

*Development of VET Training on Energy Efficient Stoves and Fireplaces – ENEFFIS
No. 2016-1-LT01-KA202-023161*

CURRICULUM FOR A STOVE BUILDER

(INITIAL VOCATIONAL EDUCATION AND TRAINING)

Qualification awarded: Stove builder

European Qualification Framework (EQF) level: 4

National Qualification Framework (NQF) level: 4

Duration: 2 years

ECVET credits: 110

Minimum education required: Secondary education

Prerequisites to enter: must have a personal medical record or a medical certificate for the performed compulsory medical examination.

Prepared by:

- VšĮ Vilniaus statybininkų rengimo centras,
- Asociacija „Krosnių meistrų gildija“
- Wolfshöher Tonwerke GmbH & Co.KG
- MTÜ Kütte-ja Ventilatsioonisüsteemide Teabekeskus
- Satakunnan koulutuskuntayhtymä

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1. INTRODUCTION

1.1. Aim and objective of the curriculum: to train a qualified worker who is able to design, build, install and repair stoves and fireplaces, communicate with the customers.

1.2. Competencies acquired:

1. Prepare the work place for stove building.
2. Build simple structures.
3. Advise customers on the installation of solid fuel heat release appliances (other than boilers).
4. Prepare the project and technical drawings for building solid fuel heat release appliances (other than boilers).
5. Build masonry solid fuel heat release appliances (other than boilers).
6. Build solid fuel heat release appliances (other than boilers) from pre-fabricated elements.
7. Build, install chimneys.
8. Perform repair and renovation of solid fuel heat release appliances (other than boilers).
9. Organize and supervise stove builders' work.

1.3. Assessment of qualification:

Requirements for awarding the qualification: Stove builder, Level 4, is expected to have a secondary general education. Qualification is awarded to persons having all the competencies listed in the curriculum and a 2 year work experience in accordance to these competencies.

The person's competencies required for gaining a qualification are assessed in accordance with the definitions of the competencies and their limits provided in the Occupational Standard of a Stove Builder, which express the threshold (minimum) level of acquisition of competence.

Criteria and methods for qualification assessment: the person's competencies required for gaining a qualification are assessed in accordance with the definitions of the competencies and their limits provided in the Occupational Standard of a Stove Builder, which express the threshold (minimum) level of acquisition of competence.

Assessment and recognition of a stove builder's qualification is described in the Certification Scheme of a stove builder.

1.4. Specifics of a trade:

The stove builder works individually or with assistants. The work of the stove builder requires physical effort and accuracy of performance. Work is done predominantly indoor.

1.5. List of Modules:

No	Competence	Module	Volume in credits
1.	Prepares the work place for stove building.	Preparatory work	5
2.	Builds simple structures.	Masonry work	15
3.	Advises customers on the installation of solid fuel heat release appliances (other than boilers).	Customer consultation	5
4.	Builds solid fuel heat release appliances (other than boilers).	Building masonry heat release appliances	20
5.	Builds solid fuel heat release appliances (other than boilers) from pre-fabricated elements.	Installation of pre-fabricated heat release appliances	20
6.	Builds, installs chimneys.	Building and installation of chimneys	10
7.	Performs repair and renovation of solid fuel heat release appliances (other than boilers).	Repairing of heat release appliances	10
8.	Organizes and supervises stove builders' work.	Stove builders' work organisation	5
9.	On-site practical training		20
Total:			110

2. MODULES' SPECIFICATIONS

2.1. MODULE: PREPARATORY WORK

2.1.1. Purpose of the Module: to learn about safety rules for stove building, materials, tools and equipment used, to prepare a work place for stove building, to assemble scaffolding and other elevation equipment, to select and calculate necessary amounts of materials, to make necessary markings, to lay concrete base and foundation.

2.1.2. Content and scope of the Module:

Learning outcomes	Recommended content to achieve the learning outcomes	No of Credits	No of Hours	
			Contact hours	Self study
1. Prepares the work place according to work safety requirements.	<p>1.1. Topic: Work safety, environmental protection, fire safety requirements.</p> <p>Tasks:</p> <p>1.1.1. Describe personal protective equipment, health and safety, environmental protection and fire safety requirements.</p> <p>1.1.2. Describe principles of sustainable construction.</p> <p>1.1.3. Store materials and equipment necessary for building and installation of a solid fuel heat release appliance in accordance with the manufacturer's requirements and without compromising their quality.</p> <p>1.2. Topic: Preparation of work place for stove building.</p> <p>Tasks:</p> <p>1.2.1. Describe the principles of preparing the work place for stove building in accordance with ergonomic requirements.</p> <p>1.2.2. Arrange materials and tools in the stove builder's work areas in accordance with ergonomic requirements.</p>	2	44	10
2. Assembles elevation	2.1.Topic. Assembling elevation equipment.	1	22	5

equipment.	Tasks: 2.1.1. Describe the requirements for assembling the elevation equipment and working on it. 2.1.2. Assemble elevation equipment.			
3. Installs concrete base and foundation of a solid fuel heat release appliance.	3.1. Topic: Marking of the base and foundation of a solid fuel heat release appliance. Tasks: 3.1.1. List, describe and identify marking and measuring tools and equipment. 3.1.2. Read technical drawings. 3.1.3. Perform marking of the base and foundation of a selected solid fuel heat release appliance. 3.2. Topic: Installation and evaluation of the base and foundation. Tasks: 3.2.1. Describe technology, tools and materials for installation of the base and foundation. 3.2.2. Install the base and foundation for a solid fuel heat release appliance.	2	44	10
Total:		5	110	25

2.1.3. Teaching / learning tools and literature:

- Tools:

Theory: classroom equipped with school furniture, demonstration tools and IT devices.

Practice: practical training workshops for stove building, personal protective equipment, concrete laying tools and equipment, mortar preparation tools, equipment and inventory, measuring instruments, etc. Materials required for concrete laying.

- Literature:

Methodical handout materials, textbooks, task books, practical assignments, technological cards, construction rules, regulations and standards.

2.1.4. Requirements for trainer's qualification:

The trainer must have a stove builder's qualification not lower than EQF Level 4 and meet the requirements for a VET trainer in accordance with the procedure established by the national legal acts.

2.1.5. Assessment of learning outcomes (competence):

The module assessment consists of two parts:

1. Assessment of theoretical knowledge (multiple choice test of 20 and more questions)
2. Practical assignment.

Assessment: passed/failed

2.2. MODULE: MASONRY WORK

2.2.1. Purpose of the Module: to prepare and choose masonry mortars and other materials necessary for masonry; to build walls, corners, poles, openings, intersections, lintels, cornices, arches, vaults.

2.2.2. Content and scope of the Module:

Learning outcomes	Recommended content to achieve the learning outcomes	No of Credits	No of Hours	
			Contact hours	Self study
1. Prepares and chooses masonry mortars and other materials necessary for masonry.	<p>1.1. Topic: Masonry materials.</p> <p>Tasks:</p> <p>1.1.1. List, describe and identify bonding materials and fillers for mortars.</p> <p>1.1.2. List, describe masonry mortars, their properties, composition and purpose.</p> <p>1.1.3. Prepare mortar for masonry.</p> <p>1.1.4. List, describe and identify artificial and natural masonry stones.</p> <p>1.1.5. Calculate the amount of materials and their estimated value.</p>	1	22	5
2. Builds walls, corners, pillars, jambs and intersections.	<p>2.1. Topic: Technical drawings of masonry structures.</p> <p>Tasks:</p> <p>2.1.1. Know the rules of making and reading technical drawings.</p> <p>2.1.2. Read technical drawings.</p> <p>2.1.3. Make a sketch of masonry structures made of artificial or natural stones.</p> <p>2.2. Topic: Masonry process. Masonry work tools and equipment.</p> <p>Tasks:</p> <p>2.2.1. Describe the masonry process (masonry methods and consistency, masonry stones (seams) binding methods).</p> <p>2.2.2. State the mason's working tools, equipment and inventory and explain their purpose.</p> <p>2.2.3. Select and prepare working tools, measuring instruments and inventory.</p> <p>2.2.4. Build wall fragments of different thickness.</p>	8	176	40

	<p>2.3. Topic: Masonry of corners and intersections. Tasks: 2.3.1. Describe masonry technology for constructing corners and intersections. 2.3.2. Build corners and intersections.</p> <p>2.4. Topic: Masonry of pillars and jambs. Tasks: 2.4.1. Describe masonry technology for constructing pillars and jambs. 2.4.2. Build pillars and jambs.</p>			
3. Builds lintels, cornices, arches, vaults.	<p>3.1. Topic: Lintel building. Tasks: 3.1.1. Describe masonry technology for lintel building. 3.1.2. Build a lintel.</p> <p>3.2. Topic: Cornice building. Tasks: 3.2.1. Describe masonry technology for cornice building. 3.2.2. Build a cornice.</p> <p>3.3. Topic: Arch and vault building. Tasks: 3.3.1. Describe masonry technology for arch and vault building. 3.3.2. Make a formwork and build the arch. 3.3.3. Build a vault.</p>	6	132	30
Total:		15	330	75

2.2.3 Teaching / learning tools and literature:

<ul style="list-style-type: none"> • Tools: Theory: classroom equipped with school furniture, demonstration tools and IT devices. Practice: masonry practical training workshops, personal protective equipment, masonry tools, brick and stone cutting tools and equipment, mortar preparation tools, equipment and inventory, measuring instruments, etc. Materials required for masonry: bricks, mortar. • Literature: Methodical handout materials, textbooks, task books, practical assignments, technological cards, construction rules, regulations and standards.

2.2.4 Requirements for trainer's qualification:

The trainer must have a brick layer's qualification not lower than EQF Level 4 and meet the requirements for a VET trainer in accordance with the procedure established by the national legal acts.

2.2.5. Assessment of learning outcomes (competence):

The module assessment consists of two parts:

1. Assessment of theoretical knowledge (multiple choice test of 20 and more questions)
2. Practical assignment.

Assessment: passed/failed

2.3. MODULE: CUSTOMER CONSULTATION

2.3.1. Purpose of the Module: to consult the customer on the solid fuel heat release appliance selection, exploitation and maintenance, to prepare all the necessary documentation, ensure polite and professional interaction with the customer.

2.3.2. Content and scope of the Module:

Learning outcomes	Recommended content to achieve the learning outcomes	No of Credits	No of Hours	
			Contact hours	Self study
1. Advises customers on the installation of solid fuel heat release appliances (other than boilers), based on the heat load requirement of the building and fire safety regulations.	<p>1.1. Topic: Types of solid fuel heat appliances Tasks: 1.1.1. State and describe types of solid fuel heat appliances 1.1.2. Explain the use of different appliances in different conditions.</p> <p>1.2. Topic: Heat load requirement of a building Tasks: 1.2.1. Calculate the heat load of the building according to given formulas. 1.2.2. Compare to heat appliance heat output.</p>	1	44	5
2. Prepares all documentation regarding the construction of the	<p>2.1. Topic: Types of documentation necessary for installation of the heating system Tasks:</p>	3	66	15

heating system (other than boilers).	2.1.1. State and describe types of necessary documentation that are given to the customer with their new or renovated heating appliance. 2.1.2. Prepare necessary documentation that are given to the customer with their new or renovated heating appliance			
3. Advises customers on exploitation and maintenance of heating appliances	3.1. Topic: Heating system exploitation Tasks: 3.1.1. Describe the conditions for first firing of the solid fuel heat appliance, including permitted fuels. 3.1.2. Advise the customer on the use of the heating appliance. 3.2. Topic: Heating system maintenance 3.2.1. Consult the customer on the use of the appliance, giving instructions for maintenance to ensure long life	1	22	5
Total:		5	110	25

2.3.3. Teaching / learning tools and literature:

<ul style="list-style-type: none"> • Tools: Theory: classroom equipped with school furniture, demonstration tools and IT devices. Practice: stove builder practical training workshop including different solid fuel heat appliances that can be used for demonstration, personal protective equipment, different types of solid fuel. • Literature: Methodical handout materials, practical assignments, appliance instruction manuals, regulations and standards.

2.3.4. Requirements for trainer's qualification:

The trainer must have a stove builder qualification not lower than EQF Level 4 and meet the requirements for a VET trainer in accordance with the procedure established by the national legal acts.

2.3.5. Assessment of learning outcomes (competence):

The module assessment consists of two parts:
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1. Assessment of theoretical knowledge (multiple choice test of 20 and more questions).
2. Practical assignment.

Assessment: passed/failed

2.4. MODULE: BUILDING MASONRY HEAT RELEASE APPLIANCES

2.4.1. Purpose of the Module: to build masonry solid fuel heat appliances (other than boilers).

2.4.2. Content and scope of the Module:

Learning outcomes	Recommended content to achieve the learning outcomes	No of Credits	No of Hours	
			Contact hours	Self study
1. Selects and prepares materials, tools and equipment for building masonry solid fuel heat appliances.	<p>1.1. Topic: Masonry tools, equipment, measuring instruments for building solid fuel heat appliances.</p> <p>Tasks:</p> <p>1.1.1. List, describe, identify tools, equipment and measuring instruments used for building masonry solid fuel heat appliances.</p> <p>1.1.2. List, describe, identify materials used for building masonry solid fuel heat appliances.</p> <p>1.1.3. Select and prepare tools, equipment and measuring instruments used for building masonry solid fuel heat appliances.</p> <p>1.2.4. Select and prepare materials used for building masonry solid fuel heat appliances.</p>	1	22	5
2. Builds a masonry heating stove	<p>2.1. Topic: Types of masonry heating stoves</p> <p>Tasks:</p> <p>2.1.1. List the types of masonry heating stoves, their operation principles.</p> <p>2.1.2. Describe installation technology for duct, convection, accumulation and other types of masonry stoves.</p> <p>2.2. Topic: Designing of masonry heating stoves</p> <p>Tasks:</p> <p>2.2.1. Calculate the parameters of the masonry heating stoves based on the room</p>	5	110	25

	<p>space and the purpose of the appliance. 2.2.2. Draw a sketch of masonry heating stoves.</p> <p>2.3. Topic: Building of masonry heating stoves. Tasks: 2.3.1. Build masonry duct heating stove. 2.3.2. Build masonry convection heating stove. 2.3.3. Build masonry accumulation heating stove. 2.3.4. Build other types of masonry heating stoves.</p> <p>2.4. Topic: Finishing of masonry heating stoves. Tasks: 2.4.1. Describe finishing technology of masonry heating stoves. 2.4.2. Finish a masonry heating stove using glazed tiles. 2.4.3. Finish a masonry heating stove using plaster.</p>			
<p>3. Builds a masonry cooking stove.</p>	<p>3.1. Topic: Types of masonry cooking stoves and installation technologies Tasks: 3.1.1. List the types of masonry cooking stoves, their operation principles. 3.1.2. Describe installation technology for masonry cooking stoves.</p> <p>3.2. Topic: Building of a cooking stove. Tasks: 3.2.1. Calculate the parameters of the masonry cooking stoves based on the room space and the purpose of the appliance. 3.2.2. Draw a sketch of masonry cooking stoves. 3.2.3. Build a cooking stove and explain masonry technology and operation principle. 3.2.4. Build a cooking stove with an oven and explain masonry technology and operation principle. 3.2.5. Build a sophisticated cooking stove with an oven and water heater and explain masonry technology and operation principle.</p>	5	110	25

	3.2.6. Build a cooking stove with the heating wall and explain masonry technology and operation principle.			
4. Builds a masonry bread baking stove.	<p>4.1. Topic: Types of masonry bread baking stoves and installation technologies.</p> <p>Tasks:</p> <p>4.1.1. List the types of masonry bread baking stoves, their operation principles.</p> <p>4.1.2. Describe installation technology for masonry bread baking stoves.</p> <p>4.2. Topic: Building of a bread baking stove.</p> <p>Tasks:</p> <p>4.2.1. Calculate the parameters of the bread baking stove based on the room space and the purpose of the appliance.</p> <p>4.2.2. Draw a sketch of masonry bread baking/pizza baking stoves.</p> <p>4.2.3. Build a masonry bread baking stove.</p> <p>4.2.4. Build a masonry pizza baking stove.</p>	4	88	20
5. Builds a masonry fireplace.	<p>5.1. Topic: Types of masonry fireplaces and installation technologies.</p> <p>Tasks:</p> <p>5.1.1. List the types of masonry fireplaces, their operation principles.</p> <p>5.1.2. Describe installation technology for masonry fireplaces.</p> <p>5.2. Topic: Building of a masonry fireplace.</p> <p>Tasks:</p> <p>5.2.1. Calculate the parameters of the masonry fireplace based on the room space and the purpose of the appliance.</p> <p>5.2.2. Draw a sketch of masonry fireplace.</p> <p>5.2.3. Build masonry open fireplaces.</p> <p>5.2.4. Build masonry enclosed fireplaces (natural heat convection fireplaces, forced air conveying fireplaces, fireplaces with hot-water inserts, heat-storing fireplaces).</p> <p>5.3. Topic: Finishing of masonry fireplaces.</p> <p>Tasks:</p> <p>5.3.1. List and describe finishing methods and technologies for fireplaces.</p>	5	110	25

	5.3.2. Finish fireplaces using natural stones. 5.3.3 Finish fireplaces using decorative plaster.			
	Total:	20	440	100

2.4.3. Teaching / learning tools and literature:

<ul style="list-style-type: none"> • Tools: <p>Theory: classroom equipped with school furniture, demonstration tools and IT devices.</p> <p>Practice: masonry practical training workshop, personal protective equipment, masonry tools, tools and equipment for cutting bricks and stones, tools for mortar preparation, measuring instruments, etc. Materials necessary for masonry: bricks, tiles, reinforcement, mortar.</p> <ul style="list-style-type: none"> • Literature: <p>Methodical handout materials, practical assignments, appliance instruction manuals, regulations and standards.</p>

2.4.4. Requirements for trainer's qualification:

<p>The trainer must have a stove builder qualification not lower than EQF Level 4 and meet the requirements for a VET trainer in accordance with the procedure established by the national legal acts.</p>
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2.4.5. Assessment of learning outcomes (competence):

<p>The module assessment consists of two parts:</p> <ol style="list-style-type: none"> 1. Assessment of theoretical knowledge (multiple choice test of 20 and more questions). 2. Practical assignment. <p>Assessment: passed/failed</p>
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2.5. MODULE: INSTALLATION OF PRE-FABRICATED HEAT RELEASE APPLIANCES

2.5.1. Purpose of the Module: to install pre-fabricated solid fuel heat release appliances (other than boilers).

2.5.2. Content and scope of the Module:

Learning outcomes	Recommended content to achieve the learning outcomes	No of Credits	No of Hours	
			Contact hours	Self study
1. Selects and prepares materials, tools and equipment for installation of pre-fabricated heat release appliances.	<p>1.1. Topic: Tools, equipment, measuring instruments for installation of pre-fabricated solid fuel heat release appliances.</p> <p>Tasks:</p> <p>1.1.1. List, describe, identify tools, equipment and measuring instruments used for installation of pre-fabricated solid fuel heat release appliances.</p> <p>1.1.2. List, describe, identify materials used for installation of pre-fabricated solid fuel heat release appliances.</p> <p>1.1.3. Select and prepare tools, equipment and measuring instruments used for installation of pre-fabricated solid fuel heat release appliances.</p> <p>1.2.4. Select and prepare materials used for building masonry solid fuel heat appliances.</p>	1	22	5
2. Installs pre-fabricated modular accumulation stoves.	<p>2.1. Topic: Types of pre-fabricated modular accumulation stoves.</p> <p>Tasks:</p> <p>2.1.1. List and describe the types of pre-fabricated modular accumulation stoves, their operation principles.</p> <p>2.1.2. List and describe the structure, installation requirements and technology for pre-fabricated modular accumulation stoves.</p> <p>2.2. Topic: Designing of pre-fabricated modular accumulation stove.</p> <p>Tasks:</p> <p>2.2.1. Calculate the parameters of the pre-fabricated modular accumulation stove.</p> <p>2.2.2. Draw an assembly diagram of the pre-fabricated modular accumulation stove.</p> <p>2.3. Topic: Installation of pre-fabricated</p>	2	88	20

	<p>modular accumulation stove.</p> <p>Tasks:</p> <p>2.3.1. Assemble the foundation for a pre-fabricated accumulation stove.</p> <p>2.3.2. Assemble the combustion chamber of a pre-fabricated accumulation stove.</p> <p>2.3.3. Assemble flues of a pre-fabricated accumulation stove.</p> <p>2.3.4. Assemble sitting place (bench).</p>			
<p>3. Installs pre-fabricated convection (hot air) stoves.</p>	<p>3.1. Topic: Types of pre-fabricated convection stoves.</p> <p>Tasks:</p> <p>3.1.1 List and describe the types of pre-fabricated convection stoves, their operation principles.</p> <p>3.1.2. List and describe the structure, installation requirements and technology for pre-fabricated convection stoves.</p> <p>3.2. Topic: Designing of pre-fabricated convection stove.</p> <p>Tasks:</p> <p>3.2.1. Calculate the parameters of the pre-fabricated convection stove.</p> <p>3.2.2. Draw an assembly diagram of the pre-fabricated convection stove.</p> <p>3.3. Topic: Installation of pre-fabricated convection stove.</p> <p>Tasks:</p> <p>3.3.1. Assemble elements of the pre-fabricated convection stove.</p> <p>3.3.2. Assemble flues of a pre-fabricated convection stove.</p> <p>3.3.3. Assemble fittings of a pre-fabricated convection stove.</p>	1	88	20
<p>4. Installs pre-fabricated cookers and baking stoves.</p>	<p>4.1. Topic: Types of pre-fabricated cookers and baking stoves.</p> <p>Tasks:</p> <p>4.1.1 List and describe the types of pre-fabricated cookers and baking stoves, their operation principles.</p> <p>4.1.2. List and describe the structure, installation requirements and technology for pre-fabricated cookers and baking stoves.</p>	2	88	20

	<p>4.2. Topic: Designing of pre-fabricated cooker, baking stove. Tasks: 4.2.1. Calculate the parameters of the pre-fabricated cooker, baking stove. 4.2.2. Draw an assembly diagram of the pre-fabricated cooker, baking stove.</p> <p>4.3. Topic: Installation of pre-fabricated cooker, baking stove. Tasks: 4.3.1. Assemble a pre-fabricated cooker. 4.3.2. Assemble a pre-fabricated cooking stove.</p>			
5. Installs pre-fabricated fireplaces	<p>5.1. Topic: Types of pre-fabricated fireplaces. Tasks: 5.1.1. List and describe the types of pre-fabricated fireplaces, their operation principles. 5.1.2. List and describe the structure, installation requirements and technology for pre-fabricated fireplaces.</p> <p>5.2. Topic: Designing of pre-fabricated fireplace. Tasks: 5.2.1. Calculate the parameters of the pre-fabricated fireplace. 5.2.2. Draw an assembly diagram of the pre-fabricated fireplace.</p> <p>5.3. Topic: Installation of pre-fabricated fireplace. Tasks: 5.3.1. Assembly a pre-fabricated fireplace with open hearth. 5.3.2. Assembly a pre-fabricated fireplace with an insert.</p>	2	88	20
6. Finishes the assembled pre-fabricated heat release appliances.	<p>6.1.Topic: Finishing of pre-fabricated heat release appliances. Tasks: 6.1.1 List and describe methods and materials for finishing the pre-fabricated heat release appliances.</p>	2	66	15

	6.1.2. Make finishing of the pre-fabricated heat release appliances using glazed tiles. 6.1.3. Make finishing of the pre-fabricated heat release appliances using chamotte tiles. 6.1.4. Make finishing of the pre-fabricated heat release appliances using natural stone. 6.1.5. Make finishing of the pre-fabricated heat release appliances using plain plaster. 6.1.6. Make finishing of the pre-fabricated heat release appliances using decorative plaster.			
	Total:	20	440	100

2.5.3. Teaching / learning tools and literature:

<ul style="list-style-type: none"> • Tools: Theory: classroom equipped with school furniture, demonstration tools and IT devices. Practice: heat appliance installation practical training workshops, parts/modules of pre-fabricated heat release appliances, fittings, other tools and materials, measuring instruments, verticality/horizontality checking instruments, personal protective equipment. • Literature: Methodical handout materials, textbooks, task books, practical assignments, technological cards, construction rules, regulations and standards.

2.5.4. Requirements for trainer's qualification:

The trainer must have not less than 3 years experience of installation of pre-fabricated heat release appliances and meet the requirements for a VET trainer in accordance with the procedure established by the national legal acts.

2.5.5. Assessment of learning outcomes (competence):

<p>The module assessment consists of two parts:</p> <ol style="list-style-type: none"> 1. Assessment of theoretical knowledge (multiple choice test of 20 and more questions). 2. Practical assignment. <p>Assessment: passed/failed</p>
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2.6. MODULE: BUILDING AND INSTALLATION OF CHIMNEYS

2.6.1. Purpose of the Module: to build and install chimneys.

2.6.2. Content and scope of the Module.

Learning outcomes	Recommended content to achieve the learning outcomes	No of Credits	No of Hours	
			Contact hours	Self study
1. Calculates the height and size of the chimney	1.1. Topic: Calculation of the height and size of the chimney. Tasks: 1.1.1. List and describe the types of chimneys and materials. 1.1.2. Calculate chimney dimensions according to load, smoke temperature and soot resistance. 1.1.3. Select chimney structure.	2	44	10
2. Builds a chimney.	2.1. Topic: Building of a chimney. Tasks: 2.1.1. Install foundation of the chimney. 2.1.2. Build chimneys from brick. 2.1.3. Connect chimneys to heat release appliances. 2.1.4. Fit the flue pipe and cleaning hole. 2.1.5. Install chimney inserts for soot protection.	4	88	20
3. Assembles a chimney.	2.1. Topic: Assembling a pre-fabricated chimney chimney. Tasks: 3.1.1. Assemble modular chimneys from pre-fabricated elements. 3.1.2. Connect modular chimneys to heat release appliances.	4	88	20
Total:		10	220	50

2.6.3 Teaching / learning tools and literature:

<ul style="list-style-type: none"> • Tools: <p>Theory: classroom equipped with school furniture, demonstration tools and IT devices.</p> <p>Practice: masonry practical training workshops, personal protective equipment, masonry tools, brick and stone cutting tools and equipment, mortar preparation tools, equipment and inventory,</p>
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measuring instruments, etc. Materials required for masonry: bricks, glazed tiles, stove fittings, mortar.

- Literature:

Methodical handout materials, textbooks, task books, practical assignments, technological cards, construction rules, regulations and standards.

2.6.4. Requirements for trainer’s qualification:

The trainer must have not less than 3 years experience in chimney building and installation and meet the requirements for a VET trainer in accordance with the procedure established by the national legal acts.

2.6.5. Assessment of learning outcomes (competence):

The module assessment consists of two parts:

1. Assessment of theoretical knowledge (multiple choice test of 20 and more questions).
2. Practical assignment.

Assessment: passed/failed.

2.7. MODULE: REPAIRING OF HEAT RELEASE APPLIANCES

2.7.1. Purpose of the Module: repair, renovate solid fuel heat release appliances (other than boilers).

2.7.2. Content and scope of the Module.

Learning outcomes	Recommended content to achieve the learning outcomes	No of Credits	No of Hours	
			Contact hours	Self study
1. Carries out the evaluation of the condition of solid fuel heat release appliances (other than boilers) and their system.	<p>1.1. Topic: Evaluation of the condition of solid fuel heat release appliances and their system.</p> <p>Tasks:</p> <p>1.1.1. List general requirements for the use of heat release appliances.</p> <p>1.1.2. Identify defects in heat release appliances that occur during operation.</p>	1	22	5

2. Selects suitable repair methods and materials.	2.1. Topic: Selection of suitable repair methods and materials. Tasks: 2.1.1. Describe the types of repair of heat release appliances. 2.1.2. Select methods and materials for repair of masonry heat release appliances. 2.1.3. Select methods and materials for repair of pre-fabricated heat release appliances. 2.1.4. Select methods and materials for repair of the finishing of heat release appliances.	1	22	5
3. Performs repair work of heat release appliances (other than boilers) and their system	3.1. Topic: Repair work of heat release appliances and their system. Tasks: 3.1.1. Perform preventive maintenance and small repairs of heat release appliances. 3.1.2. Perform partial repairs of heat release appliances. 3.1.3. Perform major repairs of heat release appliances. 3.1.4. Perform repairs of masonry heat release appliances. 3.1.5. Perform repairs of pre-fabricated heat release appliances. 3.1.6. Clean and repair flues and chimneys.	8	176	40
Total:		10	220	50

2.7.3. Teaching / learning tools and literature:

<ul style="list-style-type: none"> • Tools: Theory: classroom equipped with school furniture, demonstration tools and IT devices. Practice: stove building practical training workshops, heat release appliance under repair, personal protective equipment, masonry and assembly tools, brick and stone cutting tools and equipment, mortar preparation tools, equipment and inventory, measuring instruments, stove finishing tools, etc. Materials required for stove repair. • Literature: Methodical handout materials, textbooks, task books, practical assignments, technological cards, construction rules, regulations and standards.

2.7.4. Requirements for trainer's qualification:

The trainer must have a stove builder qualification not lower than EQF Level 4 and meet the requirements for a VET trainer in accordance with the procedure established by the national legal acts.

2.7.5. Assessment of learning outcomes (competence):

The module assessment consists of two parts:

1. Assessment of theoretical knowledge (multiple choice test of 20 and more questions).
2. Practical assignment.

Assessment: passed/failed.

2.8. MODULE: STOVE BUILDERS' WORK ORGANISATION

2.8.1. Purpose of the Module: to organize stove builders' work and supervise a small team of stovebuilders.

2.8.2. Content and scope of the Module:

Learning outcomes	Recommended content to achieve the learning outcomes	No of Credits	No of Hours	
			Contact hours	Self study
1. Examines the documentation, calculates the amount of materials required for the work and the amount of work performed.	1.1. Topic: Documentation and scope of work. Tasks: 1.1.1. Examine the existing documentation before starting work. 1.1.2. Calculate the amount of materials required (according to the installation manual, technical design of the installation, price offer).	1	22	5
2. Plans and organizes the work of his or her subordinates and distributes working time.	2.1. Topic: Work plan and organisation. Tasks: 2.1.1. Prepare a work plan, assigning tasks and hours to employees. 2.1.2. Include supply of materials and logistics in the work plan.	1	22	5

3. Evaluates the quality of the work of subordinate staff.	3.1. Topic: Evaluation of work quality. Tasks: 3.1.1. Know and list the requirements for work quality. 3.1.2. Give feedback to the staff on the quality of their work.	1	22	5
4. Selects the methods and tools of performing the work.	4.1. Topic: Work methods and tools. Tasks: 4.1.1. Describe different methods of building and installation of heat release appliances. 4.1.2. Describe different tools of building and installation of heat release appliances. 4.1.3. Select methods and tools for a specific building/installation case.	2	44	10
Total:		5	110	25

2.8.3. Teaching / learning tools and literature:

<ul style="list-style-type: none"> • Tools: Theory: classroom equipped with school furniture, demonstration tools and IT devices. Practice: practical training workshops with different types of solid fuel heat release appliances used for demonstration, personal protective equipment, different types of solid fuel. • Literature: methodical handout materials, textbooks, task books, practical assignments, technological cards, construction rules, regulations and standards.
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2.8.4. Requirements for trainer's qualification:

<p>The trainer must have a stove builder qualification not lower than EQF Level 4 and meet the requirements for a VET trainer in accordance with the procedure established by the national legal acts.</p>
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2.8.5. Assessment of learning outcomes (competence):

The module assessment consists of two parts:

1. Assessment of theoretical knowledge (multiple choice test of 20 and more questions).
2. Practical assignment.

Assessment: passed/failed.