

OCCUPATIONAL QUALIFICATION STANDARD

Master Oven Builder, EstQF Level 5

An occupational qualification standard is a document which describes the set of skills, knowledge and attitudes, i.e. competence requirements, needed to successfully accomplish duties. Occupational qualification standards are used for compiling curricula and awarding qualifications.

Occupational title	Level of Estonian Qualifications Framework (EstQF)
Master Oven Builder, EstQF Level 5	5

Possible specialisation and titles on occupational certificate	
Specialisation	Title on occupational qualification certificate
Restoration	Master Oven Builder and Restorer, EstQF Level 5

Part A DESCRIPTION OF WORK

<p>A.1 Description of work</p> <p>The main tasks of an oven builder are the construction, demolition, installation, renovation and modification of solid-fuel heating systems and parts thereof.</p> <p>Solid-fuel heating systems include solid-fuel masonry heaters made of bricks, tiles, blocks, rubble and other materials (stoves, cookers, fireplaces, etc.) and their accompanying systems (flues, chimneys, etc.) as well as prefabricated heating appliances and chimney systems under manufacturer's liability (small hot-air stoves, sauna stoves, etc.).</p> <p>Three occupational qualification standards have been developed for the occupation of oven builder: Apprentice Oven Builder, EstQF Level 3; Oven Builder, EstQF Level 4; Master Oven Builder, EstQF Level 5.</p> <p>Master Oven Builder, Level 5 carries out the construction, demolition, renovation and modification of solid-fuel heating appliances and chimney systems as well as prefabricated heating appliances and chimney systems under manufacturer's liability. They prepare the relevant documentation and carry out expert assessments, where necessary.</p> <p>Master Oven Builder, Level 5 advises clients on the selection, operation and combination of heating systems and offers optimal solutions.</p> <p>An oven builder with this level of qualification supervises and trains less qualified oven builders. Their work is guided by the requirements of the professional ethics of oven builders (see Annex 3 – Oven builder's professional ethics). They adhere to legislation in force and other relevant instructions and normative documents (EVS 812-3 Fire safety of constructions, Part 3: Heating systems, EVS-EN 15544, etc.)</p> <p>A master oven builder at level 5 of the EstQF may, if desired and after completing the necessary training, specialise as a master oven builder and restorer.</p> <p>A.2 Tasks</p> <p>A.2.1 Planning and designing of a heating system to be built and/or installed or part(s) thereof</p> <ol style="list-style-type: none"> 1. Identifying the client's wishes 2. Familiarising themselves with the construction documentation and the situation on site 3. Assessing the existing heating system or part(s) or that/those being designed 4. Assessing air supply 5. Evaluating the solution requested by the client 6. Calculating the heat demands of a building or space

7. Performing thermal technical calculations and compiling the working project and drawings
8. Performing thermal technical calculations for the connection flue and chimney designed as part of the heating system and compiling the working project and/or drawings
9. Selecting materials, calculating quantities and preparing quotes

A.2.2 Preparing for the construction or installation of a solid-fuel heating appliance

1. Preparing the work environment
2. Preparing and constructing the foundations or underlying surface of the heating system
3. Preparing load-bearing structures (walls, inserted ceilings, etc.)

A.2.3 Installing heating systems under manufacturer's liability or parts thereof

1. Installing a heating appliance under manufacturer's liability on a pre-prepared surface
2. Installing a chimney under manufacturer's liability
3. Renovating or modifying a heating system under manufacturer's liability or parts thereof
4. Transferring the finished heating system or part thereof to the client
5. Instructing the client on the use and maintenance of the heating system

A.2.4 Carrying out custom construction of a solid-fuel heating system

1. Carrying out custom construction of a solid-fuel heating system on a pre-prepared surface
2. Constructing a masonry chimney
3. Providing decorative finishing for heating system parts
4. Transferring the finished custom heating system or part(s) thereof to the client
5. Instructing the client on the use and maintenance of the heating system or appliance

A.2.5 Carrying out custom demolition, renovation or modification of a solid-fuel heating appliance or system

1. Assessing the condition of a solid-fuel heating appliance or system
2. Demolishing a heating appliance
3. Renovating a masonry heating system or parts thereof
4. Modifying a masonry heating system or parts thereof

A.2.6 Expert assessment of a heating system or part(s) thereof

1. Assessment of the condition of a heating system and/or its components for the purpose of expert assessment
2. Preparing and finalising an expert assessment

A.2.7 Business activities

1. Finding a business outlet for their service
2. Marketing their service

A.2.8 Supervision and teamwork

1. Delegating
2. Motivating
3. Ensuring work quality
4. Analysing errors in work and advising on their rectification
5. Organising work

Specialised areas of work

A.2.9 Restoration of a heating system

1. Familiarising themselves with the heating system or components to be restored and their documentation
2. Preparing a restoration plan
3. Determining the construction volume and restoration technology
4. Inspecting the heating system or components to be restored
5. Organising cooperation with the client and third parties
6. Restoring and/or conserving a solid-fuel heating appliance

A.3 Work environment and specific nature of work

Oven builders have a flexible work schedule. Depending on agreements with the employer or the client, the volume of work and other peculiarities of work organisation, the work may also take place on weekends and public holidays or in the evenings.

The work may be fast-paced and stressful, depending on the nature and volume of the order.

The work is physically demanding. It often involves lifting heavy construction materials, working in a forced position or on temporary scaffolding and other structures. The work takes place both indoors and outdoors, at different heights and in changing environmental conditions.

The work of an oven builder is associated with an increased risk of injury, which is why oven builders must comply with work regulations and occupational health and safety requirements. Dust, airborne chemicals, noise, temperature fluctuations and drafts are also risk factors, requiring the use of protective clothing and equipment.

A.4 Tools

An oven builder's main tools are various hand tools (trowels, brick hammers, etc.), measuring instruments (measuring tapes, levels, etc.), electrical equipment (cutters, saws, mixers, etc.), lifting equipment and tools (hoists etc.) and marking tools.

A.5 Personal qualities required for work: abilities and characteristics

The work of an oven builder requires accuracy, precision, tolerance of routine, concentration and learning ability.

Good coordination, physical endurance and a tolerance of heights are also required.

Oven builders must have good stress tolerance and a sense of duty and they must be fluent communicators. Spatial imagination and an appreciation of aesthetics are also useful in the work.

A.6 Professional preparation

Master Oven Builder, Level 5 is a specialist with long-standing practical work experience and professional vocational education or who has completed in-service training.

In order to specialise as an oven builder and restorer, previous practical work experience in restoration and relevant in-service training in restoration is required.

A.7 Most common occupational titles

Oven builder, stove builder, chimney builder, chimney repairer.

A.8 Regulations governing profession

Building Code and its relevant implementing acts

Fire Safety Act and its relevant implementing acts

Normative documents of the Estonian Centre for Standardisation

Part B COMPETENCY REQUIREMENTS

B.1 Structure of occupation

The occupational qualification standard of Master Oven Builder, EstQF Level 5 consists of eight mandatory competences (B.2.1-B.2.8), one specialised competence (B.2.9) and one recurring competence (B.2.10).

Competences B.2.1-B.2.8 and B.2.10 must be certified when applying for the qualification.

Additionally, when specialising as Master Oven Builder and Restorer, EstQF Level 5, competence B.2.9 must be certified.

B.2 Competences

MANDATORY COMPETENCES

B.2.1 Planning and designing of a heating system to be built and/or installed or part(s) thereof	EstQF Level 5
Performance indicators:	

1. Identifies the client's wishes regarding the heating system to be built or installed.
2. Familiarises themselves with the existing construction documentation for the project. If necessary, conducts an on-site inspection and asks the client for additional information.
3. Evaluates the suitability of the existing solid-fuel heating system to the proposed solid-fuel heating system or its components. In the case of a combined heating solution, evaluates the suitability of the proposed solid-fuel heating system to the existing or proposed heating system or its components. Consults or involves specialists, where necessary. If necessary, defines the need for the treatment of the site as one of historical and cultural value and makes proposals for further activities based on the specific nature of the site.
4. Evaluates the air supply in the building and space necessary for the operation of the proposed heating appliance. Ensures that there are no obstructions to draughts in the room or system. In the case of insufficient air supply, offers workable solutions based on the principles of energy efficiency. Consults or involves specialists, where necessary.
5. Evaluates the feasibility of the project and offers the client other suitable, modern and energy-saving solutions, where necessary (including combined heating systems), based on valid environmental, fire safety and energy saving requirements. Advises the client on the planning, installation and required approval of heating systems, based on current legislation and established standards.
6. Calculates the estimated heat demands of a building or part thereof, based on the specific use and location of the building and/or space and the minimum requirements of energy efficiency.
7. Designs and calculates a heating appliance based on the heat demands of the building or part thereof, the client's requests and the planned heating system (including combined heating systems) or heat-carrying agent (e.g. air heating or water heating). Prepares the necessary working and installation drawings based on the plan.
8. Designs a connecting flue and chimney according to the planned heating appliance and the specific nature of the building and its technical systems. Performs the necessary calculations and prepares the required working and installation drawings based on the plan of the heating system and the results of the calculations.
9. Calculates the quantity of materials needed to carry out the work. Prepares a quote for the solid-fuel heating appliance or heating system being planned/to be installed, based on the quantity of selected materials, the cost of installation or work and other costs.

Knowledge:

- 1) principles of customer service;
- 2) terms and principles of heat engineering and heating systems;
- 3) basics of technical drawing and symbols used in working drawings;
- 4) legislation and requirements governing the construction and installation of heating systems and appliances;
- 5) EVS EN 15544 and other relevant instruction materials;
- 6) principles and minimum requirements of energy efficiency;
- 7) methods for determining the estimated heat demands of a building;
- 8) heating appliance air supply;
- 9) most common heating systems and combined heating systems (solar heating, geothermal heating, heat exchangers, etc.);
- 10) basics of the construction and design of heating appliances;
- 11) basics of heating appliance working project preparation and principles of appliance construction;
- 12) basics of construction (materials science and mechanics of materials);
- 13) construction structures (made from stone, wood, concrete, etc.);
- 14) most common general construction materials;
- 15) construction materials used in oven-building;
- 16) basics of budget preparation.

B.2.2 Preparing for the construction or installation of a solid-fuel heating appliance	EstQF Level 4
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Performance indicators:

1. Organises the preparation or prepares a suitable workplace: installs a work platform and builds the necessary work surfaces, ramps, ladders and railings based on the specific nature of the working site, following occupational safety requirements and installation instructions. Prepares the necessary tools, equipment, materials and accessories. Stores elements and parts, ensuring that the quality of the materials is maintained. Ensures the availability of personal protective equipment at the work site.
2. Organises or performs marking and surveying work in accordance with the working drawings or project, using appropriate measuring instruments and methods and ensuring the required measurement accuracy. Organises or performs excavation work, the laying of sand and/or gravel bases and localised concreting work with the required

reinforcement. Organises or performs the installation of waterproof and thermal insulation and a suitable (EVS 812-3) fireproof base on a combustible underlying surface depending on the heating appliance.

3. Organises or performs marking and surveying work in accordance with the working drawings or project, using appropriate measuring instruments and methods and ensuring the required measurement accuracy. Selects suitable fasteners based on the underlying surface and the component to be fastened. If the installation of the heating system requires the modification or strengthening of existing structures, they inform the client and make proposals regarding the necessary work.

Knowledge:

- 1) occupational health and safety requirements;
- 2) basics of technical drawing and symbols used in working drawings;
- 3) requirements of construction material storage;
- 4) basics of manufacturing concrete constructions;
- 5) basics of the construction and installation of combustion air supply systems;
- 6) fastening solutions and their implementation technologies;
- 7) waterproof and thermal insulation materials and their installation technologies.

B.2.3 Installing heating systems under manufacturer's liability or parts thereof

EstQF Level 5

Performance indicators:

1. Organises or performs the installation of a heating appliance under manufacturer's liability (air heater, sauna stove, modular fireplace or other heating appliance) in accordance with the manufacturer's instructions and valid fire safety requirements. Integrates the heating appliance under manufacturer's liability with another heating solution used in the building.
2. Ensures that all necessary chimney and connection flue components and accessories are available, in good condition and compatible with one another, and that the chimney is suitable for the heating appliance. Organises or performs the installation of a chimney, connection flue and chimney notice plate in accordance with the working drawing, the manufacturer's installation instructions and valid fire safety requirements. If the installation of the chimney requires the modification or strengthening of existing structures, they inform the client and make proposals regarding the necessary work.
3. Renovates or modifies (i.e. undertakes activities that change the technical characteristics or performance of) heating systems or appliances under manufacturer's liability, in accordance with the manufacturer's operating and maintenance instructions and valid fire safety requirements.
4. Transfers to the client the heating system or part thereof installed in accordance with the best practice in construction, valid requirements and product or system installation instructions, and prepares and archives the documentation related to the construction of the heating system in accordance with relevant legislation. Issues to the client the documentation accompanying the heating system (reports on covered works, the declaration of the performance of the heating appliance, installation, operation and maintenance instructions and as-built drawings).
5. Gives the client an overview of the use and maintenance of the heating system and, where necessary, provides additional explanations about the installed appliance. Advises the client on proper heating techniques.

Knowledge:

- 1) valid fire safety standards and requirements;
- 2) materials and installation technologies used in the installation of heating systems under manufacturer's liability;
- 3) mechanical and electrical tools and other equipment;
- 4) working plans and keywords;
- 5) heating systems and parts thereof.

B.2.4 Carrying out custom construction of a solid-fuel heating system

EstQF Level 5

Performance indicators:

1. Builds a masonry heating appliance (glazed tile stove, plain tile stove, brick stove, sheet metal stove, cooking stove, etc.) in accordance with the working drawing, valid fire safety requirements and best practice in construction. Integrates the planned solid-fuel heating appliance with another heating solution used in the building.
2. Organises or performs the construction of a chimney and connection flue in accordance with the working drawing and valid fire safety requirements. If the construction of a masonry chimney requires the modification or strengthening of existing structures, they inform the client and make proposals regarding the necessary work.
3. Provides finishing to the parts of the heating system based on the given or agreed design (e.g. jointing, plastering or fitting natural stones or other decorative elements). Offers the client potential technical and design solutions, where necessary.

4. Transfers to the client the finished heating system or part thereof constructed in accordance with best practice in construction and valid requirements.
5. Prepares and archives the documentation related to the construction of the heating system or appliance based on relevant legislation and issues to the client the documentation accompanying the heating system (e.g. reports on covered works, the technical data sheet of the heating appliance, operation and maintenance instructions, as-built drawings and certificates of materials used).
6. Gives the client an overview of the use and maintenance of the heating system and, where necessary, provides additional explanations about the constructed appliance. Advises the client on proper heating techniques.

Knowledge:

- 1) construction materials used in the profession and their properties and uses;
- 2) occupational health and safety requirements;
- 3) mechanical and electrical tools and other equipment used in the profession;
- 4) working plans and keywords;
- 5) heating systems and parts thereof.
- 6) fire safety requirements related to oven building.

B.2.5 Carrying out custom demolition, renovation or modification of a solid-fuel heating appliance or system

EstQF Level 5

Performance indicators:

1. Based on the order, evaluates visually or using other methods and resources the condition of the heating appliance or system, the practicality of the planned renovation work and the potential volume of work. In the case of combined heating systems, evaluates the impact of the forthcoming work on the overall heating system of the building. Consults or involves specialists, where necessary, or informs the client of the need to involve them. Offers the client the optimal solution.
2. Organises or performs the demolition of a solid-fuel heating system or parts thereof in accordance with the project and taking into account the load-bearing structures of the building and the specific nature of the components to be demolished.
3. Organises or performs work related to the renovation of a masonry heating system or parts thereof, in accordance with valid fire safety requirements and best practice in construction.
4. Organises or performs work related to the modification of (i.e. activities that change the technical characteristics or performance of) a heating system or its components (i.e. the equipment or appliance becomes part of a combined heating solution), in accordance with valid fire safety requirements and best practice in construction.

Knowledge:

- 1) occupational health and safety requirements;
- 2) fire safety requirements related to oven-building;
- 3) mechanical and electrical tools and other equipment used in the profession;
- 4) construction technologies;
- 5) construction structures (made from stone, wood, concrete, etc.);
- 6) reading working drawings;
- 7) construction materials used in the profession and their properties and uses;
- 8) heating systems and parts thereof.
- 9) construction surveying and tools required for surveying;
- 10) knowledge of proper heating, operation and maintenance of solid-fuel heating systems;
- 11) principles of the cleaning and maintenance of heating systems;
- 12) the history of heating appliances.

B.2.6 Expert assessment of a heating system or part(s) thereof

EstQF Level 5

Performance indicators:

1. Based on the order, evaluates visually or using other methods and resources the condition of the heating appliance, chimney systems and connection flues. Dismantles the heating appliance for more thorough examination, where necessary. If it is necessary to open up the structure of the building, they inform the client of the need to involve a specialist from the corresponding field.
2. Prepares and finalises an expert assessment based on the order, valid normative regulations and best practice in construction.

Knowledge:

- 1) thermal or fluid dynamic calculation methods for solid-fuel heating systems;

2) legislation and requirements governing the construction and installation of heating systems and appliances; 3) principles of drafting documents; 4) fire safety standards; 5) general knowledge of building structures; 6) products, systems and technical solutions used in the construction and installation of solid-fuel heating systems.	
B.2.7 Business activities	EstQF Level 5
Performance indicators: 1. Evaluates business opportunities based on the objectives of their operations. Selects the most suitable form of enterprise for themselves or joins a collective. In establishing their own enterprise, manages the enterprise's activities in accordance with legislation governing professional information and business activities. 2. Selects the appropriate marketing channel (website, social media account, direct advertising, etc.) for their product or service; prepares tenders, shapes the price of the product and/or service and participates in procurements in accordance with the given requirements.	
Knowledge: 1) forms of enterprise; 2) legislation governing small businesses, including taxation and labour legislation; 3) marketing channels and methods; 4) basics of budget preparation and pricing.	
B.2.8 Supervision and teamwork	EstQF Level 5
Performance indicators: 1. Delegates tasks and responsibilities and provides clear and unambiguous instructions and feedback to those being supervised. 2. Motivates those being supervised and maintains team spirit by supporting team members' development and interest in the profession. 3. Shares professional knowledge and skills with those being supervised and teaches the correct techniques and technologies. 4. Monitors and checks their own activities and those of other employees, taking responsibility for the quality of shared work. 5. Advises those being supervised on resolving problems and rectifying errors that have arisen during the work, suggests solutions and explains the causes of errors and problems. 6. Organises and plans the work of those being supervised and ensures that the necessary tools, personal protective equipment and materials are available. Monitors compliance with occupational health and safety requirements and explains their content and the need for them, where necessary.	
Knowledge: 1) basics of teamwork; 2) occupational health and safety requirements; 3) fire safety requirements related to oven-building; 4) technologies and techniques in oven-building.	

COMPETENCES RELATED TO SPECIALISATION

Additionally, when specialising as Master Oven Builder and Restorer, EstQF Level 5, competence B.2.9 must be certified.

Restoration	
B.2.9 Restoration of a heating system	EstQF Level 5
Performance indicators: 1. Familiarises themselves with the object of restoration and the existing documentation (special conditions for heritage conservation, restoration projects, previous reports concerning the heating system and chimneys, etc.), seeking additional information from archives and other information sources, where necessary. 2. Prepares a restoration plan. Prepares a correctly drawn-up and marked working drawing (plan) and/or drawing of damage based on the building plan, showing the locations of heating stoves and the cavities, cracks and other mechanical, chemical or biological damage on the heating stove to be restored.	

3. Calculates the construction volume based on the working drawing and enters the dimensions and symbols correctly on the drawing. Surveys the body of an historical stove, tracing a stencil of the stove base, where necessary. Determines the volume, material and parts of the stove to be restored as well as the materials and methods to be used in the restoration.
4. Carries out comprehensive research, including using archival, bibliographic and other sources of information, with the aim of obtaining a scientifically sound overview of the solid-fuel heating appliance to be restored, its technical condition and its architectural and cultural value. Conducts visual research on the historical development of the stove for additional information and identifies value-adding structures and parts. Following the completion of the research work, compiles an additional list of any new structures or parts of architectural historical value uncovered. Presents the research results as reports.
5. Describes the list of work to the client before the commencement of main construction and assembly work and, in the case of special conditions, cooperates with supervising institutions (the heritage conservation and rescue boards). Submits a duly formatted document folder to the approval committee upon completion of the work.
6. Conducts restoration or conservation work according to the project.

Knowledge:

- 1) general knowledge of the history of architecture;
- 2) the history of heating appliances.
- 3) general principles of restoration work;
- 4) documentation related to restoration;
- 5) legislation governing restoration;
- 6) materials used in the restoration of heating appliances and properties thereof;
- 7) restoration technologies, techniques and tools;
- 8) requirements of conducting archival and bibliographic research;
- 9) principles of drafting documents.

RECURRING COMPETENCES

B.2.10 Recurring competences of Oven Builder	EstQF Level 4
<ol style="list-style-type: none"> 1. Follows best practice in customer service and adapts their communication style to the people and situations they encounter. 2. When communicating with a client, makes sure that all parties have a mutual understanding of the agreements and promises made. Specifies or asks for information to be repeated, where necessary, and documents agreements in a form that allows for later verification. 3. Expresses a respectful attitude towards clients through their behaviour and conduct (neat clothes, work culture, etc.). 4. Pays heed to schedules, deadlines and stages of work. 5. Informs the client in the event of changes and offers alternative solutions. 6. Follows the principles of confidentiality when communicating with clients and does not disclose information related to clients to any third parties. 7. Treats a client's property and living environment with respect and care. 8. Has a constructive and understanding attitude towards criticism and endeavours to find solutions to problems. 9. Is accurate and precise in administrative tasks. 10. Plans their activities and sets specific work goals. 11. Uses time efficiently, plans and organises their use of resources and takes possible changes into account. 12. Uses their field-specific knowledge to handle work tasks and develops their competence through continuous professional development, making use of the development and training opportunities offered to them. 13. Is responsible towards the environment. Complies with waste management requirements in their activities. 14. Understands the possibilities and necessity of saving energy and material resources and applies this knowledge in their work. 15. Takes into account the risks of work and the surrounding environment in their activities, using safety and personal protective equipment and ensuring that it is in working order. 16. Uses tools and equipment economically and prudently. 17. Uses a computer on a daily basis at the following levels (see Annex 1 – Scale of self-assessment in digital competence): <ul style="list-style-type: none"> - information-processing – Independent user, 	

- communication, content creation, safety and problem-solving – Basic user.
18. Is able to design a heating appliance using specialty-specific software programmes.

Assessment method(s):

Recurring competences are assessed as part of the assessment of the other competences listed in the occupational standard.

Part C

GENERAL INFORMATION AND ANNEXES

C.1 Information concerning compilation and certification of occupational qualification standard and reference to classification of occupations

1. ID of occupational qualification standard in register of occupational qualifications	22-06052019-4.4/6k
2. Occupational qualification standard compiled by:	Andrus Schults, OÜ Raidkivi Henri Huberg, UÜ Robert, MTÜ Eesti Pottsepad Mati Malm, Kodu Soojaks OÜ, MTÜ Eesti Pottsepad, Tartu Kutsehariduskeskus Paul Pääso, Paul Pääso FIE, MTÜ Eesti Pottsepad, Kehtna Kutsehariduskeskus Chris Süldre, Ahilus OÜ, MTÜ Eesti Pottsepad Urmas Danil, OÜ Monier Hillimar Heinroos, Korstnaabi OÜ, MTÜ Eesti Korstnapühkijate Koda Sigrid Ester Tani, Tartu Kutsehariduskeskus, MTÜ Kütte - ja Ventilatsioonisüsteemide Teabekeskus Ivar Kohjus, Järvamaa Kutsehariduskeskus
3. Occupational qualification standard approved by:	Architecture, Geomatics, Construction and Real Estate
4. No. of decision of Sectoral Council	22
5. Date of decision of Sectoral Council	06.05.2019
6. Occupational qualification standard valid until	31.12.2024
7. Occupational qualification standard version no.	6
8. Reference to International Standard Classification of Occupations (ISCO 08)	7314 Potters and Related Workers
9. Reference to European Qualifications Framework (EQF)	5

C.2 Occupational title in foreign language

English:	chimney repairer
English:	Master Oven Builder, EstQF Level 5

C.3 Annexes

Lisa 1 [Scale of self-assessment in digital competence](#)

Lisa 2 [Terms used in occupational qualification standard of oven builder](#)

Lisa 3 [Oven builder's professional ethics](#)