

# OCCUPATIONAL QUALIFICATION STANDARD

## Security and Fire Protection Systems Installer, 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) |
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| Security and Fire Protection Systems Installer, EstQF Level 4 | 4  |

### Part A DESCRIPTION OF WORK

| <b>A.1 Description of work</b>  |
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| <p>Security and Fire Protection Systems Installer, EstQF Level 4 builds and maintains security and fire protection systems. Security and Fire Protection Systems Installer, Level 4 performs their duties independently.</p> <p>Security and Fire Protection Systems Installer, EstQF Level 4 operates in at least one of the following areas of activity:</p> <ul style="list-style-type: none"> <li>installation and maintenance of security systems;</li> <li>installation and maintenance of fire alarm systems;</li> <li>installation and maintenance of gas fire-extinguishing systems;</li> <li>installation and maintenance of water and foam fire-extinguishing systems;</li> <li>installation and maintenance of smoke control systems;</li> <li>installation and maintenance of notification systems of buildings;</li> <li>installation and maintenance of emergency lighting;</li> <li>installation and maintenance of gas fire-extinguishing systems containing fluorinated gases.</li> </ul> <p>Security and Fire Protection Systems Installer, EstQF Level 5 also works as a security and fire protection systems technician, leading the work of Security and Fire Protection Systems Technician, EstQF Level 4.</p> |
| <b>A.2 Tasks</b>  |
| <p><b>A.2.1 Planning and organisation of work</b></p> <ol style="list-style-type: none"> <li>1) Familiarisation with the content of the task.</li> <li>2) Sequencing activities and compiling a schedule.</li> <li>3) Selection of tools and materials according to the task.</li> </ol> <p><b>A.2.2 Ensuring working environment safety</b></p> <ol style="list-style-type: none"> <li>1) Considering occupational safety requirements.</li> <li>2) Complying with the safety of the working environment at the specified site.</li> <li>3) Complying with fire and electrical safety requirements.</li> <li>4) Maintenance of the work site.</li> <li>5) Using work and protective equipment.</li> </ol> <p><b>A.2.3 Installation and construction work on installations and equipment and transfer of systems</b></p> <ol style="list-style-type: none"> <li>1) Preparation/assembly of tools and equipment.</li> <li>2) Construction work in their field.</li> <li>3) Installation of cables and construction of cable paths, making the necessary markings.</li> <li>4) Installation of equipment.</li> <li>5) Connecting system components.</li> <li>6) Documenting the work.</li> </ol>  |

7) Handing over the work.

A.2.4 Inspection and maintenance of installations

- 1) Inspection and maintenance operations.
- 2) Carrying out technical measurements.
- 3) Identifying and resolving faults.
- 4) Documentation of maintenance activities and results

### **Elective areas of work**

A.2.5 Installation and maintenance of security systems

- 1) Installation, configuration and maintenance of security systems.
- 2) Configuration of security systems and network devices.
- 3) Testing and inspecting security systems.

A.2.6 Installation and maintenance of fire alarm systems

- 1) Installation of fire alarm systems.
- 2) Maintenance of fire alarm systems.

A.2.7 Installation and maintenance of gas fire-extinguishing systems

- 1) Installation of gas fire-extinguishing systems.
- 2) Maintenance of gas fire-extinguishing systems.

A.2.8 Installation and maintenance of water and foam fire-extinguishing systems

- 1) Installation of water and foam fire-extinguishing systems.
- 2) Maintenance of water and foam fire-extinguishing systems.

A.2.9 Installation and maintenance of smoke control systems

- 1) Installation of smoke control systems.
- 2) Maintenance of smoke control systems.

A.2.10 Installation and maintenance of notification systems of buildings

- 1) Installation of fire notification and evacuation management systems.
- 2) Maintenance of fire notification and evacuation management systems.

A.2.11 Installation and maintenance of emergency lighting

- 1) Installation of emergency lighting.
- 2) Maintenance of emergency lighting systems.

A.2.12 Installation and maintenance of gas fire-extinguishing systems containing fluorinated gases

- 1) Handling gas fire-extinguishing systems containing fluorinated gases.
- 2) Installation of containers.
- 3) Leakage testing.
- 4) Documentation of maintenance activities.

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

The working hours of a security and fire protection systems installer are generally fixed. The need to work outside of working hours may arise. The work may require physical and mental effort and the pace of work is periodically fast and intense. Work must be performed outdoors, at heights and in dangerous environments, if necessary.

### **A.4 Tools**

The tools of a security and fire protection systems installer are hand-held and special tools, ladders, hoists, measuring equipment, technical documentation, standard documents (standards and instructions) and personal protective equipment according to the specific nature of the site.

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

The work of a security and fire protection systems installer requires willingness to cooperate, a sense of responsibility, the ability to analyse and generalise, accuracy, precision, decisiveness and independence.

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| <b>A.6 Professional preparation</b>   |
| Security and Fire Protection Systems Installer, Level 4 generally has secondary education with occupational skills acquired through work experience or at a vocational education institution. |
| <b>A.7 Most common occupational titles</b>  |
| Security and fire safety systems technician.  |
| <b>A.8 Regulations governing profession</b>   |
| The work of a security and fire protection systems installer in their capacity as a responsible maintenance specialist is regulated by the Fire Safety Act and the Security Act.              |

## Part B COMPETENCY REQUIREMENTS

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| <b>B.1 Structure of occupation</b>  |
| The following competences must be certified when applying for the qualification of Security and Fire Protection Systems Installer, EstQF Level 4:<br>everyone is required to certify competences B.2.1-B.2.4, recurring competence B.2.13 and at least one competence from options B.2.5-B.2.12:<br>Installation and maintenance of security systems, competence B.2.5;<br>Installation and maintenance of fire alarm systems, competence B.2.6;<br>Installation and maintenance of gas fire-extinguishing systems, competence B.2.7;<br>Installation and maintenance of water and foam fire-extinguishing systems, competence B.2.8;<br>Installation and maintenance of smoke control systems, competence B.2.9;<br>Installation and maintenance of notification systems of buildings, competence B.2.10;<br>Installation and maintenance of emergency lighting, competence B.2.11;<br>Installation and maintenance of gas fire-extinguishing systems containing fluorinated gases, competence B.2.12. |

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| <b>B.2 Competences</b> |
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### MANDATORY COMPETENCES

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| <b>B.2.1 Planning and organisation of work</b>   | <b>EstQF Level 4</b> |
| Performance indicators:<br>1. familiarises themselves with the content of the task based on the orders and instructions of their line manager;<br>2. arranges their activities considering the logical order of tasks for the performance of the various stages of work;<br>3. selects tools and materials according to the task and the instructions for the use of the tools, taking into account the specific nature of the task.                 |                      |
| <b>B.2.2 Ensuring working environment safety</b>   | <b>EstQF Level 4</b> |
| Performance indicators:<br>1. considers occupational safety requirements and rules of the site in their work;<br>2. complies with the rules of occupational safety imposed on the site;<br>3. complies with fire and electrical safety requirements in their work;<br>4. keeps the workplace well organised;<br>5. checks the availability and maintenance of working and protective equipment; purposefully uses the protective equipment provided. |                      |
| <b>B.2.3 Installation and construction work on installations and equipment and transfer of systems</b>   | <b>EstQF Level 4</b> |
| Performance indicators:<br>1. selects the tools needed for the installation and construction of installations and equipment and assembles the equipment and materials; prepares the tools for work in accordance with the instructions;  |                      |

2. performs construction work in their field according to the project, taking into account general construction requirements and the specific nature of the site while maintaining the integrity of other systems; complies with important structural safety requirements;
3. installs cables using appropriate installation materials and builds cable routes taking into account the manufacturer's instructions, standards and requirements; marks the cables according to the work project;
4. installs equipment using appropriate installation materials, taking into account the manufacturer's instructions, standards and requirements;
5. combines system components taking into account the manufacturer's instructions;
6. documents installation and construction work in accordance with the established procedure;
7. hands over their work or part thereof to the manager in accordance with the agreement.

#### **B.2.4 Inspection and maintenance of installations**

**EstQF Level 4**

Performance indicators:

1. performs inspection and maintenance operations according to technical standards, maintenance instructions and legislation;
2. performs technical measurements according to maintenance instructions using calibrated measuring devices;
3. identifies faults and determines their cause; informs the parties involved in accordance with procedure; eliminates faults within the limits of their competence;
4. documents maintenance activities and results in accordance with established procedures.

### **OPTIONAL COMPETENCES**

When applying for the qualification of Security and Fire Protection Systems Installer, EstQF Level 4 at least one competence from options B.2.5-B.2.12 must be certified.

#### **B.2.5 Installation and maintenance of security systems**

**EstQF Level 4**

Performance indicators:

1. installs and configures security systems according to the project and legislation; maintains security systems according to relevant regulations;
2. configures security systems and network devices according to the specific nature of the site, the instructions and the terms of reference;
3. tests and verifies the functioning of security systems as a whole; performs the necessary measurements.

Hindamiseetod(id): portfoolio, situatsioonülesanne, vestlus.

#### **B.2.6 Installation and maintenance of fire alarm systems**

**EstQF Level 4**

Performance indicators:

1. installs the fire alarm system according to the project and legislation;
2. maintains the fire alarm system according to legislation, appropriate regulations and implementation documentation.

Hindamiseetod(id): portfoolio, situatsioonülesanne, vestlus.

#### **B.2.7 Installation and maintenance of gas fire-extinguishing systems**

**EstQF Level 4**

Performance indicators:

1. installs the gas fire-extinguishing system according to the project and legislation;
2. maintains the gas fire-extinguishing system according to legislation, appropriate regulations and implementation documentation.

Hindamiseetod(id): portfoolio, situatsioonülesanne, vestlus.

#### **B.2.8 Installation and maintenance of water and foam fire-extinguishing systems**

**EstQF Level 4**

Performance indicators:

1. installs water and foam fire-extinguishing systems according to the project and legislation;
2. maintains water and foam fire-extinguishing systems according to legislation, appropriate regulations and implementation documentation.

Hindamiseetod(id): portfoolio, situatsioonülesanne, vestlus.

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| <b>B.2.9 Installation and maintenance of smoke control systems</b>  | <b>EstQF Level 4</b> |
| Performance indicators:<br>1. installs the smoke control system according to the project and legislation;<br>2. maintains the smoke control system according to legislation, appropriate regulations and implementation documentation.  |                      |
| Hindamiseetod(id): portfoolio, situatsioonülesanne, vestlus.  |                      |
| <b>B.2.10 Installation and maintenance of notification systems of buildings</b>   | <b>EstQF Level 4</b> |
| Performance indicators:<br>1. installs the fire notification and evacuation management system according to the project and legislation;<br>2. maintains the fire notification and evacuation management system according to legislation, appropriate regulations and implementation documentation.  |                      |
| Hindamiseetod(id): portfoolio, situatsioonülesanne, vestlus.  |                      |
| <b>B.2.11 Installation and maintenance of emergency lighting</b>  | <b>EstQF Level 4</b> |
| Performance indicators:<br>1. installs the emergency lighting according to the project and legislation;<br>2. maintains the emergency lighting according to legislation, appropriate regulations and implementation documentation.  |                      |
| Hindamiseetod(id): portfoolio, situatsioonülesanne, vestlus.  |                      |
| <b>B.2.12 Installation and maintenance of gas fire-extinguishing systems containing fluorinated gases</b>   | <b>EstQF Level 4</b> |
| Performance indicators:<br>1. safely installs and maintains gas fire-extinguishing systems containing fluorinated gases in accordance with the relevant regulations of the EU Commission and using the necessary tools, equipment and techniques;<br>2. installs gas fire-extinguishing system containers containing fluorinated greenhouse gases taking into account the handling requirements of pressurised containers;<br>3. checks the gas fire-extinguishing system documents before conducting leakage testing and identifying<br>4. problem areas and repeated problems; performs proper leakage testing;<br>5. documents maintenance activities in accordance with established procedures. |                      |
| Knowledge:<br>1) EU Commission Regulation (EC) No 304/2008;<br>2) Kyoto Protocol;<br>3) climate change;<br>4) the potential for fluorinated greenhouse gases to cause global warming;<br>5) relevant technical standards;<br>6) types of valves;<br>7) ignition mechanisms;<br>8) gas breakthrough and leakage prevention;<br>9) environmentally friendly methods for collecting fluorinated greenhouse gases from fire-fighting systems and filling the systems.   |                      |
| Hindamiseetod(id): kirjalik test, praktiline töö, vestlus.  |                      |

## RECURRING COMPETENCES

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| <b>B.2.13 Recurring competences of Security and Fire Protection Systems Installer, EstQF Level 4</b>  | <b>EstQF Level 4</b> |
| Performance indicators:<br>1. uses Estonian at the B1 level (see Annex 1 'Language skills level descriptions');<br>2. complies with relevant regulations. |                      |
| Assessment method(s):   |                      |

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

## 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   | 26-16012018-01/3k   |
| 2. Occupational qualification standard compiled by:   | Vassil Hartšuk, Päästeamet<br>Ülo Kala, Eltron AS<br>Marina Koit, Henert Grupp OÜ<br>Kaupo Kuusik, Eesti Turvaettevõtete Liit<br>Martin Lambing, Siseministeerium<br>Tarmo Nigols, G4S Eesti AS<br>Erik Pikknurm, Antifire Tuleohutuslahendused OÜ<br>Jüri Teder, G4S Eesti AS<br>Tamur Vaher, Päästeamet |
| 3. Occupational qualification standard approved by:   | Property and Personal Protection  |
| 4. No. of decision of Sectoral Council  | 9   |
| 5. Date of decision of Sectoral Council   | 16.01.2018  |
| 6. Occupational qualification standard valid until  | 31.03.2021  |
| 7. Occupational qualification standard version no.  | 3   |
| 8. Reference to International Standard Classification of Occupations (ISCO 08)  | 3114 Electronics Engineering Technicians  |
| 9. Reference to European Qualifications Framework (EQF)   | 4   |
| <b>C.2 Occupational title in foreign language</b>   |   |
| English:  | Security and Fire Protection Systems Installer, EstQF Level 4   |
| <b>C.3 Annexes</b>  |   |
| Lisa 1 <a href="#">Language skills level descriptions</a>   |   |