

OCCUPATIONAL QUALIFICATION STANDARD

Construction Site Manager, level 6

Kutsestandard on dokument, milles kirjeldatakse tööd ning töö edukaks tegemiseks vajalike oskuste, teadmiste ja hoiakute kogumit ehk kompetentsusnõudeid. Kutsestandardeid kasutatakse õppekavade koostamiseks ja kutse andmiseks.

Occupational title	Level of Estonian Qualifications Framework (EstQF)
Construction Site Manager, level 6	6

Possible specialisation and titles on occupational certificate	
Specialisation	Title on occupational qualification certificate
Üldehituslik ehitamine	Construction Site Manager, level 6 Üldehituslik ehitamine
Sisekliima tagamise süsteemide ehitamine	Construction Site Manager, level 6 Sisekliima tagamise süsteemide ehitamine
Hoonesisese või selle juurde kuuluva veevarustuse ja kanalisatsioonisüsteemi ehitamine	Construction Site Manager, level 6 Hoonesisese või selle juurde kuuluva veevarustuse ja kanalisatsioonisüsteemi ehitamine
Ühisveevärgi või kanalisatsiooni ehitamine	Construction Site Manager, level 6 Ühisveevärgi või kanalisatsiooni ehitamine
Omanikujärelevalve tegemine	Construction Site Manager, level 6 Omanikujärelevalve tegemine

Part A DESCRIPTION OF WORK

A.1 Description of work Ehitusjuht on vastutav ehitusobjektile aset leidva tehnilise ja majandusliku tegevuse eest ning vajadusel ka tööohutuse eest. Ta juhib ehitustöid, korraldab koosolekuid (alltöövõtjate, hankijate, tellijate, projekteerijatega) ja kontrollib, kas tööd on tehtud vastavalt projektdokumentatsioonile ja ehitusnormidele. Ehitusjuhina tegutsedes on lisaks ehitusalastele teadmistele ja oskustele oluline ka juhtimisoskus. Ehitusjuhi kutse koosneb viiest spetsialiseerumisest: 1) Üldehituslik ehitamine 2) Sisekliima tagamise süsteemi ehitamine 3) Hoonesisese või selle juurde kuuluva veevarustuse ja kanalisatsioonisüsteemi ehitamine 4) Ühisveevärgi või kanalisatsiooni ehitamine 5) Omanikujärelevalve tegemine Üldehitustöödele, sisekliima tagamise süsteemide ehitamisele ja omanikujärelevalvele spetsialiseerudes on sõltuvalt töökogemusest võimalik valida kas tervikspetsialiseerumine või vähemalt üks järgmistest kitsamatest valdkondadest (valikkompetentsidest): 1. Üldehituslik ehitamine - kivi- ja betoonkonstruktsioonide ehitamine - puitkonstruktsioonide ehitamine - teraskonstruktsioonide ehitamine - lammutustööde tegemine - fassaaditööde tegemine 2. Sisekliima tagamise süsteemide ehitamine

- küttesüsteemide ehitamine
- jahutussüsteemide ehitamine
- ventilatsioonisüsteemide ehitamine

3. Omanikujärelevalve tegemine

- üldehitusliku ehitamise omanikujärelevalve tegemine
- sisekliima tagamise süsteemide ehitamise omanikujärelevalve tegemine
- hoonesisese ja selle juurde kuuluva veevarustus- ja kanalisatsioonisüsteemi ehitamise omanikujärelevalve tegemine

Ehitusjuht, tase 6 kutsetunnistus annab selle omanikule seadusest tulenevatel alustel õiguse tegutseda pädeva isikuna ehitusseadustiku mõistes.

Selle kutsetunnistuse omanik võib iseseisvalt ja omal vastutusel juhtida ehitustegevust ainult järgnevalt kirjeldatud piirangute ulatuses:

I KIVI- JA BETOONKONSTRUKTSIOONIDE EHITAMINE

II PUITKONSTRUKTSIOONIDE EHITAMINE

III TERASKONSTRUKTSIOONIDE EHITAMINE

IV LAMMUTUSTÖÖDE TEGEMINE

V FASSAADITÖÖDE TEGEMINE

a) Maapinnast kuni 45 m kõrguste ja 8 m sügavuste hoonete ja nende konstruktsioonide ehitamine, lammutamine ja fassaaditööde tegemine arvestades järgmisi sillete piiranguid:

- monoliitsed betoonkonstruktsioonid kuni 18 m;
- monteeritavad betoonkonstruktsioonid kuni 25 m;
- kivikonstruktsioonid;
- teraskonstruktsioonid kuni 36 m;
- puitkonstruktsioonid kuni 18 m.
- komposiitkonstruktsioonid kuni 18 m

b) Kuni teise geotehnilise kategooriaga ehitised.

c) Avalikkusele mittekasutatavad ja mittekeerukates ehitusgeoloogilistes tingimustes olevad krundisisesed teed, platsid ja transpordirajatised.

VI HOONE SISEKLIIMA TAGAMISE SÜSTEEMIDE EHITAMINE

a) Elamud (kood 11000¹)

b) Kuni 45 m kõrgused ilma erinõueteta hooned (mitteelamud²) köetava pinnaga kuni 10 000 m², välja arvatud:

- kõrgendatud sisekliima nõuetega hooned või ruumid (õhu puhtus, temperatuur, müra, niiskus), nt muuseumid, haiglad, puhasruumid
- tootmishooned, millel on erinõuded sisekliimale
- kõrghooned
- veekeskused, ujulad
- uurimis- ja teaduslaborid
- tunnelid ja allmaarajatised
- kõrgendatud tuleohuga hooned

VII HOONESISESE JA SELLE JUURDE KUULUVA VEEVARUSTUSE JA KANALISATSIOONISÜSTEEMI EHITAMINE

Hoonesisesed veevarustuse- ja kanalisatsioonisüsteemid ja sinna juurde kuuluvad kinnistusesised torustikud ja seadmed kuni liitumispunktini (sh omapuhastid, kinnistu pumplad ja puurkaev-pumplad, mille projektikohane tootlikkus on alla 10 m³/ ööpäevas ühe kinnisasja või kuni 50 inimese vajaduseks) järgmiste piirangutega:

a) Elamud (kood 11000¹)

b) Kõik hooned lõetava pinnaga kuni 10 000 m² hooned , v.a

- hooned, mis arhitektuursest eripärast on jagatud kahte või enamasse veevarustuse rõhutsooni
- veekeskused ja ujulad
- uurimis- ja teaduslaborid
- tunnelid ja allmaarajatised
- kõrgendatud tuleohuga hooned

VIII ÜHISVEEVÄRGI VÕI KANALISATSIOONI EHITAMINE

- a) Ühisveevärgi süsteemid, mille torustiku siseläbimõõt ei ületa 300mm
- b) Ühiskanalisatsiooni süsteemid, mille torustiku läbimõõt ei ületa 1000 mm
- c) Reoveepuhastid koormusega 5000 ie ning mis ei asu nõrgalt kaitstud või kaitsmata põhjaveega alal
- d) Veetöötlusjaamad tootlikkusega kuni 2500 m³/d

V OMANIKUJÄRELEVALVE TEGEMINE

Kutse võimaldab teha omanikujärelevalvet üldehitusliku ehitamise, sisekliima tagamise süsteemide ehitamise ja hoonesisese või selle juurde kuuluva veevarustuse ja kanalisatsioonisüsteemi ning selle juurde kuuluvate kinnistustisest torustike ja seadmete ehitamisele kuni liitumispunktini järgmistel objektidel:

- 1) Hooned (v.a. maa-aluse parklaga hooned) pindalaga kuni 1000 m², mis on ehitise kasutamise otstarbe järgi (koodid 11100 ja 11210, 11220)¹
- 2) ja tagajärgede klassi CC1 (EVS-EN 1990:2002+NA:2002 järgi) liigituvad muud hooned*

¹ Majandus- ja kommunikatsiooniministri määrus nr 51 (02.06.2015) „Ehituse kasutamise otstarvete loetelu“

* Lisatud tulenevalt Arhitektuuri, Geomaatika, Ehituse ja Kinnisvara Kutsenõukogu 15.09.2016 otsusest nr 6-4/25

A.2 Tasks

A.2.1 Ehituspakkumuse koostamine

- 1. Hankedokumentatsiooni läbitöötamine
- 2. Materjalide, seadmete ja alltöövõtutööde hinnapakkumiste küsimine
- 3. Ehitustööde ajagraafiku koostamine
- 4. Ehitustööde omahinna arvutamine
- 5. Ehitustööde üld- ja isikustatud kulude määratlemine ja kalkulatsiooni koostamine
- 6. Ehitustööde finantsplaani koostamine
- 7. Pakkumuse koostamine ja esitamine

A.2.2 Ehitamise ettevalmistamine ja kavandamine

- 1. Ehitustöövõtulepingu sõlmimine
- 2. Hangete ja ehitustööde ajagraafiku koostamine
- 3. Projekti organisatsiooniskeemi määratlemine
- 4. Alltöövõtu- ja allhankelepingute ettevalmistamine ja sõlmimine
- 5. Tööprojekti tellimine
- 6. Ehituseks vajalike lubade hankimine
- 7. Ehitusplatsi organiseerimise skeemi koostamine

A.2.3 Ressursside juhtimine

- 1. Materjalikulu planeerimine
- 2. Töömahu ja tööaja arvestamine
- 3. Ehitusmehhanismide ja transpordivahendite töö planeerimine
- 4. Ehitusobjekti üldkulude planeerimine
- 5. Tegelike ehituskulude võrdlemine finantsplaaniga

A.2.4 Ehitustööde juhtimine, korraldamine ja koordineerimine ehitusplatsil kooskõlas tööde tegemise ajagraafikuga

- 1. Vajaliku projektdokumentatsiooni ohjamine
- 2. Ehituslike mõõtmete mahanägemine ja kõrgusmärkide ülekandmine
- 3. Töökoosolekute juhtimine
- 4. Ehitustööde nõuetekohane dokumenteerimine
- 5. Lisa- ja muudatustööde kooskõlastamine ja korraldamine

A.2.5 Ohutu töö korraldamine ehitustöödel

- 1. Ehitusobjektidel olevate põhiliste ohuallikate äratundmine ja määratlemine
- 2. Töötervishoiu- ja tööohutusnõuete täitmise tagamine
- 3. Ehitusplatsi korrashoiu ja keskkonnaohutuse tagamine
- 4. Tegutsemine hädaolukorras (tööõnnetus, avari, tulekahju, konstruktsiooni lagunemine vm)

A.2.6 Kvaliteedi tagamine ehitustöödel

- 1. Kontrolltegevuste planeerimine ehitustööde kvaliteedi tagamiseks

2. Ehitustööde kvaliteedinõuetele vastavuse kontrollimine
3. Kaetavate tööde ja ehitise osade ülevaatuse korraldamine

A.2.7 Ehitustööde üleandmine ja ehitise kasutusele võtmine

1. Ehitise üleandmise- ja vastuvõtmise kavandamine ja juhtimine
2. Ehitise täitedokumentatsiooni komplekteerimine
3. Ehitustööde, sh tehnosüsteemide lõppülevaatuse korraldamine
4. Ehitise haldajale vajalike kasutuskoolituste korraldamine
5. Garantiiperioodi toimingute korraldamine

A.2.8 Energiatõhus ehitamine

Specialised areas of work

Spetsialiseerumine toimub vastavalt ehitustegevuse valdkonnale kas üldehituslikule ehitamisele, sisekliima tagamise süsteemide ehitamisele, hoonesisese või selle juurde kuuluva veevarustuse ja kanalisatsioonisüsteemi ehitamisele, ühisveevärgi või kanalisatsiooni ehitamisele või omanikujärelevalve tegemisele. Kutsestandardis kirjeldatud kohustuslikud töösad ja valikkompetentsid on otseselt seotud spetsialiseerumistega.

Elective areas of work

A.2.9 Kivi- ja betoonkonstruktsioonide ehitamine

1. Tööde juhtimine ehitustehnoloogiast lähtuvalt
2. Ehitustööde kvaliteedi tagamine
3. Kivi- ja betoonkonstruktsioonide ehitamisega seotud tööohutuse ja keskkonnaohutuse nõuete täitmine

A.2.10 Puitkonstruktsioonide ehitamine

1. Tööde juhtimine ehitustehnoloogiast lähtuvalt
2. Ehitustööde kvaliteedi tagamine
3. Puitkonstruktsioonide ehitamisega seotud tööohutuse ja keskkonnaohutuse nõuete täitmine

A.2.11 Teraskonstruktsioonide ehitamine

1. Tööde juhtimine ehitustehnoloogiast lähtuvalt
2. Ehitustööde kvaliteedi tagamine
3. Teraskonstruktsioonide ehitamisega seotud tööohutuse ja keskkonnaohutuse nõuete täitmine

A.2.12 Lammutustööde tegemine

1. Lammutatava objekti riskianalüüsi koostamine
2. Lammutustööde tegemine tehnoloogiast lähtuvalt
3. Lammutustöödega tegemisega seotud tööohutuse ja keskkonnaohutuse nõuete täitmine

A.2.13 Fassaaditööde tegemine

1. Tööde juhtimine ehitustehnoloogiast lähtuvalt
2. Ehitustööde kvaliteedi tagamine
3. Fassaadide ehitamisega seotud tööohutuse ja keskkonnaohutuse nõuete täitmine

A.2.14 Küttesüsteemide ehitamine

1. Tööde juhtimine ehitustehnoloogiast lähtuvalt
2. Ehitustööde kvaliteedi tagamine
3. Küttesüsteemide ehitamisega seotud tööohutuse ja keskkonnaohutuse nõuete täitmine

A.2.15 Jahutussüsteemide ehitamine

1. Tööde juhtimine ehitustehnoloogiast lähtuvalt
2. Ehitustööde kvaliteedi tagamine
3. Jahutussüsteemide ehitamisega seotud tööohutuse ja keskkonnaohutuse nõuete täitmine

A.2.16 Ventilatsioonisüsteemide ehitamine

1. Tööde juhtimine ehitustehnoloogiast lähtuvalt
2. Ehitustööde kvaliteedi tagamine

3. Ventilatsioonisüsteemide ehitamisega seotud tööohutuse ja keskkonnaohutuse nõuete täitmine

A.2.17 Hoonesisese ja selle juurde kuuluva veevarustuse või kanalisatsioonisüsteemi ehitamine

1. Tööde juhtimine ehitustehnoloogiast lähtuvalt
2. Ehitustööde kvaliteedi tagamine
3. Hoonesisese või selle juurde kuuluva veevarustuse ja kanalisatsioonisüsteemi ehitamisega seotud tööohutuse ja keskkonnaohutuse nõuete täitmine

A.2.18 Ühisveevärgi või kanalisatsiooni ehitamine

1. Tööde juhtimine ehitustehnoloogiast lähtuvalt
2. Ehitustööde kvaliteedi tagamine
3. Ühisveevärgi ja kanalisatsioonisüsteemi ehitamisega seotud tööohutuse ja keskkonnaohutuse nõuete täitmine

A.2.19 Omanikujärelevalve tegemine üldehitusliku ehitamise valdkonnas

1. Järelevalve programmi koostamine
2. Ehitusprojekti terviklikkuse kontrollimine
3. Ehitise mahamärgimisega seotud geodeetiliste tööde kontrollimine
4. Reaalsete vundeerimistingimuste kontrollimine
5. Ehitustegevuse vastavuse kontrollimine
6. Ehitamise tehniliste dokumentide nõuetekohase ja õigeaegse täitmise kontrollimine
7. Kaetavate tööde kontrollimine
8. Ehitustööde akteerimine
9. Ehitise üleandmise-vastuvõtmise protsessis osalemine
10. Keskkonnaohutuse nõuete täitmise kontrollimine
11. Tööohutusnõuete järgimise kontrollimine

A.2.20 Omanikujärelevalve tegemine sisekliima tagamise süsteemide ehitamise valdkonnas

1. Järelevalve programmi koostamine
2. Ehitusprojekti terviklikkuse kontrollimine
3. Ehitise mahamärgimisega seotud geodeetiliste tööde kontrollimine
4. Ehitustegevuse vastavuse kontrollimine
5. Kütte-, ventilatsiooni- ja jahutussüsteemide ehitamise tehniliste dokumentide nõuetekohase ja õigeaegse täitmise kontrollimine
6. Kaetavate tööde kontrollimine
7. Ehitustööde akteerimine
8. Ehitise üleandmise-vastuvõtmise protsessis osalemine
9. Keskkonnaohutuse nõuete täitmise kontrollimine
10. Tööohutusnõuete järgimise kontrollimine

A.2.21 Omanikujärelevalve tegemine hoonesisese ja selle juurde kuuluva veevarustuse ja kanalisatsioonisüsteemi ehitamise valdkonnas

1. Järelevalve programmi koostamine
2. Ehitusprojekti terviklikkuse kontrollimine
3. Ehitise mahamärgimisega seotud geodeetiliste tööde kontrollimine
4. Ehitustegevuse vastavuse kontrollimine
5. Veevarustus- ja kanalisatsioonisüsteemide ehitamise tehniliste dokumentide nõuetekohase ja õigeaegse täitmise kontrollimine
6. Kaetavate tööde kontrollimine
7. Ehitustööde akteerimine
8. Ehitise üleandmise-vastuvõtmise protsessis osalemine
9. Keskkonnaohutuse nõuete täitmise kontrollimine
10. Tööohutusnõuete järgimise kontrollimine

A.3 Work environment and specific nature of work

Ehitusjuhi põhitööd tehakse ehitusobjektil ja kontoris. Tööaeg on paindlik – üldjuhul töötatakse viiel päeval nädalas, kuid vajadusel tuleb töötada ka nädalavahetusel. Töö rütm võib sõltuvalt ehitustehnoloogilistest vajadusest,

hooajalisusest või tööde ajagraafikust olla intensiivne, töötada tuleb sõltuvalt ehitusobjektist suurtel kõrgustel või süvendis. Töökeskond ehitusobjektil on seotud kõrgendatud riskidega, mistõttu ehitusjuht peab järgima keskkonna-, tööohutuse- ja töötervishoiunõudeid.
A.4 Tools
Ehitusjuht kasutab oma töös kontoritehnikat (arvutid, kommunikatsiooniseadmed jne) ja nõuetekohasuse esmaseks tõendamiseks vastavat mõõtetehnikat.
A.5 Personal qualities required for work: abilities and characteristics
Ehitusjuht peab suutma langetada otsuseid iseseisvalt, juhtima meeskonda ja töötama meeskonnas. Tal peab olema kõrge pingetaluvus, hea suhtlemisoskus ja võime ennast kehtestada. Tööks on vajalikud ka analüüsivõime, algatusvõime ja nii suuline kui kirjalik eneseväljendusoskus. Ehitusjuht peab olema kohusetundlik ja korrektne.
A.6 Professional preparation
6. taseme ehitusjuhina töötavad inimesed, kellel on ehitusalane või muu tehniline kõrgharidus või ehitustehniline keskeriharidus (TEMT), läbitud täiendkoolitus(ed) ja olemas kutse eeldustele vastav praktiline töökogemus.
A.7 Most common occupational titles
Objektijuht, projektijuht
A.8 Regulations governing profession
Ehitusseadustik ja selle asjakohased rakendusaktid Muud erialased standardid, juhendmaterjalid ja normid

Part B COMPETENCY REQUIREMENTS

B.1 Structure of occupation
Ehitusjuht, tase 6 kutsestandard koosneb kaheksast kohustuslikust (B.2.1 – B.2.8), neljateistkümnest spetsialiseerumisega seotud valitavast (B.2.9 – B.2.22) ja kuuest ehitusjuhi kutset läbivast (B.2.22 – B.2.27) kompetentsist. Ehitusjuhi kutse on spetsialiseerumispõhine. Kutse saamiseks tuleb spetsialiseerumisele juurde valida vähemalt üks spetsialiseerumisele kohane valitav kompetents. Kompetentside hindamine toimub vastavalt spetsialiseerumisele ja valikkompetentsi(de)le. Lisaks tuleb taotlejal tõendada kõik kutset läbivad kompetentsid.

B.2 Competences

MANDATORY COMPETENCES

B.2.1 Compiling tenders	EstQF Level 6
Performance indicators: - Examines the documentation submitted by the tendering authority, seeking clarification where necessary. - Draws up a subcontracting plan and tender documents. Submits price inquiries to potential subcontractors. - Compiles a schedule for construction work based on their technological processes. - Calculates the cost price of construction, taking into account the cost of work that can be done without outside help and quotes from potential subcontractors. - Calculates general and personalised expenses of construction, taking into account, among other things, seasonality, location and duration. - Prepares a financial plan for construction work based on the estimated cost of construction, general and personalised cost calculations and time and payment schedules and taking into account the need for self-financing and the conditions presented in the procurement documentation.	

7. Draws up and submits tenders to tendering authorities, taking into account the requirements set out in the procurement documentation, the economic situation of the company and the current market situation.

Knowledge:

- 1) principal construction materials and their qualities;
- 2) principal construction technologies;
- 3) general terms and concepts of construction;
- 4) building norms, standards and guidelines;
- 5) building structures;
- 6) technological sequence of construction work;
- 7) construction drawing and reading construction drawings;
- 8) legislation and regulations covering the field of construction;
- 9) construction economics;
- 10) construction surveying;
- 11) basics of engineering geology;
- 12) best practice in construction;
- 13) occupational and environmental safety requirements in construction;
- 14) execution documentation in construction.

B.2.2 Preparation and planning of construction work

EstQF Level 6

Performance indicators:

1. Negotiates with the client and enters into a management contract.
2. Draws up a schedule for procurements and construction work, taking into consideration the conditions of the contract and the construction technology selected.
3. Assembles the team required for performing work and their own labour and selects the required subcontracting. Assigns tasks and responsibilities to the management team on the site (creates a responsibility assignment matrix).
4. Specifies quotes, holds negotiations and selects and enters into subcontracting contracts.
5. Where necessary, orders work projects for construction.
6. Obtains the permits needed for fulfilling the construction contract from the appropriate institutions (digging permits, felling licences, permits for closing down streets, etc.)
7. Where necessary, draws up an organisational chart for the building site.

Knowledge:

- 1) general terms and concepts of construction;
- 2) building norms, standards and guidelines;
- 3) technological sequence of construction work;
- 4) construction drawing and reading construction drawings;
- 5) legislation and regulations covering the field of construction;
- 6) construction economics;
- 7) best practice in construction;
- 8) occupational and environmental safety requirements in construction;
- 9) execution documentation in construction.

B.2.3 Resource management

EstQF Level 6

Performance indicators:

1. Plans material requirements and orders the required materials, taking into account the construction schedule and delivery time. Controls the use of materials during construction.
2. Plans the workload of construction and assembles the necessary labour force accordingly, taking into account the work schedule. Assigns the necessary orders and tasks. Ensures the optimal implementation of labour.
3. Plans the need for machinery and means of transport needed for construction work and orders them, taking into account the work schedule.
4. Plans the general costs of the construction site (administration and maintenance costs, temporary structures and fencing, surveillance systems, etc.) and orders relevant services. Controls the general costs of the site during construction. Compares and analyses actual construction costs against the predetermined financial plan during construction.

Knowledge:

- 1) building norms, standards and guidelines;
- 2) technological sequence of construction work;

3) construction economics; 4) awareness of best practice in construction; 5) occupational and environmental safety requirements in construction; 6) execution documentation in construction.	
B.2.4 Leading, organising and coordinating construction work on the building site in compliance with the schedule	EstQF Level 6
Performance indicators: 1. Ensures the existence of valid and sufficiently detailed project documentation. 2. Determines and lays down all dimensions and locations needed for construction (except for geodetic work). 3. Prepares, leads and documents work meetings. 4. Ensures that construction work is being documented in accordance with valid legislation. 5. Performs the assessment, coordination, management and documentation of necessary additional work and modifications.	
Knowledge: 1) general terms and concepts of construction; 2) building norms, standards and guidelines; 3) building structures; 4) technological sequence of construction work; 5) construction drawing and reading construction drawings; 6) legislation and regulations covering the field of construction; 7) construction economics; 8) construction surveying; 9) basics of engineering geology; 10) awareness of best practice in construction; 11) occupational and environmental safety requirements in construction; 12) execution documentation in construction.	
B.2.5 Organisation of safe work during construction	EstQF Level 6
Performance indicators: 1. Draws up a risk analysis of the building site and an action plan for risk management. 2. Ensures that occupational health and safety requirements are being met on site, taking into account valid legislation. 3. Ensures the maintenance of the building site. Ensures environmental safety on the building site, taking into account valid legislation. 4. Takes control of emergencies occurring on the construction site, responding according to the situation and within the limits of their authorisation.	
Knowledge: 1) principal construction materials and their qualities; 2) principal construction technologies; 3) general terms and concepts of construction; 4) building norms, standards and guidelines; 5) building structures; 6) technological sequence of construction work; 7) construction drawing and reading construction drawings; 8) legislation and regulations covering the field of construction; 9) awareness of best practice in construction; 10) occupational and environmental safety requirements in construction.	
B.2.6 Ensuring quality during construction	EstQF Level 6
Performance indicators: 1. Draws up a quality plan for construction in accordance with the requirements set out in the contract and project documentation. 2. Verifies quality of construction work, taking into account the quality plan and project documentation.	

3. Organises an inspection of work to be covered and parts of the structure (getting competent experts involved, where necessary) and documents this in accordance with valid legislation.

Knowledge:

- 1) principal construction materials and their qualities;
- 2) principal construction technologies;
- 3) general terms and concepts of construction;
- 4) building norms, standards and guidelines;
- 5) building structures;
- 6) technological sequence of construction work;
- 7) construction drawing and reading construction drawings;
- 8) legislation and regulations covering the field of construction;
- 9) awareness of best practice in construction;
- 10) occupational and environmental safety requirements in construction;
- 11) execution documentation in construction.

B.2.7 Transfer of construction work and adoption of structure for use

EstQF Level 6

Performance indicators:

1. Where necessary, draws up a plan for the transfer and acceptance of the site or follows an existing plan. Organises activities related to the transfer and acceptance of the site according to the plan.
2. Ensures the completion of the documentation required for transfer and acceptance. Assembles the execution documentation set out in the contract (construction logs, as-built drawings, acts of work to be covered, surveying protocols, pressurisation test reports, etc.).
3. Arranges for the final inspection of the site's equipment and technical systems based on the transfer and acceptance plan.
4. Arranges for user training on the structure and technical systems for the structure's managing agent in accordance with the contract. Passes on user manuals and maintenance files.
5. Organises the periodic inspections set out in the contract, formalises acts and plans activities for the warranty period. In the event that construction errors emerge, arranges for their assessment and elimination.

Knowledge:

- 1) general terms and concepts of construction;
- 2) building norms, standards and guidelines;
- 3) technological sequence of construction work;
- 4) construction drawing and reading construction drawings;
- 5) legislation and regulations covering the field of construction;
- 6) construction economics;
- 7) awareness of best practice in construction;
- 8) occupational and environmental safety requirements in construction;
- 9) execution documentation in construction.

B.2.8 Energy-efficient construction

EstQF Level 5

Performance indicators:

1. Before starting work on the construction site, draws up a work execution project, bearing in mind energy efficiency principles (electricity, water, waste management costs during construction, etc.).
2. If possible, applies energy-efficient technologies in construction management.
3. Where necessary, gets competent experts involved to assess compliance with energy efficiency requirements.
4. Ensures that the following technology and quality requirements are being met:
 - the indoor climate being in accordance with the technological requirements of construction
 - the quality requirements affecting the energy efficiency of the building envelope
 - the technical parameters of the building's technical systems (ventilation, heating, water, sewerage and cooling) being in accordance with project documentation and the energy-efficient interaction of technical systems.
5. Assesses the estimated cost of construction work designed to improve the energy efficiency of the building.

Knowledge:

- 1) general concepts of energy efficiency and their meanings;
- 2) factors affecting energy efficiency;
- 3) main energy sources in Estonia (including sources of renewable energy);

- 4) requirements regarding the total specific heat loss of the building envelope of small residential buildings applicable in relation to proving compliance with the limit value of the energy performance indicator in accordance with the simplified method;
- 5) quality requirements of construction and their effects on energy efficiency;
- 6) factors affecting the thermal conductivity of the building envelope and energy consumption of a building (including qualities of construction materials and products);
- 7) various technical systems and the effect their choice has on the energy efficiency of a building;
- 8) options for improving the energy efficiency of buildings;
- 9) the impact of working culture on energy costs in construction;
- 10) planning and organising employees' activities and other resources;
- 11) the impact of weather conditions on building envelopes;
- 12) the impact of behaviour on energy costs in the use of buildings.

Kompetents on välja töötatud Buildest projekti raames.

OPTIONAL COMPETENCES

Kutse saamiseks tuleb spetsialiseerumisele juurde valida vähemalt üks spetsialiseerumisele kohane valitav kompetents (B.2.9 – B.2.22).

B.2.9 Construction of stone and concrete structures	EstQF Level 6
Performance indicators: 1. Manages operations related to the construction of stone and concrete structures, taking into account the technological sequence of processes and project documentation. 2. Ensures the high quality of construction work, taking into account best practice in construction and the requirements set out in the project documentation and best practice in construction. 3. Ensures compliance with occupational and environmental safety requirements in construction. Knowledge: 1) construction materials and their qualities; 2) construction physics; 3) construction machinery and equipment; 4) materials used in stone structures (natural stones, artificial stones, etc.); 5) types of stone structures and their characteristics; 6) technologies used in constructing stone structures; 7) materials used in reinforced concrete structures (prefabricated reinforced concrete elements or monolithic concrete), reinforcement and partition walls; 8) types of concrete structures and their characteristics; 9) technologies used in constructing concrete structures, technological devices (formworks etc.). 10) types of soil and construction technologies used depending on their characteristics; 11) various foundations (individual, slab, pile, strip, etc.), retaining walls and sheet-pile walls; 12) embankments in soil, soil dams and earthwork; 13) bridge girders; 14) ground anchors and other fastening systems.	
B.2.10 Construction of wooden structures	EstQF Level 6
Performance indicators: 1. Manages operations related to the construction of wooden structures, taking into account the technological sequence of processes and project documentation. 2. Ensures the high quality of construction work, taking into account best practice in construction and the requirements set out in the project documentation and best practice in construction. 3. Ensures compliance with occupational and environmental safety requirements in construction. Knowledge: 1) construction materials and their qualities; 2) construction physics; 3) construction machinery and equipment;	

4) materials used in wooden structures (qualities of wood, wood classification, etc.); 5) wood joints; 6) types of wooden structures (industrial structures etc.) and their characteristics; 7) technologies used in constructing wooden structures; 8) types of soil and construction technologies used depending on their characteristics; 9) various foundations (individual, slab, pile, strip, etc.), retaining walls and sheet-pile walls; 10) bridge girders.	
B.2.11 Construction of steel structures	EstQF Level 6
Performance indicators: 1. Manages operations related to the construction of steel structures, taking into account the technological sequence of processes and project documentation. 2. Ensures the high quality of construction work, taking into account best practice in construction and the requirements set out in the project documentation and best practice in construction. 3. Ensures compliance with occupational and environmental safety requirements in construction.	
Knowledge: 1) construction materials and their qualities; 2) construction physics; 3) construction machinery and equipment; 4) materials used in steel structures; 5) types of steel structures and their characteristics; 6) technologies used in constructing steel structures; 7) types of soil and construction technologies used depending on their characteristics; 8) various foundations (individual, slab, pile, strip, etc.), retaining walls and sheet-pile walls; 9) bridge girders.	
B.2.12 Performance of demolition work	EstQF Level 6
Performance indicators: 1. Draws up a risk analysis of the structure to be demolished. 2. Chooses the appropriate technology and performs the demolition work according to requirements, taking into account project documentation, building codes and best practice in construction. 3. Ensures compliance with occupational and environmental safety requirements in demolition work.	
Knowledge: 1) construction materials and their qualities; 2) construction machinery and equipment; 3) demolition technologies related to various structures: - concrete structures - metal structures - stone structures - wooden structures; 4) types of soil and demolition technologies used depending on their characteristics; 5) retaining walls and sheet-pile walls; 6) embankments in soil and earthwork.	
B.2.13 Performance of facade work	EstQF Level 6
Performance indicators: 1. Manages operations related to the performance of façade work, taking into account the technological sequence of processes and project documentation. 2. Ensures the high quality of work, taking into account best practice in construction and the requirements set out in the project documentation and best practice in construction. 3. Ensures compliance with occupational and environmental safety requirements in façade work.	
Knowledge: 1) construction materials and their qualities; 2) construction physics; 3) construction machinery and equipment; 4) façade work on various load-bearing structures:	

- metal structures - wooden structures; 5) materials used in wooden structures (qualities of wood, wood classification, etc.); 6) technologies used in constructing wooden load-bearing structures; 7) materials used in metal load-bearing structures; 8) types of metal load-bearing structures and their characteristics; 9) technologies used in constructing metal load-bearing structures.	
B.2.14 Construction of heating systems	EstQF Level 6
Performance indicators: 1. Manages operations related to the construction of heating systems, taking into account the technological sequence of processes and project documentation. 2. Ensures the high quality of construction work, taking into account best practice in construction and the requirements set out in the project documentation and best practice in construction. 3. Ensures compliance with occupational and environmental safety requirements in construction.	
Knowledge: 1) various heating systems and their operating principles; 2) various heaters and their installation requirements; 3) devices used in modern heating systems, pipe materials and their fasteners; 4) construction technologies used in the construction of heating systems.	
B.2.15 Construction of cooling systems	EstQF Level 6
Performance indicators: 1. Manages operations related to the construction of cooling systems, taking into account the technological sequence of processes and project documentation. 2. Ensures the high quality of construction work, taking into account best practice in construction and the requirements set out in the project documentation and best practice in construction. 3. Ensures compliance with occupational and environmental safety requirements in construction.	
Knowledge: 1) indoor climate of buildings; 2) various cooling system solutions; 3) materials used in the construction of cooling systems (metal, plastic and other pipes, insulation materials, etc.); 4) devices used in the construction of cooling systems (compressors, pumps, tanks, heat exchangers, etc.); 5) construction technologies used in the construction of cooling systems; 6) basics of hydrotechnical engineering; 7) basics of aerodynamics.	
B.2.16 Construction of ventilation systems	EstQF Level 6
Performance indicators: 1. Manages operations related to the construction of ventilation systems, taking into account the technological sequence of processes and project documentation. 2. Ensures the high quality of construction work, taking into account best practice in construction and the requirements set out in the project documentation and best practice in construction. 3. Ensures compliance with occupational and environmental safety requirements in construction.	
Knowledge: 1) various ventilation solutions; 2) modern ventilation systems and the devices used in them, materials of ducts and their fasteners; 3) basics of aerodynamics; 4) construction technologies used in the construction of ventilation systems.	
B.2.17 Construction of water supply and sewerage systems within buildings or belonging to them	EstQF Level 6
Performance indicators: 1. Manages operations related to the construction of water supply and sewerage systems within buildings or belonging to them, taking into account the technological sequence of processes and project documentation.	

2. Ensures the high quality of construction work, taking into account best practice in construction and the requirements set out in the project documentation and best practice in construction.

3. Ensures compliance with occupational and environmental safety requirements in construction.

Knowledge:

- 1) water and sewerage systems and their operating principles;
- 2) modern materials of water and sewerage piping and their fasteners;
- 3) operating principles of the main sanitary appliances;
- 4) devices used in the construction of water supply and sewerage systems (pumps, tanks, etc.);
- 5) construction technologies used in the construction of water supply and sewerage systems.
- 6) construction materials used in the construction of external water supplies and sewerage systems (metal, plastic and other pipes, insulation materials, etc.) and their qualities;
- 7) basics of geophysics;
- 8) basics of hydrotechnical engineering;
- 9) construction machinery and equipment;
- 10) construction technologies used in the field of technical facility construction:
 - concrete structures;
 - metal structures;
 - pumping stations
 - pumps and tanks.

B.2.18 Construction of public water supply or sewerage

EstQF Level 6

Performance indicators:

1. Manages operations related to the construction of public water supply and sewerage, taking into account the technological sequence of processes and project documentation.
2. Ensures the high quality of construction work, taking into account best practice in construction and the requirements set out in the project documentation and best practice in construction.
3. Ensures compliance with occupational and environmental safety requirements in construction.

Knowledge:

- 1) water and sewerage systems and their operating principles;
- 2) modern materials of water and sewerage piping and their fasteners;
- 3) devices used in the construction of water supply and sewerage systems (pumps, tanks, etc.);
- 4) construction technologies used in the construction of water supply and sewerage systems;
- 5) construction materials used in the construction of public water supplies and sewerage systems (metal, plastic and other pipes, insulation materials, etc.), their qualities;
- 6) basics of geophysics;
- 7) basics of hydrotechnical engineering;
- 8) construction machinery and equipment;
- 9) construction technologies used in the field of technical facility construction:
 - concrete structures;
 - metal structures;
 - pumping stations
 - pumps and tanks.

B.2.19 Performance of owner's supervision in general construction

EstQF Level 6

Performance indicators:

1. Draws up a programme of supervision procedures in order to fulfil their tasks.
2. Ensures that the construction project is in accordance with requirements so as to guarantee the integrity of the project and compliance with the building code.
3. Ensures that geodetic work related to the demarcation of the structure has been performed by a competent expert. Ensures that the project complies with the geodetic survey report.
4. Compares the actual conditions of foundation design with the soil data or data from the geotechnical research upon which the design project was based.
5. Ensures that the building and its parts are in accordance with the construction project and the requirements and quality agreed upon by the building contractor and owner of the building. Ensures that the construction products being permanently installed in the building, including devices, are in accordance with the construction project, on the basis of the documents submitted. Where necessary, makes proposals for performing additional measurements,

testing and expert analyses according to quality assessments and, based on the data obtained, oversees the fulfilment of the decisions taken.

6. Ensures the existence of documentation pertaining to the construction products being used. Based on the documents submitted, ensures that the construction products and devices being permanently installed in the building are in accordance with the construction project.

7. Ensures that covered work is in accordance with the construction project and building codes and authorises subsequent work. Ensures that covered work is being documented according to requirements.

8. Participates in the transfer and acceptance of the building or its parts as the representative of the owner. Ensures that the volume of work recorded by the contractor is in accordance with the actual volume of work.

9. Participates in the transfer and acceptance of the building, verifying that all required execution documentation has been prepared and whether the data presented therein are correct and in accordance with requirements.

10. Verifies that environmental safety requirements are being met on the building site.

11. Makes notes of any instances of non-compliance with occupational safety requirements that are discovered. Notifies the Technical Regulatory Authority about a breakdown or accident occurring during construction as a result of the building or construction work not being in accordance with requirements, in the event that it has caused or may cause injuries or material damage and if it has not already been reported by the contractor or owner of the building.

Knowledge:

- 1) requirements for the documenting of structures;
- 2) legislative acts regulating the performance of owner's supervision;
- 3) principal construction materials and their qualities;
- 4) principal construction technologies;
- 5) building norms, standards and guidelines;
- 6) building structures;
- 7) technological sequence of construction work;
- 8) construction surveying;
- 9) best practice in construction;
- 10) occupational and environmental safety requirements in construction;
- 11) execution documentation in construction.

B.2.20 Performance of owner's supervision in the construction of indoor climate control systems

EstQF Level 6

Performance indicators:

1. Draws up a programme of supervision procedures in order to fulfil their tasks.
2. Ensures that the construction project is in accordance with requirements so as to guarantee the integrity of the project and compliance with the building code.
3. Ensures that geodetic work related to the demarcation of the structure has been performed by a competent expert. Ensures that the project complies with the geodetic survey report.
4. Ensures that the building and its parts are in accordance with the construction project and the requirements and quality agreed upon by the building contractor and owner of the building. Where necessary, makes proposals for performing additional measurements, testing and expert analyses according to quality assessments and, based on the data obtained, oversees the fulfilment of the decisions taken.
5. Ensures the existence of documentation pertaining to the construction products being used. Based on the documents submitted, ensures that the construction products and devices being permanently installed in the building are in accordance with the construction project.
6. Ensures that covered work is in accordance with the construction project and building codes and authorises subsequent work. Ensures that covered work is being documented according to requirements.
7. Participates in the transfer and acceptance of the building or its parts as the representative of the owner. Ensures that the volume of work recorded by the contractor is in accordance with the actual volume of work.
8. Participates in the transfer and acceptance of the building, verifying that all required execution documentation has been prepared and whether the data presented therein are correct and in accordance with requirements.
9. Verifies that environmental safety requirements are being met on the building site.
10. Makes notes of any instances of non-compliance with occupational safety requirements that are discovered. Notifies the Technical Regulatory Authority about a breakdown or accident occurring during construction as a result of the building or construction work not being in accordance with requirements, in the event that it has caused or may cause injuries or material damage and if it has not already been reported by the contractor or owner of the building.

Knowledge:

- 1) requirements for the documenting of structures;
- 2) legislative acts regulating the performance of owner's supervision;
- 3) various heating systems and their operating principles;
- 4) various heaters and their installation requirements;
- 5) various ventilation solutions;
- 6) modern devices used in heating and ventilation systems, materials of piping and ducts and their fasteners;
- 7) indoor climate of buildings;
- 8) basics of hydrotechnical engineering;
- 9) basics of aerodynamics;
- 10) operating principles of devices and systems used in technical facility construction;
- 11) construction machinery and equipment;
- 12) construction technologies used in the field of technical facility construction:
- 13) concrete structures;
- 14) metal structures;
- 15) culverts, conduits, tunnel collectors and pumping stations.

B.2.21 Performance of owner's supervision in the construction of water supply and sewerage systems within buildings or belonging to them

EstQF Level 6

Performance indicators:

1. Draws up a programme of supervision procedures in order to fulfil their tasks.
2. Ensures that the construction project is in accordance with requirements so as to guarantee the integrity of the project and compliance with the building code.
3. Ensures that geodetic work related to the demarcation of the structure has been performed by a competent expert. Ensures that the project complies with the geodetic survey report.
4. Ensures that the building and its parts are in accordance with the construction project and the requirements and quality agreed upon by the building contractor and owner of the building. Where necessary, makes proposals for performing additional measurements, testing and expert analyses according to quality assessments and, based on the data obtained, oversees the fulfilment of the decisions taken.
5. Ensures the existence of documentation pertaining to the construction products being used. Based on the documents submitted, ensures that the construction products and devices being permanently installed in the building are in accordance with the construction project.
6. Ensures that covered work is in accordance with the construction project and building codes and authorises subsequent work. Ensures that covered work is being documented according to requirements.
7. Participates in the transfer and acceptance of the building or its parts as the representative of the owner. Ensures that the volume of work recorded by the contractor is in accordance with the actual volume of work.
8. Participates in the transfer and acceptance of the building, verifying that all required execution documentation has been prepared and whether the data presented therein are correct and in accordance with requirements.
9. Verifies that environmental safety requirements are being met on the building site.
10. Makes notes of any instances of non-compliance with occupational safety requirements that are discovered. Notifies the Technical Regulatory Authority about a breakdown or accident occurring during construction as a result of the building or construction work not being in accordance with requirements, in the event that it has caused or may cause injuries or material damage and if it has not already been reported by the contractor or owner of the building.

Knowledge:

- 1) requirements for the documenting of structures;
- 2) legislative acts regulating the performance of owner's supervision;
- 3) construction materials used in the construction of external water supplies and sewerage systems (metal, plastic and other pipes, insulation materials, etc.) and their qualities;
- 4) basics of geophysics;
- 5) basics of hydrotechnical engineering;
- 6) operating principles of devices and systems used in public water supply;
- 7) construction machinery and equipment;
- 8) construction technologies used in the field of technical facility construction:
- 9) concrete structures;
- 10) metal structures;
- 11) culverts, conduits, tunnel collectors and pumping stations.
- 12) pumps and tanks;

- 13) water and sewerage systems and their operating principles;
- 14) modern materials of water and sewerage piping and their fasteners;
- 15) operating principles of the main sanitary appliances;
- 16) devices used in the construction of water supply and sewerage systems (pumps, tanks, etc.);
- 17) construction technologies used in the construction of water supply and sewerage systems.

RECURRING COMPETENCES

B.2.22 Following the principles of professional ethics	EstQF Level 6
Performance indicators: 1. Is guided in their activities by best practice in construction. 2. Knows and accepts the best practice that forms the basis of the behaviour of partners. 3. Focuses on the satisfaction of the client and end user. 4. Considers ethical beliefs and values important and is consistent in word and deed. Displays initiative, a sense of responsibility and management and team work skills.	
B.2.23 Participation in team work	EstQF Level 6
Performance indicators: 1. Is capable of working in a multidisciplinary and international team and of adjusting their communication style to different situations and people. 2. Is capable of showing initiative and performs their duties with confidence. 3. Understands their role in the team, is capable of operatively assessing situations and conflicts as they arise and of responding adequately, taking an understanding approach to criticism.	
B.2.24 Self-development and participation in lifelong learning	EstQF Level 6
Performance indicators: 1. 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. 2. Is aware of technological developments in the construction sector and society as a whole and is committed to innovative and creative self-improvement.	
B.2.25 Following the principles of environmentally friendly work	EstQF Level 6
Performance indicators: 1. Understands why it is necessary to follow environmentally friendly working principles in their field and follows them. 2. Understands the possibilities and necessity of saving energy and resources and acts accordingly. 3. Understands the impact of their activities on the surrounding environment.	
B.2.26 Language skills	EstQF Level 6
1. Words ideas related to the performance of their duties in Estonian that is terminologically correct (required level: B2). 2. Communicates professionally in one foreign language (recommended level: B1). See Annex 1 Language skills level descriptions.	
B.2.27 Computer skills and general digital competence	EstQF Level 6
1. Uses a computer on a daily basis at the Independent user level in the following areas: information-processing, communication, security and problem-solving. 2. Uses a computer on a daily basis at the Basic user level in the area of content creation. 3. Is capable of using field-specific software programmes to the extent required and of using modern technological tools and applications (e.g. smart devices). See Annex 2 Scale of self-assessment in digital competence.	

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	22-13022019-2.1/10k
2. Occupational qualification standard compiled by:	Indrek Peterson, Eesti Ehitusettevõtjate Liit Enn Tammaru, Tallinna Tehnikakõrgkool Meelis Kann, AS Nordecon Enno Pöder, Merko Ehitus Eesti AS Ago Rehand, OÜ Viljandi Õhumeister
3. Occupational qualification standard approved by:	Architecture, Geomatics, Construction and Real Estate
4. No. of decision of Sectoral Council	20
5. Date of decision of Sectoral Council	13.02.2019
6. Occupational qualification standard valid until	14.09.2019
7. Occupational qualification standard version no.	10
8. Reference to International Standard Classification of Occupations (ISCO 08)	3123 Construction Supervisors
9. Reference to European Qualifications Framework (EQF)	6
C.2 Occupational title in foreign language	
English:	Construction Site Manager, level 6
C.3 Annexes	
Lisa 1 Keelte oskustasemete kirjeldused	
Lisa 2 Digipädevuste enesehindamise skaala	