

# OCCUPATIONAL QUALIFICATION STANDARD

## Wooden House Builder, EstQF Level 4

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)
Wooden House Builder, EstQF Level 4	4

Possible specialisation and titles on occupational certificate	
Specialisation	Title on occupational qualification certificate
Construction of handcrafted log houses	Log House Builder, EstQF Level 4
Production of handcrafted log houses and renovating log houses	Handcrafted Log House Producer and Log House Renovator, EstQF Level 4

## Part A DESCRIPTION OF WORK

A.1 Description of work
<p>A wooden house builder works predominantly in companies building wooden houses or in companies producing parts for wooden houses. Their main task is to build houses from wooden parts and/or modules produced either industrially or by hand.</p> <p>Three occupations are described within this profession:</p> <ul style="list-style-type: none"> <li>- Wooden House Builder, Level 3</li> <li>- Wooden House Builder, Level 4</li> <li>- Wooden House Builder, Level 5</li> </ul> <p>Wooden House Builder, Level 4 builds and renovates various wooden-frame houses (element houses, module houses, etc.) and log houses (machine-made or handcrafted log), installs doors and windows, wood-based roofing materials and builds floors according to project documentation.</p> <p>They supervise and instruct colleagues with less experience as well as small working groups and assume responsibility for the results of their own work and that of the working group.</p> <p>Wooden House Builder, Level 4 can choose to specialise as a log house builder or as a handcrafted log house producer and log house renovator in the course of their work.</p> <p>Log House Builder, Level 4 erects log houses from log house parts that have been previously produced either industrially or by hand.</p> <p>Handcrafted Log House Producer and Log House Renovator, Level 4 manually produces log house parts and renovates handcrafted log houses.</p>
A.2 Tasks
<p>A.1 Planning work and preparation of work space</p> <ol style="list-style-type: none"> <li>1. Choice and preparation of materials</li> <li>2. Selection of work methods and tools</li> <li>3. Drawing up a work plan</li> <li>4. Preparing the construction site</li> </ol> <p>A.2 Making and assembling wooden joints</p> <ol style="list-style-type: none"> <li>1. Making and assembling mortice and tenons</li> </ol>

## 2. Making and assembling nail, screw, bolt and pin joints

### A.3 Making, assembling and installing wooden frames and frame elements

1. Making frame elements
2. Assembling wall, roof and floor elements
3. Building wooden frames
4. Installing insulation materials
5. Installing building boards on wooden frames
6. Installing façade materials

### A.4 Construction of timber boarding

1. Construction of sleepers
2. Installing floor boarding
3. Installing slats

### A.5 Construction of underlays and installation of wood-based roofing materials

1. Installing roof underlay, ventilation strips, battens and/or boarding
2. Construction of soffits
3. Installation of wood-based roofing materials

### A.6 Installation of doors and windows

1. Assembly and installation of temporary doors and windows
2. Installation of doors and windows
3. Finishing of doors and windows

### A.7 Renovation of wooden structures

1. Opening structures for the general assessment of the site
2. Repairing wooden structures
3. Repair and replacement of coatings

### A.8 Performing sling work

1. Loading, unloading, storage and installation of materials
2. Controlling unmanned lifting equipment

### A.9 Management and supervision

1. Assessing environmental risks related to work and advising those being supervised
2. Analysing errors in work and advising on their rectification
3. Supervision of working group

## **Specialised areas of work**

### LOG HOUSE BUILDER

#### A.10 Erection of log structures

1. Installation and affixing of log parts and sealing materials
2. Assembly of conductor joints of logs
3. Stiffening of walls, installation of parts that enable the tightening and settling of the structure
4. Installation and fastening of shape-retaining structures
5. Fastening additional frames on a log structure
6. Installing doors and windows in a log structure

### HANDCRAFTED LOG HOUSE PRODUCER AND LOG HOUSE RENOVATOR

#### A.11 Producing handcrafted log houses and renovating log houses

1. Choosing material
2. Pretreatment of log material
3. Production of log structure parts
4. Making conductor joints and stiffening walls
5. Marking and cutting openings
6. Marking and finishing structure parts and preparing them for transportation

7. Preparing elements for transportation
8. Opening log structures for the general assessment of the site
9. Temporarily propping up the structure and lifting it, where necessary
10. Renovation of log structures

### **A.3 Work environment and specific nature of work**

A wooden house builder works both indoors and outdoors on a building site, including working at heights and in the working area of lifting equipment. The work environment may be noisy. Chemical substances and wood powder can be found in the work environment, which may cause allergies. The work is physically demanding and the pace of work varies.

### **A.4 Tools**

The main work equipment of a wooden house builder includes electric and pneumatic machinery (e.g. saws, milling cutters and drills), hand tools (hammers, chisels, etc.), measuring instruments (levels, plummets, etc.) and lifting equipment.

In the case of specialisation, equipment specific to the profession is also used, such as drawknives, bark spades, axes, log spades and long groove tools.

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

Working as a wooden house builder requires precision and persistence. To work in the field, mathematical, logical and spatial thinking are required, as is mechanical aptitude. Since the work is performed collectively, the ability to work in a team and willingness to communicate are essential. Because of the nature of the work, physical endurance, strength and dexterity are necessary.

### **A.6 Professional preparation**

Wooden House Builder, Level 4 has acquired their occupational skills either

- a) by completing a curriculum at the respective level in the relevant speciality at an institution of vocational education or
- b) through practical work experience and knowledge gained from attending in-service training.

### **A.7 Most common occupational titles**

Wooden house builder, log house builder, log house erector, carpenter, log craftsman, handcrafted log house builder.

## **Part B COMPETENCY REQUIREMENTS**

### **B.1 Structure of occupation**

Nine mandatory competences (B.2.1-B.2.9), one competence related to specialisation (B.2.10), one optional competence (B.2.11) and one recurring competence (B.2.12) are described in the occupational qualification standard.

All mandatory competences (B.2.1-B.2.9) and the recurring competence B.2.12 must be certified in order to acquire the occupational qualification of Wooden House Builder, Level 4.

In the specialisation of Log House Builder, Level 4 the competence related to the specialisation (B.2.10) must be certified in addition to all mandatory competences (B.2.1-B.2.9) and recurring competence B.2.12.

In the specialisation of Handcrafted Log House Producer and Log House Renovator, Level 4 the competence related to the specialisation (B.2.11) must be certified in addition to all mandatory competences (B.2.1-B.2.9) and recurring competence B.2.12.

### **B.2 Competences**

## **MANDATORY COMPETENCES**

### **B.2.1 Planning work and preparation of work space**

**EstQF Level 4**

Performance indicators:

1. Chooses and prepares the materials needed for the work according to the project documentation, bearing in mind quality requirements. Stores them, thereby ensuring that the materials are protected against the elements and other factors that could damage them.
2. Chooses and prepares the necessary tools, ensuring that they are in working order and safe to use. Taking into account the task, the nature of the work and the instructions provided by the manufacturer, decides on correct methods and instructs other workers, bearing in mind the direct organisation of work.
3. Before beginning work, creates a work plan regarding their job segment for themselves and a small working group, taking into account the general work plan of the site, the volume of work and the choice of materials, tools and methods.
4. Prepares their immediate work space and the area of the building site in which the job segment will be carried out. Stores the necessary materials or arranges for them to be stored according to smaller work segments, ensuring the existence and preservation of the necessary walkways and bearing in mind work environment and occupational safety requirements and those of maintaining and storing materials, and taking into account the task given (building site layout). Ensures that there are no items in the work space that do not belong there, no trash, etc. If necessary, removes an item or arranges for it to be removed. In preparing the work segment, is considerate of others working on the site and considers the site's general rules of work organisation.

Knowledge:

- 1) principles of work organisation;
- 2) occupational health and safety requirements;
- 3) project documentation of construction and technical drawings;
- 4) principles of storing and maintaining building materials;
- 5) quality requirements of building materials;
- 6) tools and correct techniques;
- 7) workplace ergonomics.

**B.2.2 Making and assembling wooden joints**

**EstQF Level 4**

Performance indicators:

1. Assembles previously made mortice and tenons using power and hand tools, taking into account the project documentation and technology and quality requirements.
2. Makes and assembles nail, screw, bolt and pin joints, following project documentation and technology and quality requirements.

Knowledge:

- 1) wood joints, principles of making and assembling them and principles of how they function;
- 2) fields of application of wooden joints and their function in construction;
- 3) tools and equipment used in making wooden joints;
- 4) steel parts used in wooden joints;
- 5) quality requirements of wooden joints.

**B.2.3 Making, assembling and installing wooden frames and frame elements**

**EstQF Level 4**

Performance indicators:

1. Makes component parts of wooden structure elements (including wall, roof and floor elements) following product sketches, specifications and quality requirements and using power and hand tools in an industrial environment as well as on site.
2. Assembles wall, roof and floor elements according to the construction project and the instructions provided by the manufacturer while bearing in mind the sequence of assembly and using rational methods and appropriate tools.
3. Constructs the building's wooden frames according to the construction project and the instructions provided by the manufacturer, using rational methods and appropriate tools.
4. Installs thermal and sound insulation and waterproofing materials as well as vapour barriers and windbreaks according to the construction project and the instructions provided by the manufacturer, using rational methods.
5. Installs building boards on the wooden frame according to the construction project and the instructions provided by the manufacturer, using rational methods and appropriate tools.
6. Installs the most common façade materials according to the construction project and the instructions provided by the manufacturer, using rational methods and appropriate tools.

Knowledge:

- 1) occupational health and safety requirements;
- 2) workplace ergonomics;

3) ability to read technical plans; 4) principles of building and assembling wooden rack walls; 5) insulation materials, including materials for thermal and sound insulation, vapour barriers and windbreaks, and methods of installing them; 6) basics of installing plating and lining boarding; 7) façade materials and installation methods; 8) fastening materials and equipment.	
<b>B.2.4 Construction of timber boarding</b>	<b>EstQF Level 4</b>
Performance indicators: 1. Taking into account the construction project and quality requirements, installs sleepers using rational methods and appropriate tools. 2. Installs floor boarding, taking into account the instructions provided by the manufacturer and quality requirements. 3. Installs slats according to the installation manual and following quality requirements.	
Knowledge: 1) Qualities of wood; 2) Methods of installing boarding.	
<b>B.2.5 Construction of underlays and installation of wood-based roofing materials</b>	<b>EstQF Level 4</b>
Performance indicators: 1. Installs roof underlay, ventilation strips, battens and/or boarding, taking into account the construction project and the instructions provided by the manufacturer. 2. Builds soffits according to the construction project. 3. Installs wooden and wood-based roofing (shingle, bilge, chip and plank roof), taking into account the construction project and the specific technological nature of installing materials.	
Knowledge: 1) roof structures; 2) wood-based roofing materials and technologies of installation.	
<b>B.2.6 Installing doors and windows</b>	<b>EstQF Level 4</b>
Performance indicators: 1. Makes and installs temporary doors and windows. 2. Installs, fastens and tightens doors and windows, taking into account the construction project, the installation manual provided by the manufacturer and quality requirements. 3. Installs, fastens and tightens door and window elements, taking into account the construction project, the installation manual provided by the manufacturer and quality requirements (e.g. subsills, window reveal boards and slats).	
Knowledge: 1) types and properties of thermal insulation and sealing materials and methods of installing them; 2) means, tools and methods of fastening doors and windows. 3) finishing technologies of door and window elements.	
<b>B.2.7 Renovation of wooden structures</b>	<b>EstQF Level 4</b>
Performance indicators: 1. Opens structures under renovation so that their condition can be assessed while ensuring the stability of the structure. Assesses whether the situation is in accordance with the design solution for the renovations. If not, notifies their line manager. 2. Fixes the rack wall while ensuring the stability of the structural part in accordance with requirements and assumes responsibility for the preservation and safety of the structures. 3. Fixes or, where necessary, replaces the coating in need of renovation (internal and external boarding, wooden and wood-based flooring and roofing materials, etc.).	
Knowledge: 1) project documentation of the building and technical drawings; 2) types of wood and wood joints; 3) general knowledge of construction materials and their qualities; 4) general knowledge of wood damage.	

<b>B.2.8 Performing sling work</b>	<b>EstQF Level 4</b>
<p>Performance indicators:</p> <ol style="list-style-type: none"> <li>1. Hooks the necessary materials with lifting slings and guides the work of the crane operator using hand signals, thereby following occupational safety requirements. Stores materials in the designated place.</li> <li>2. Operates the unmanned lifting device upon storing and moving materials, thereby following instructions and occupational safety requirements.</li> </ol>	
<p>Knowledge:</p> <ol style="list-style-type: none"> <li>1) load gripper machines;</li> <li>2) specific nature of carrying out lifting operations depending on the lifting device;</li> <li>3) safety requirements of sling work;</li> <li>4) hand signals used in sling work.</li> </ol>	
<b>B.2.9 Management and supervision</b>	<b>EstQF Level 4</b>
<p>Duties:</p> <ol style="list-style-type: none"> <li>1. Advises colleagues with a lower level of qualification or with less work experience in identifying and assessing problems that may arise in their work and in selecting appropriate measures to address them.</li> <li>2. Advises colleagues with a lower level of qualification or with less work experience in analysing mistakes that have occurred during construction and in selecting appropriate measures to address them. Bases their recommendations on the given task, the choice of the correct equipment, methods and technologies and valid quality requirements.</li> <li>3. Is capable of leading the work of a small working group and taking responsibility for carrying out the given tasks, choosing the correct tools, methods and technologies and following occupational health and safety requirements.</li> </ol>	
<p>Knowledge:</p> <ol style="list-style-type: none"> <li>1) construction terminology;</li> <li>2) legislation, norms, standards and guidelines pertaining to the profession;</li> <li>3) project documentation of the building;</li> <li>4) requirements for the documenting of work;</li> <li>5) requirements of occupational and environmental safety in construction;</li> <li>6) principal construction materials and their qualities;</li> <li>7) conformity requirements of construction materials and equipment;</li> <li>8) technological sequence of construction work;</li> <li>9) principal construction technologies;</li> <li>10) basics of teamwork;</li> <li>11) basics of management.</li> </ol>	

## COMPETENCES RELATED TO SPECIALISATION

In the specialisation of Log House Builder, Level 4 the competence related to the specialisation (B.2.10) must be certified in addition to all mandatory competences (B.2.1-B.2.9) and recurring competence B.2.12.

In the specialisation of Handcrafted Log House Producer and Log House Renovator, Level 4 the competence related to the specialisation (B.2.11) must be certified in addition to all mandatory competences (B.2.1-B.2.9) and recurring competence B.2.12.

<b>Construction of handcrafted log houses</b>	
<b>B.2.10 Erection of log constructions</b>	<b>EstQF Level 4</b>
<p>Performance indicators:</p> <ol style="list-style-type: none"> <li>1. Installs and affixes previously made log elements and sealing materials, bearing in mind the specific nature of log buildings (settling, drying, etc.) and the construction project or installation manual.</li> <li>2. Assembles previously made conductor joints of logs, following the installation manual and construction project and ensuring wind resistance, heat retention and rigidity in splices.</li> <li>3. Stiffens walls by installing elements that enable the stiffening, tightening and settling of the structure while following the construction project or installation manual.</li> <li>4. Upon stiffening, checks the passing ability of the electrical installations and bolt openings and whether the log wall is in accordance with the horizontal, vertical and diagonal dimensions. Where necessary, makes corrections.</li> </ol>	



5. Installs wooden columns and constructs and fastens shape-retaining structures so that they allow for the settling of the log walls and ensure the stability of the structure, bearing in mind the construction project.
6. Fastens an additional structure on a log wall, taking into account the type and specific nature of the boarding, the installation manual and the construction project.
7. Installs doors and windows in the log structure, taking into account the installation manual and construction project and ensuring that the installation allows for the settling of the log walls and that the stability of the structure is ensured.

**Knowledge:**

- 1) occupational health and safety requirements;
- 2) project documentation of the building and technical drawings;
- 3) principles of tool and equipment maintenance;
- 4) properties of log materials;
- 5) properties, types and methods of installing thermal insulation and sealing materials;
- 6) methods of packing logs in an economic manner and avoiding damage during transport;
- 7) types and methods of installing and attaching the additional frame being installed on a log wall;
- 8) fasteners of log structures and principles of using them;
- 9) settling of log walls;
- 10) basics of erecting, stiffening and affixing log walls;
- 11) insulation materials, including materials for thermal and sound insulation, vapour barriers and windbreaks, and methods of installing them;
- 12) types of log wall joints and their principles of use.

## **Production of handcrafted log houses and renovating log houses**

### **B.2.11 Producing handcrafted log houses and renovating log houses**

**EstQF Level 4**

**Performance indicators:**

1. Chooses a log that is in accordance with requirements, taking into account its intended use and qualities, the task in question and the technical drawings.
2. Debarks or finishes the chosen log material or treats it using another method, taking into account the intended use of the log and using tools designed for this (shave, barking iron, axe, plane, chain saw, etc.). Follows safety requirements. Stores treated logs for subsequent stages of work.
3. Makes elements of a log structure (wall logs, ceiling beams, roof structures, columns, etc.) using the tools and equipment designed for this, following the technical drawings and technology and quality requirements.
4. Makes conductor joints of logs in the wall and/or in the tenon and affixes them with fastening devices and/or tie-logs. Marks the locations of pegs, drills openings and makes pegs.
5. Marks and cuts the locations of windows/doors/openings on log walls according to the construction project. Makes and matches tender poles.
6. Marks the parts of a structure and records the markers on the assembly drawing. Dismantles parts and, where necessary, cleans and finishes the log part, fixing flawed knots, surfacing saw surfaces and cleaning soiled wood.
7. Packs elements on the intended rack, taking into account the sequence of later installation. Ensures the preservation of the elements' quality upon packing in order to avoid damage while being put in loads, during transportation and while being stored on the erection site.
8. Opens structures under renovation so that their condition can be assessed while ensuring the stability of the structure. Assesses whether the situation is in accordance with the design solution for the renovations. If not, notifies their line manager.
9. Temporarily props up structures, bearing in mind the given task and project and ensuring the stability of the entire building during repairs. Where necessary, lifts up the structure.
10. Replaces, fixes and seals the log structure and its parts, thereby ensuring the stability of the structural element and bearing in mind the given task and project.

**Knowledge:**

- 1) project documentation of the building;
- 2) 'Standards for Log Houses of the Estonian Woodhouse Association' and other relevant instruction materials;
- 3) documentation of manufacturing;
- 4) assessing whether the renovation project/work schedule is in accordance with the actual circumstances;
- 5) basics of materials science and strength of materials;

- 6) qualities of log material;
- 7) quality requirements of log material;
- 8) ways of preparing logs;
- 9) principles of stacking and storage;
- 10) working principles of log structures;
- 11) types, working principles and ways of making both historical and modern knots and joints;
- 12) principles of tool and equipment maintenance;
- 13) methods of packing logs in an economic manner and avoiding damage during transport;
- 14) temporary lifting of buildings or parts of buildings and stabilisation of structures – methods, tools and technologies;
- 15) traditional cladding materials and paint systems.

## RECURRING COMPETENCES

<b>B.2.12 Recurring competences of Wooden House Builder, Level 4</b>	<b>EstQF Level 4</b>
<p>Performance indicators:</p> <ol style="list-style-type: none"> <li>1. Considers ethical beliefs and values important and observes valid legislation, best practice in construction, the standards for log houses of the Estonian Woodhouse Association and other applicable quality requirements in their work.</li> <li>2. Plans their work and makes relevant decisions in their area of responsibility. Performs the obligations they have taken on, assumes responsibility in doing so and accomplishes the set objectives by the deadline. Works independently.</li> <li>3. Adheres to agreements, times and deadlines.</li> <li>4. Consistently applies what they have learned in everyday life. Analyses their strengths and weaknesses, looks for opportunities for self-improvement and participates in in-service training.</li> <li>5. Seeks feedback about their work, analyses it, takes a constructive approach to criticism and draws conclusions from it. Learns from their own mistakes and from those of others and understands the causal link between action and consequence.</li> <li>6. Understands their role in the team and the work cycle as a whole. Demonstrates an understanding of how a problem is part of a larger system. In the case of changeable circumstances, adjusts their activities according to the instructions they receive.</li> <li>7. Is open to cooperation, takes part in teamwork, communicates with clients and colleagues, shares relevant information with others and acts to achieve the best possible outcome collectively.</li> <li>8. Communicates with people respectfully and courteously and acts in a way that fosters communication. Is capable of dealing with conflict.</li> <li>9. Uses a computer in their everyday work for content creation and problem-solving at the Basic user level and for information-processing, communication and security at the Independent user level (see Appendix 2 – Scale of self-assessment in digital competence).</li> <li>10. Knowledge of languages: Estonian at the B2 level (see Annex 3 – Language skills level descriptions).</li> </ol>	
<p>Assessment method(s): This competence can be assessed as part of the assessment of the other competences listed in the occupational qualification standard.</p>	

## Part C GENERAL INFORMATION AND ANNEXES

<b>C.1 Information concerning compilation and certification of occupational qualification standard and reference to classification of occupations</b>	
1. ID of occupational qualification standard in register of occupational qualifications	22-28052019-1.7/9k



2. Occupational qualification standard compiled by:	Andres Madalik, Merko Ehitus Andres Veel, Hiiumaa Ametikool Kaljo Valler, Palmatin OÜ Lauri Kivil, Eesti Puitmajaliit Ragner Lõbu, Hobbiton OÜ Tarmo Tammekivi, OÜ Puu ja Pliats
3. Occupational qualification standard approved by:	Architecture, Geomatics, Construction and Real Estate
4. No. of decision of Sectoral Council	23
5. Date of decision of Sectoral Council	28.05.2019
6. Occupational qualification standard valid until	01.10.2024
7. Occupational qualification standard version no.	9
8. Reference to International Standard Classification of Occupations (ISCO 08)	7115 Carpenters and Joiners
9. Reference to European Qualifications Framework (EQF)	4
<b>C.2 Occupational title in foreign language</b>	
English:	Wooden House Builder, EstQF Level 4
<b>C.3 Annexes</b>	
Lisa 1 <a href="#">Terms used in occupational qualification standard</a>	
Lisa 2 <a href="#">Scale of self-assessment in digital competence</a>	
Lisa 3 <a href="#">Language skills level descriptions</a>	