>9. Admission / entry requirements / preconditions for qualification acquisition</p>	<p><i>Minimum entry requirement for Locksmith in terms of prior qualification that needs to be obtained is elementary school or qualification of the EQF level 1.</i> <i>Additional requirements are related to prescribed legislation of each economy</i></p>
<p>10. Progression / permeability in the qualification system / further qualification and employment possibilities</p>	<p><i>After completing the qualification, the student has the opportunity for:</i></p> <p>Employment:</p> <ul style="list-style-type: none"> • <i>In metal industry, construction sector, other industrial fields and craft workshops</i> • <i>self-employment (his/her own craft)</i> <p>Vertical permeability:</p> <ul style="list-style-type: none"> • <i>post-secondary (after fulfilling specific conditions prescribed by each economy)</i> • <i>sectoral qualification of a higher level (in accordance with specific conditions prescribed by each economy) exams)</i> <p>Horizontal permeability:</p> <ul style="list-style-type: none"> • <i>By enrolling in another education programme, the modules (sectoral and general) which are part of the curriculum for Locksmith and of the new enrolling curriculum are taken into account.</i>
<p>11. Qualification structure: List of mandatory learning outcome units and elective learning outcome units</p>	<p>Mandatory units of learning outcomes are:</p> <p><i>UNIT 1 - Planning, preparation and organization of locksmith production</i> <i>UNIT 2 - Production of locksmith products/elements</i> <i>UNIT 3 - Joining structural elements with separable and elastic joints</i> <i>UNIT 4 - Joining elements with inseparable joints</i> <i>UNIT 5 - Assembly and disassembly of locksmith products (elements, assemblies)</i> <i>UNIT 6 - Basic maintenance and repairs of locksmith equipment, elements and assemblies</i> <i>UNIT 7 - Business Communication and Entrepreneurship</i> <i>UNIT 8 - Standards, Environmental protection and work safety</i></p> <p>Possible elective units of learning outcomes are:</p> <p><i>UNIT 1 – Hydraulics and pneumatics</i> <i>Unit 2 - Plasma cutting</i> <i>UNIT 3 - Specific information and communication technology (ICT) in qualification for locksmith</i> <i>UNIT 4 - Different methods (e.g. green, which ensure sustainable development) for assembling non-metal elements</i> <i>UNIT 5 – Installation and dismantling of basic equipment for industry processing (e.g. pipeline, pressure vessels and similar)</i></p>
<p>12. Agreement on the regionally based</p>	<p><i>Process of Locksmith QS development at regional level lasted since 1st April 2023 till 31st May 2023. Representatives of each economy (Albania, Bosnia and</i></p>



<p>qualification standard</p>	<p><i>Herzegovina, Kosovo*, Montenegro, North Macedonia, Serbia) included 3 members, out of VET/Qualification agencies who is at the same time OS/QS expert, one representative from VET school and one expert with sector specific knowledge and skills (member of the national QS working group).</i></p> <p><i>Development of QS was based on regionally developed OS for Locksmith. Common work at regional level was organised in workshops (WSs), based on prepared materials in cooperation with representatives of all economies and on feedback on developed materials during WSs. Main principles of QS development were agreed within the Methodology for regionally based QS development and common understanding was ensured through WSs.</i></p> <p><i>The regionally developed QS represents the common core developed at the SEE level, which acknowledges the specifics of each economy participating in the process.</i></p> <p><i>The regionally based QS for Locksmith will enable the achievement of the agreed learning outcomes in each of the economies and consequently, facilitate the continuation of the education and training process and employment throughout the SEE region.</i></p>
--	---

** This designation is without prejudice to positions on status and is in line with UNSCR 1244 and the ICJ opinion on Kosovo Declaration of Independence*



Part II -Specific part of qualification

ULO	LOs - Regional conclusion English
<p>UNIT 1</p> <p>Planning, preparation and organization of locksmith production</p>	<p>1.1. Reads the work order, technical-technological documentation and client requirements necessary for the execution of the work task.</p> <p><i>1.1.1. Select material, tools, accessories, equipment and protective means, for welding of the balcony fence structure in accordance with the technical- technological documentation.</i></p> <p>1.2. Prepares a sketch.</p> <p><i>1.2.1. Create a sketch of an opening on a construction facility based on the performed measurements and using adequate technical symbols.</i></p> <p>1.3. Plans time and necessary resources, in accordance with relevant technical- technological documentation.</p> <p><i>1.3.1. Determine necessary material quantity required to manufacture a balcony fence in accordance with technical- technological documentation and principles of sustainability.</i></p> <p><i>1.3.2. Determine the time required to manufacture a balcony fence by phases, in accordance with technical- technological documentation and principles of sustainability and energy efficiency.</i></p> <p>1.4. Prepares protective means, material, tools, accessories, equipment and machines necessary for the implementation of the work task, in accordance with the technical-technological documentation, technical legislation and principles of sustainability and energy efficiency.</p> <p><i>1.4.1. Explain the technological procedure of MMA welding of box profiles</i></p> <p>1.5. Checks working conditions at the workplace, in accordance with general health and safety measures at work.</p> <p><i>1.5.1. Explain optimal working conditions for drilling, taking into account safety measures applicable in the course of task execution.</i></p> <p><i>1.5.2. Explain occupational health and safety measures applicable upon drilling.</i></p> <p>1.6. Prepares the workplace in accordance with the technological procedure, daily work plan, work priorities, instructions and regulations on health and safety at work.</p> <p><i>1.6.1. Demonstrate procedure of workplace preparation for MMA welding in accordance with technological procedure, daily work plan with priorities, instructions and occupational health and safety measures.</i></p> <p>1.7. Performs inspection, cleaning and storing of materials, tools, accessories, equipment and machines, upon completion of the work task.</p> <p><i>1.7.1. Perform inspection, cleaning and storing of L profiles upon work task completion.</i></p>



	<p>1.8. Performs filling in and archiving of working documentation during and after performing locksmith works.</p> <p><i>1.8.1. Enter data in prescribed forms on basic and additional material used during welding of elements.</i></p>
<p>UNIT 2</p> <p>Production of locksmith products/ elements</p>	<p>2.1. Selects material for further use according to technical-technological documentation.</p> <p><i>2.1.1. Specify types of material which can be used for manufacturing a balcony fence and explain their mechanical properties.</i></p> <p><i>2.1.2. Select the most adequate type of material for manufacturing a balcony fence in accordance with the technical-technological documentation.</i></p> <p>2.2. Transfers measurements from technical-technological documentation to the material in the specified scale, using appropriate tools and accessories for outlining and marking.</p> <p><i>2.2.1. Transfer measurements from technical-technological documentation on the workpiece for processing the material by drilling.</i></p> <p>2.3. Performs material processing by plastic deformation, using appropriate tools, accessories and machines, in accordance with the technical-technological documentation.</p> <p><i>2.3.1. Demonstrate the process of sheet metal bending, using appropriate tools and accessories.</i></p> <p>2.4. Performs manual or mechanical processing of materials by cutting, using appropriate tools, accessories and machines, in accordance with the technical-technological documentation.</p> <p><i>2.4.1. Demonstrate the procedure of drilling holes in balcony fence elements, using appropriate tools, accessories and machines, in accordance with the technical- technological documentation.</i></p> <p>2.5. Performs accuracy control and correction of performed operations, in accordance with technical-technological documentation.</p> <p><i>2.5.1. Measure the achieved dimensions and check the position of elements in the locksmith structure, using appropriate measuring accessories and instruments, in accordance with the technical- technological documentation</i></p> <p>2.6. Performs marking, separation and packing of locksmith elements in order to prepare them for further processing or assembly, in accordance with the technical-technological documentation.</p> <p><i>2.6.1. Mark the positions of locksmith elements for assembling the metal structure of a garage door, in accordance with the technical- technological documentation.</i></p> <p><i>2.6.2. Perform sorting and packing of elevator locksmith elements, in accordance with the technical- technological documentation.</i></p>
<p>UNIT 3</p>	<p>3.1. Selects tools and elements for joining with separable joints in accordance with the technical-technological documentation.</p>



<p>Joining of structural elements with separable and elastic joints</p>	<p><i>3.1.1. Explain separable joints, their types and standard elements.</i></p> <p><i>3.1.2. Select screws and nuts for connecting two or more elements in accordance with the technical- technological documentation.</i></p> <p>3.2. Connects elements with threaded joints by using adequate elements, tools and accessories in accordance with the technical- technological documentation.</p> <p><i>3.2.1. Cut an M16 thread by selecting relevant materials, tools and operations. Explain the selection of materials, tools and operations for inner thread cutting in accordance with the technical-technological documentation.</i></p> <p><i>3.2.2. Demonstrate and explain the procedure of connecting balcony fence parts by thread joints.</i></p> <p>3.3. Connects elements with wedges and grooves by using adequate elements, tools and accessories in accordance with the technical- technological documentation.</p> <p><i>3.3.1. Make grooves of specific dimensions in elements being connected and select wedges in accordance with the technical- technological documentation</i></p> <p><i>3.3.2. Demonstrate joining of elements with wedges, explaining the work procedure in accordance with the technical- technological documentation.</i></p> <p>3.4. Connects elements with couplers by using adequate elements, tools and accessories in accordance with the technical- technological documentation.</p> <p><i>3.4.1. Drill holes of certain diameter (e.g. $\Phi 5$ mm) in connecting elements, using selected appropriate drill and tools in accordance with technical-technological documentation.</i></p> <p><i>3.4.2. Explain all steps of joining of elements with wedges according to the technological manual and demonstrate them.</i></p> <p>3.5. Makes joints with elastic connection elements by using adequate elements, tools and accessories in accordance with the technical- technological documentation.</p> <p><i>3.5.1. Select elastic elements of specific dimensions in accordance with the technical-technological documentation.</i></p> <p><i>3.5.2. Explain the steps and procedure of joining two panels using elastic elements.</i></p> <p>3.6. Performs control and adjustment of functionality of separable joints and their geometric characteristics in accordance with the technical-technological documentation.</p> <p><i>3.6.1. Control geometrical characteristics of the joint using adequate instruments.</i></p> <p><i>3.6.2 Identify and correct potential joint defects.</i></p>
<p>UNIT 4</p> <p>Joining elements with inseparable links</p>	<p>4.1. Selects tools, elements, machines and additional material for the execution of inseparable joints in accordance with technical- technological documentation.</p> <p><i>4.1.1. Choose the equipment, base and auxiliary material for MAG welding and working/personal protective means and equipment.</i></p>



	<p>4.2. Connects elements by riveting, using adequate elements, tools, accessories and machines in accordance with the technical-technological documentation.</p> <p><i>4.2.1. Join thin sheet metal panels (e.g. width 2-3 mm) by riveting. Using required elements, tools and adequate equipment, all in accordance with the technical-technological documentation.</i></p> <p>4.3. Connects elements by welding, applying adequate welding method (manual metal arc - MMA, gas, MIG, MAG) and using additional material, tools, accessories, devices and equipment in accordance with the technical-technological documentation.</p> <p><i>4.3.1. Conduct preliminary processes to prepare for welding of two panels, thickness 8mm in accordance with WPS (Welding Procedure Specification).</i></p> <p><i>4.3.2. Demonstrate and explain joining two 8 mm thick panels by MMA welding at 90 degree angle while using adequate electrodes, devices and tools in accordance with WPS.</i></p> <p>4.4. Connects elements by soldering, applying the adequate method (hard and soft soldering) and using additional material, tools, accessories, devices and equipment in accordance with the technical-technological documentation.</p> <p><i>4.4.1. Prepare copper pipes foreseen for joining in accordance with technical-technological documentation.</i></p> <p><i>4.4.2. Demonstrate and explain joining two copper pipes while using additional materials, devices and tools in accordance with technical-technological documentation.</i></p> <p>4.5. Connects elements by gluing using adequate material, tools and accessories in accordance with the technical- technological documentation.</p> <p><i>4.5.1. Perform the preparation for gluing parts of a gutter and selection of appropriate additional material, tools and accessories in accordance with the technical-technological documentation.</i></p> <p><i>4.5.2. Demonstrate joining of gutter parts by gluing using appropriate additional material, tools and accessories in accordance with the technical-technological documentation.</i></p> <p>4.6. Performs control and adjustment of functionality of inseparable joints and their geometric characteristics in accordance with the technical- technological documentation.</p> <p><i>4.6.1. Perform measurement and control of geometric characteristics of executed joints of gutter parts with appropriate measuring and control instruments, against the technical-technological documentation and identify any potential defects.</i></p> <p><i>4.6.2. Remedy identified defects of gutter part joints using appropriate methods and tools.</i></p>
<p>UNIT 5</p> <p>Assembly and disassembly of locksmith products (elements, assemblies)</p>	<p>5.1. Develops the installation plan of locksmith products at the workshop/on site.</p> <p><i>5.1.1. Prepare a plan for installing a balcony canopy.</i></p> <p>5.2. Determines existing conditions for the assembly of locksmith products at the workshop/on site.</p> <p><i>5.2.1. Determine the suitability of dimensions and shape of the</i></p>



	<p><i>manufactured balcony canopy for the place of assembly.</i></p> <p>5.3. Performs the procedure of assembly/ disassembly of manufactured elements and assemblies at the workshop / on site using adequate tools, accessories and additional equipment, in accordance with the technical -technological documentation.</p> <p><i>5.3.1. Fasten load-bearing elements (anchors, supports, brackets ...) for the balcony canopy assembly.</i></p> <p>5.4. Performs control and adjustment of the position and dimensions of a locksmith structure in accordance with specified requirements in the technical-technological documentation.</p> <p><i>5.4.1. Compare the slope of the installed metal balcony canopy with the sketch/technical drawing, using appropriate tools and instruments.</i></p> <p>5.5. Performs preparation and protection of surface of manufactured products/elements and assemblies by applying protective coatings using adequate agents (paints and varnishes), tools and accessories, in accordance with technical-technological documentation and environmental standards.</p> <p><i>5.5.1. Specify types and characteristics of base and finish metal coatings.</i></p> <p><i>5.5.2. Prepare the surface of the metal balcony canopy joint and protect it by applying adequate paints and/or varnishes.</i></p>
<p>UNIT 6</p> <p>Basic maintenance and repairs of locksmith equipment, elements and assemblies</p>	<p>6.1. Determines the operational functionality of machines for performing locksmith works.</p> <p><i>6.1.1. Explain the principle of operation, components and functional characteristics of an electric hand drill.</i></p> <p>6.2. Applies the procedure for basic maintenance of locksmith tools, equipment and machines in accordance with prescribed procedures.</p> <p><i>6.2.1. Demonstrate the procedure for cleaning (dedusting vents) of an electric hand drill.</i></p> <p>6.3. Applies appropriate procedures for simple repairs of locksmith tools, equipment and machines in accordance with the manufacturer's instructions.</p> <p><i>6.3.1. Explain typical malfunctions of an electric hand drill.</i></p> <p><i>6.3.2. Perform an SDS chuck replacement on an electric hand drill.</i></p> <p>6.4. Eliminates non-conformities by repairing or replacing elements, assemblies and finished locksmith products in accordance with the technical-technological documentation</p> <p><i>6.4.1. Adjust the slope of the canopy by mechanical deformation of the bracket using appropriate tool.</i></p>
<p>UNIT 7</p> <p>Business Communication and Entrepreneurship</p>	<p>7.1. Cooperates with superiors, associates and third parties, in an ethical and professional manner, individually and in teams, while applying appropriate communication techniques and successfully resolving conflicts.</p> <p><i>7.1.1. Compose a business email (offer) using the principles of business communication.</i></p> <p><i>7.1.2. Compile a work report in the given form.</i></p> <p>7.2. Applies IT technologies in communication.</p> <p><i>7.2.1. Prepare commodity and monetary documents in electronic</i></p>



	<p><i>form and accompanying business letter for the offer of locksmith products, based on set parameters using application software.</i></p> <p>7.3. Creates a simple business plan for the production and sale of locksmith products (continuous market analysis, forecasting market trends, cost accounting, product price calculation, procurement of necessary materials and resources, etc.).</p> <p><i>7.3.1. Make a simple form of a business plan using the given model for your own locksmith workshop.</i></p> <p><i>7.3.2. Perform a cost calculation for regular operations and expected revenues from product sales/service billing.</i></p> <p>7.4. Promotes the offer/product (in print and electronic media, at fairs, etc.) using different marketing channels.</p> <p><i>7.4.1. Specify basic elements of a marketing plan (distribution channels, price and method of product/service promotion).</i></p> <p><i>7.4.2. Make a social media account to offer your own locksmith products.</i></p> <p>7.5. Sells products at the market in accordance with the prepared business plan and applicable regulations.</p> <p><i>7.5.1. Demonstrate the sale of alcohol distillation cauldrons at a commercial price in a simulated situation.</i></p>
<p>UNIT 8</p> <p>Standards, Environmental protection and work safety</p>	<p>8.1. Implements safety measures at work using adequate protective means and equipment.</p> <p><i>8.1.1. Use protective equipment in accordance with the prescribed procedure during manual metal arc welding.</i></p> <p>8.2. Identifies hazards in the work process in order to reduce risks/prevent the occurrence of hazards.</p> <p><i>8.2.1 Select and justify the selection of prescribed tools and protective equipment to be used during gas welding.</i></p> <p><i>8.2.2. Demonstrate proper use of personal protective equipment according to the prescribed procedure during assembly/disassembly of manufactured elements and assemblies on site.</i></p> <p>8.3. Conducts procedures for preventing and managing hazardous events.</p> <p><i>8.3.1. Set up and connect the gas cylinder for MAG welding in the prescribed manner, explaining the appropriate procedure to reduce the risk.</i></p> <p>8.4. Applies relevant instructions and manuals while using tools, work equipment, machines, pressurised gas containers etc.</p> <p><i>8.4.1. Explain the meaning of symbols in the manufacturer's instructions for the use of the electric hand drill.</i></p> <p>8.5. Enforces environmental protection rules, ecological standards and waste management.</p> <p><i>8.5.1. Apply the waste management procedure after manual or mechanical processing of material by cutting in an ecologically prescribed manner.</i></p> <p><i>8.5.2. Select the additional material for soldering which will ensure reduced need for hazardous waste. Justify your selection</i></p> <p>8.6. Performs operations by using energy and materials in accordance with the principles of sustainable development and environmental protection.</p> <p><i>8.6.1. Specify types and characteristics of ecological paints for the</i></p>



	<p><i>surface protection of the metal structure of a balcony canopy.</i></p> <p>8.7. Implements first aid procedures in case of accident.</p> <p><i>8.7.1. Demonstrate the procedure of providing first aid to an injured person in the event of a left forearm injury.</i></p>
--	---

